

Let's play game journalist.

Several places have noted that most game news websites, video channels and such like reported on all much the same small handful of games in recent times, down from already less than stellar numbers in the years prior. Competition in the space is also quite fierce which leads to interesting patterns of behaviours too.

This may be something of why some seem so burned out on games but more generally this means we get to play citizen journalist if we want to follow games and devices we like, or uncover new versions. However not everybody knows how to do this so this series of articles will be covering some of the methods available.

While information about new games will be the primary focus then a lot of this will also be useful to those seeking to do retrospectives, obtain and analyse numbers, analyse the state of the industry, analyse developing news stories and possibly make predictions about future broader events.

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Part I. Introduction to journalism

What to start with here is a thing contemplated and changed a few times when writing this, mainly as there are a few things anybody can take away and use, and some equally essential that might be of just as vital use to those looking to go a bit deeper.

In general though you have two types of source.

1. Primary sources. This being people that were there, man, or their works.
2. Secondary sources. This being people that were not there, usually seen to seek accounts from multiple primary sources and draw a broader conclusion.

Both have their upsides and downsides as it applies to research, history, reporting in general and to games specifically. Some also like to make a third category of tertiary sources but this tends to be catalogues of primary and secondary sources.

At this point a video of 27c3: Three jobs that journalists will do in 2050 will be what is linked. This talk details some of the future of journalism but also some of the big roles of the past, including ones not so commonly done today, much less in the games space, and thus provides a nice grounding in the subject.

<https://www.youtube.com/watch?v=6gBtLER9C70>

It is also nearly 10 years old at time of writing so you can also see how much of it has come to pass in recent years.

If you want to romance an up and coming game developer to have them spill secrets of an upcoming game as pillow talk that is all you, though there are

probably better uses of time. That said this is not international espionage either so should you do find someone to talk to that might in turn know something more than a simple politely worded question can go a long way. If you are somehow able to ask at person, for instance by attending a press or trade show, then chances of a meaningful reply increase further still.

Likewise we shall be forgoing discussion of the “dark arts” as some journalists would deem them. This being active hacking and computer trespass type affairs. What you do with the resulting information if someone else hacks and leaks things is not a discussion we will have as part of this, and such things are a considerable part of both journalistic and greater ethics debates.

The ethics of journalism is a subject unto itself, to say nothing of multiple conflicting takes on the matter, and with some limited exception will not be given too much attention as part of this. Try to work with good information, note where you have been unable to confirm something, note what is your interpretation and speculation (or opinion as the case may be), know about protecting sources, know the difference between the “interest of the public” and “in the public interest”, and generally try to ensure you are not hurting people, or entities, saving that their actions are what caused the hurt (not much good if you can’t report on someone having done something bad after all). Do that in addition to the “who, what, why, when and where?” aka 5 Ws (and some choose to also add “how” to the list) and you will not go far wrong, probably also do better than a lot of other sources of news.

What style guide you might choose to follow is up to you, as is where you find yourself in the genre debate and the nature of scores in reviews. As a general rule see if you can make your article readable to a member of the general public in say 20 years, which is to say avoid acronyms unless you have already explained them (is SMB short for Super Mario Brothers, Super Meat Boy or Super Monkey Ball? Is GOW God of War or Gears of War?) and don’t assume currently popular devices, much less their official or unofficial acronyms or slang terms, will still be known; how many companies are now shadows of their former shadow, if not outright gone or collected by a big investment firm that might use it in 15 years to sell nostalgia?

Going further then most of this is stuff you can do passively, and without paying for access to legal services like LexisNexis, or equivalents in marketing and businesses. You might be able to get some of down to a list of bookmarks you click through once a week, or more automated search terms/notifications that deliver things to you, but you might also have to develop your own list of terms to input into the relevant search engines.

If you have any relevant skills from professions, hobbies, training or the like that allows further insight then so much the better but that can be a subject for a follow up discussion. Those with the ability to analyse numbers, with programming/graphics design/electrical engineering knowledge, or that otherwise know certain legal/business/financial systems, and cultures for any of those, can often develop some very interesting results and perform analyses that others might not so do not discount those skills if you have them.

Depending upon where you are in the world the press may be a formally recognised concept with requirements to join, and provide certain legal protections. Others it might be an informally recognised one, and still provide some legal protections. Sometimes it might come down to a court case and your actions being judged (is a blogger a journalist being a common question in many

courts when “secret information” leaks). Some publications will take the time to explicitly not call themselves journalists and in doing so theoretically gain some more leeway in things. What you do here is up to you and any laws where you are living/working.

Information is your currency and stock in trade so best to ensure quality or note its dubiousness if you still wish to share. Reputation also may change things so be aware of that if you are heading down that path.

1 Primary Sources

These are sources that were present for the events, may have contributed to the events or otherwise have first hand information on the matters involved.

More primary sources = more better for many, and it is hard to argue that they are not extraordinarily valuable, but they do also come with baggage and might lack a view of the greater picture.

They might directly be responsible for the information you have, or they might indirectly lead you to something interest.

2 Secondary sources.

While some look down upon the humble meta analysis then taking what has been written, comparing notes between places, possibly performing additional analysis and maybe adding something of your own can reveal much more than the individual components that make it up.

Similarly it is nothing unusual for people seeking recognition for things to only speak to those with an established position as opposed to the would be citizen journalist. To that end big websites or notable individuals might be able to have questions answered that you as a lone individual likely would not get, might have sources to confirm or elaborate upon what another website said, or might have experts on hand that do know something, and thus should at some level be included in your enquiries.

Similarly there are times where you will not be the first one to run a search, notice a trend, ask a question or have some information delivered to you to act upon. Probably best if you can add something to the discussion here, mainly as copy and pasting someone else’s work is pretty bad form, though this can include simple commentary.

It is left as an exercise to the reader to determine what the most popular sites are at a given time, some are used as sources or references in other parts of this. Or if you prefer we don’t want to date this too much as such places have a habit of going pop and/or getting bought out by increasingly small numbers of companies.

This also says nothing of the possibility that something of interest arises outside the “game media” space; investors, scientists, technology companies and more besides all have an interest in games.

It should also be noted that text based mediums are not always the only way, and people making videos for their channels on sites such as youtube might have a bigger reach than websites and paper magazines. Such things might also form the greater hub for gaming culture. Public Relations and advertising people know this, and it also comes with the bonus that while ethics

in websites/publishing still exist in some fashion (how far from the ideals of ethics they might be can be discussed later) then the video peeps may be under less obligation still. Said people may then have footage, information and tests leaked/made available to them far sooner than others, to say nothing of the lag of print media (weekly gaming print magazines have not been much of a thing for some time at this point, and monthly was always the dominant model when print was more relevant).

3 Specialist skills and expensive tools/data

While it can often be impressive to witness then people will skills in a related field being able to tell things “at a glance” or with a bit of analysis is nothing new. You in turn may find a benefit in training your eye (or ear) to seek certain things. Similarly a history with the franchise may see you spot things others might not.

One of the more interesting times here is when new consoles, or hardware iterations, are released and places do an expert teardown (potentially destroying an expensive device in the process), identify parts used and more besides.

<https://www.ifixit.com> are one of the more notable groups operating in this space.

Many times it is also left to everyday users to conduct reverse engineering, testing and analysis of devices so such things can also crop up on forums and random video channels anywhere.

4 Veracity of sources

Game developers and publishers obviously have a vested interest in getting people to buy their game so they will be far less likely to take a more negative tone concerning their work in the run up and initial sales windows.

Witnesses to various things may have their own agendas, skills (be it skills as per above or skills as in ability to play things themselves), biases and interests, as might those doing a secondary source type analysis of primary information.

Combined this can lead to misinformation which is not we want here. The ability to filter this can be taught to an extent but is far better honed. It also means you should probably look inward to find some of your own biases and agendas, or indeed lack of talent in a given area.

4.1 Correlation vs causation

This is a logical fallacy wherein just because something appears to rise or fall at the same time as another thing that one causes the other.

This is worth bearing in mind when both assessing quality of sources, and when conducting your own research and statistical analyses.

Or if you prefer there was once serious concern raised about ice creaming causing polio as it was noted cases of the latter rose with sales of the former.

<https://www.e-education.psu.edu/marcellus/node/636>

4.2 Wire services and story verification

News services, be the print, radio, TV, online or otherwise, will often subscribe to one or more sources of news. Such services are called news wires, wire services or news agencies and are usually paid services. Many exist to service various sectors, with three major ones aiming to cover all areas (those being the associated press (AP), reuters and Agence France-Presse (AFP)). Most will probably not be using these but it is a concept worth knowing about.

Associated press (AP)

<https://www.ap.org/>

Reuters

<https://www.reutersagency.com/en/>

Agence France-Presse (AFP)

<https://www.afp.com/en>

For local stories on council meetings and the like then local reporters tend to be tasked with covering those, though in the modern world such things may be recorded and made available.

Verification is a service offered by various services above, naturally a paid for one. More generally there are various services that aim to rank news sources both at story level an overall level, as well as politicians.

Things to investigate here

Newsguard

Primarily a browser plugin that rates sites and stories.

<https://www.newsguardtech.com/>

Factchecker

A more traditional fact checking website

<https://www.factcheck.org/>

Fullfact.org

A UK based fact checker

<https://fullfact.org/>

Various ones will exist in different countries.

Part II. Generating a list of things to watch

Information sources are vital to journalism and those conducting it. Much of the rest of document aims to help people to generate their own list of things tailored either broadly or to their own interests.

5 Direct sources

When a game is due to be released shortly or has been released then developers will be falling over themselves to tell you about it (more marketing generally equals more sales = developers, manufacturers and publishers staying alive that little bit longer).

Such things are usually somewhat limited (some screenshots, trailers/footage, basic facts about the game much the same as what might be on the back of the box) but can yield something. Older titles may also be absent from current versions of the site. Sometimes more advanced information is available from “press

kits”/“media kits” (which may or may not be made available to the public), or if you sign up either on the site, or to a press mailing list (while some younger members of the audience may consider email dead it really isn’t). This is less common in modern days when there are video channels, or streaming channels if you consider them separately, some might never have heard of with an audience of millions (more on that in a bit) but can still be done.

5.0.1 Traditional means

A list of notable publishers and the like is available later, and databases listing developers and publishers of existing games are also available.

Existing websites, magazines and such are still a place where developers might share information on upcoming games.

5.0.2 Newer means

Forums, facebook groups, twitter posts, other “social media” sites where an audience might be seen to congregate, reddit group posts and similar such things can yield more as developers try to reach out to audiences, and gain new/larger ones, via such platforms.

5.0.3 Video sites

Video sites are also becoming increasingly important both as a source of journalism and content from developers. In the English speaking world and as it applies to games then this likely means Google owned Youtube for most, possibly Amazon owned Twitch if you care about game streaming, with both of those being big enough to house multiple subcultures of gaming alone, many possibly not even escaping outside those sites.

<https://www.youtube.com>

<https://www.twitch.tv/>

Those sites/services are also increasingly involved in user issues and censorship though so there are many alternatives rising and falling all the time.

At time of writing <https://www.bitchute.com/> and [https://lbry.tv/\\$/following/channels](https://lbry.tv/$/following/channels) join long time youtube competitors <https://www.dailymotion.com/> and <https://vimeo.com/> in being some of the more popular alternatives.

Other countries often have other things though and any talk of Japanese video sharing sites ought to mention Niconico Douga, probably more commonly referred to as Niconico, <https://www.nicovideo.jp/> and includes quite a few game videos, ones you may not find elsewhere should a game not be popular enough to break out of Japan, or just more footage of a Japanese title to look at.

Socialblade is a popular service for tracking statistics of such places and <https://socialblade.com/youtube/top/category/games/mostsubscribed> at time of writing has 250 channels listed on their biggest youtube gaming sites page. The 245th channel listed there is the first to drop below 4 million subscribers, now subscribers is not everything (you need only look slightly to the right to see wildly varying view counts for each of those, and any number of those might be “zombie” channels) but it gives an idea of what goes there.

You may need a tool to download videos to use or further analyse contents.

Youtube-dl is a reliable choice for this for many years now and works on a variety of sites.

<https://yt-dl-org.github.io/youtube-dl/index.html>

5.0.4 Online distribution

Today online distribution of games is a thing and many will have new titles, upcoming titles, titles from the same developer and similar such refinements to a search be made available. Said searches can be refined further as there are increasingly large numbers of databases that allow you to track directors, programmers, artists and more besides.

5.0.5 Crowdfunding

You do also have the so called crowdfunding efforts playing a bigger role here. For those unfamiliar with that then rather than relying on the developer having money or being funded by a publisher then the cost of game development is in part* taken up by random members of the public putting into a pot prior to development being finished.

Kickstarter (<https://www.kickstarter.com/games?ref=blog>), indiegogo (<https://www.indiegogo.com/explore/video-games>) and GoFundMe (<https://gofundme.com/>) are the most notable of these crowdfunding platforms but there are many others, often with rather different models ranging including actual investment (as in you get a cut of the final profits) in sites like fig.co (<https://www.fig.co/>).

Continuous investment/patronage is also an option with the likes of Subscribestar (<https://www.subscribestar.com/>), Sponsus (<https://sponsus.org/>) and Patreon (<https://www.patreon.com/>) funding or otherwise aiding in development of emulators and plenty of more interesting little titles and authors, as well as a lot of commentary and media sites.

Traditional donations are still a thing as well.

*if you look at the typical sums raised by such projects and compare it to both game development budgets and typical costs of staffing an office with computer programmers for however many years then you might notice a considerable disparity. This often leads to such projects ultimately being taken on by a more traditional publisher in the end – ideas are worthless but prototypes with a proven audience already having put money in despite no game are rather less so.

5.0.6 Start of the list of players to watch

Generating a list of people to watch is a harder one, though not impossible. The following will be for those aiming for a broad list, however it should be easily changed if your interests are more narrow.

For better or worse the console game industry is limited to three main players (at time of writing that being Sony, Microsoft and Nintendo, though others have come and gone) plus a handful of publishers and service operators.

Many such console makers, large publishers and the like are available in the later section on the game industry makeup.

Unlike some earlier consoles the model the console developers favour is a locked down system wherein only those developers that prove their worth (with

wallet and often with prior work) get to play. Developers are often keen to announce acceptance into this sphere, and the console makers themselves are also often keen to champion the developers they have in their stable, even if it is only a brief slide at some point during a conference. Somewhere there may be a hard list of such things but they are not usually too available to the public.

The PC is not quite the open space it once was, and physical games are something of a complete novelty or thing you find in second hand game shops. The market is dominated by Valve's Steam platform, though there are a few notable competitors with the likes of itch.io, good old games aka GOG.com, humble bundle/humble store, Discord, Epic Games Store, GamersGate, Green Man Gaming, Origin, gamesplanet, Uplay and WildTangent.

Bridging the two approaches in terms of functionality and appearance is Google's Android and Apple's IOS, the two main groups responsible for mobile phones and tablets, as well as some on TV devices. With some notable exceptions they can be considered gated but the gate is a basic contract and either a token payment or a continuous relatively small one, as well as a 30% cut of sales, so not as open as PC (though 30% is Steam's cut for the first 10 million USD with it only dropping to 20% once you get over 50 million in sales) but nowhere near the barrier to entry that the consoles have. IOS these days holds a far smaller market share but due to their users either being, or being perceived as being, more inclined to spend money it does punch above what its share might indicate. In the eyes of many gamers more used to the traditional platforms mentioned above there is a distinct lack of "real" games, or perhaps these days there are "real" games but they are ultimately marred by microtransactions (in game costs for various things from extra lives to character choices to equipment that you need to get anywhere in a game, the latter there being an example of "pay to win"). Either way it should be noted that these platforms are more than capable emulating many "real" games and thus can at least in theory host their own.

You may also find the younger members of the set, presumably now having grown up with them¹, are far more accepting of their "flaws" and quirks. It can also be where many of the more experimental things happen (cost of entry being far lower), and if you fancy having a look in those databases mentioned above at where many of the people doing the good stuff on the Nintendo DS ended up you might be surprised.

5.1 More narrow interests

If your interests are more narrow, for instance say you wished to cover motorbike based games, then you would probably be best served by looking at three main locations to generate a list.

1. Existing games and their publishers/developers
2. If it is a real world activity or known subgenre then any associated sources for those.

¹ IOS and Android can arguably be said to have killed the Nintendo DS homebrew (user made code not sanctioned by the creator of the console) scene, and probably stopped any ones on newer consoles from achieving such heights. This would have been around 2008 and being 2020 as this is written...

3. Game mods (be they PC mods, ROM hacks or straight up homebrew code)

If it is a more niche field then there might be a few developers, level designers and the like that float between games/franchises as the whims of business and their lives dictate. Their underlings may also have ambitions of their own and strike out accordingly.

Likewise if the developers of a game find a groove then they will often continue to work within it.

For the motorbike games from the example you might see general motorbike discussion sites and forums, for the developers likely know them as a market and might release information to them, or discussion might be had on those locations. More than just a notable or obvious market share they might even represent the dominant share of purchasers of such products.

Such places might also outright license various names, likenesses, phrases and more to a game developer to make a game and thus want to share news themselves; while the big sports around the world might see their brand as the value in and of itself other less popular sports/activities can be delighted to have their own game and see it as a mutually beneficial arrangement.

Modifications for existing games will be covered elsewhere but the modder to developer route, and the mod to full game route, are well worn ones that go back decades. Sometimes such even gives us some of our biggest game genres, or just fads within games.

In darker times for fans of a given gameplay style they may also be the only source of new content. New content is new content though; today is pretty far from the era of “bedroom coders” but mod makers might well be their successors.

For the unfamiliar with the term then homebrew code, once upon a time known as public domain code aka PD, is code written by users for usually closed off systems. All manner of code is attempted in these and not being bound by the need to be commercially viable, or sometimes not be bound by legal restrictions, you can see all manner of things made. Its popularity and approaches seen vary between systems, and the mobile platforms being open also saw the homebrew landscape undergo something of a seismic shift, but it is the source of a great many interesting things.

6 Indirect sources

Further from release usually sees developers be more limited in their interactions and means you get to employ other methods or screen for leaks, they may also be less curated than the responses the game developers looking to sell your their latest games might give.

There are four main locations to watch for this.

1. Intellectual property (Trademark, patent, copyright) offices
2. Game rating/censorship boards
3. Electrical, electromagnetic and other electrical compliance/conformance testers in the case of hardware related things. The US FCC for instance has to test every device set to go out to consumers and their test results

have been leaked in the past. In countries with more informal testing, aka self certification, then if a third party tester is used then that might leak.

4. Developers, publishers and console/service manufacturers themselves. Particularly their business and partner announcements.

Game development and playing is a worldwide affair these days and this is also reflected in the sources.

While most news is likely to come from Japan, the US, the UK, Canada, Australia, New Zealand, Germany, Austria, France, Italy and Spain (no coincidence that they probably represent the biggest markets, and have considerable domestic markets or common languages with the biggest markets) there are also plenty of instances of smaller countries letting things slip. This smaller country slip can come in the form of their local intellectual property offices leaking like a sieve (or just posting things ahead of other places), their censorship departments leaking things, their consumer product testing leaking things, the local marketing team hired by a big company maybe not keeping on message and so on and so on.

South Korea will probably join those big players soon (indeed a couple of its publishers are among the biggest in the world if you go by profit, most of it coming from within South Korea), along with China after a fashion. What goes from then on varies but the international future of the games industry is a topic for a different day.

This also presents a language barrier of sorts. Fortunately as English is the international business and legal language then most websites for things you will access in the non-English speaking world will also have English versions, or can be navigated by other means (fragments of a Japanese name can be copied and pasted for instance). That said if you can speak Japanese to some extent it can help a lot here, indeed Japanese speaking is often a rather sought after skill in these sorts of circles. Korean language skills may also become ever more useful in years to time.

6.1 Intellectual property

1) Intellectual property covers a wide variety of topics but for the purposes of this then there are three main areas you probably want to concern yourself with.

1. Trademark offices.
2. Patent offices.
3. Copyright offices.

6.1.1 Trademarks

Trademarks are a theoretically infinite length protection that prevents others in the areas that the trademark offices cover (some countries or areas have reciprocal agreements but for the most part country by country). While they can theoretically last indefinitely they do have to be renewed every so often.

Trademarks are a protection granted to a company that pays to register a word, phrase or image (think logo) that represents their brand or their product.

One that they don't want others to use lest it "cause confusion" among the general public or their customers if they are not one and the same.

Trademarks are granted for specific areas (known as classes, with fairly good international agreement as to what makes up a class) as well. For the purposes of computer games then any of the classes dealing with games, media, merchandise, amusement parks and such like are probably what you will be spending most of your time concerned with. The following lists the various classes available in the US

<https://www.legalzoom.com/knowledge/trademark/glossary/trademark-class-classification>

Do note the classes system is quite old and often did not anticipate computer games and computers in general so you may find some odd omissions and overlaps.

Also while combinations of trademarks make for a very strong case then an even stronger position is to have a complete phrase.

At time of writing it was noted that "Mario and Luigi" recently saw a trademark be renewed, this despite "Mario" and "Luigi" presumably having long been registered and never allowed to expire.

There are three things that might happen here

- 1) A trademark will expire.
- 2) A trademark will be renewed.
- 3) A new trademark will be registered.

A trademark expiring does not mean the intellectual property itself is no longer protected (see copyright for that one) but that trademark protection for that work/franchise is no longer seen as necessary (or might not be able to be afforded in the case of some older works that are held by a small holding company or individual). This would mean someone else can use that phrase/word/name for another product though.

Big companies will let things expire, though it tends to be phrases associated with older titles. For instance Nintendo in the last few years has allowed the following US trademarks to expire

For the most part you can ignore expirations. Some like to ponder whether it means a dormant franchise is abandoned by a company but it seldom means anything.

Renewals you can also generally ignore. This is a day to day operating expenditure for most companies and you maintain trademarks as part of general due diligence/maintenance for your property. This is as costs per class is only a few hundred dollars or rough equivalent wherever you go (pocket change for most companies), and something you will want to have in place when you can in turn sell or loan out a property.

New trademarks are what you want to get excited about. Now it does not mean a product will appear, and it has been known for companies to register dummy trademarks to confuse other companies and journalists, but this may be among the earlier things done in the run up to a release.

An established company trademarking a new brand or an established franchise getting a new trademark (usually the full title of the game, maybe a logo as well) being what you want here.

A new title for an established franchise might include a subtitle that gives some clue as to the nature of the game. Or if you prefer how many subtitles for a

game include a character name and a word beginning with re (revenge, reimagined, reborn, returns, reaccreditation, reconciliation, regeneration, rearticulation...)?

A word on abandonment and genericide. Trademarks in most places are a “use it or lose it” affair. While patents and copyright (more on those to come) can often get away with a bit of “let them have their fun” then trademarks tend to have to be more defended.

<https://www.eff.org/deeplinks/2013/11/trademark-law-does-not-require-companies-tirelessly-censor-internet>

Or if you prefer then some Zelda fan game might be able to exist on some unknown forum for a decade without it bothering Nintendo, but when said fan game gets plastered on every gaming news site out there then not acting becomes a riskier proposition, doing that for ten of them is worse still.

Knowing this you may also begin to see why things like the video footage usage agreements get phrased the way they do.

To search for trademarks in various countries here are some links to the relevant sites/offices

US

<http://tess2.uspto.gov/>

Canada

<https://www.ic.gc.ca/app/opic-cipo/trdmrks/srch/home?lang=eng>

UK

<https://www.gov.uk/search-for-trademark>

Republic of Ireland

<https://eregister.patentsoffice.ie/query/TMQuery.aspx>

EU wide (includes national offices in one of the options)

<https://euipo.europa.eu/ohimportal/en/search-availability>

Australia

<https://search.ipaustralia.gov.au/trademarks/search/quick>

New Zealand

<https://www.iponz.govt.nz/about-ip/trade-marks/search/>

Japan

https://www.jpo.go.jp/e/support/j-platpat/trademark_search.html

Though as a simplified version

<https://www.j-platpat.inpit.go.jp/>

While there is such a thing as an unregistered trademark in some jurisdictions the cost of doing them is so low and the chances of an unregistered trademark having to be defended in court means most do not use them, and those that do are usually far smaller companies. Trademarks have to be searchable so most nations that have a functioning trademark system will have a reasonably workable search.

6.1.2 Patents

Patents are supposed to be for physical inventions but in the US and Japan (and nowhere else) you can also see software patented. These are protections granted to allow exclusive rights to build or allow others to build and sell an invention. How long they last varies with what area you are dealing with but for electronics and inventions then consider it about 20 years.

A “secret patent” is an oxymoron as the idea of a patent is that the inventor disclosed how it works in exchange to the exclusive rights of use, such that when the term is up the people can then make use of the device. There are still so called “submarine patents” in some places but they are unlikely to trouble games.

When a patent is applied for (and possibly later granted) a number is given. You can look up this number if you want to get the patent, or you can search most patent offices by the owner or key words. It is generally good form to give the patent number if you have found one or are referencing one.

Most will be concerned with these when discussing new consoles and new peripherals. Indeed many times over the decades the earliest tangible news of what a new console might contain has come from patents. That said “business methods” is an option in some places so we did see a nice description of how Activision planned to do microtransactions at one point. Similarly Sony’s plans to add achievements/trophies and bonus modes to old games it was emulating (both ideas failing the “obviousness” and “prior art” as far as we are concerned as any ROM hacker would tell you how to do those, and demonstrably had done such things for probably decades at those points) aspects also saw patents share details of how those things were set to work.

How to read a patent

A patent will consist of several named sections, with said names being known and referred to as such by people that deal with them.

In the following order almost regardless of where you are in the world you will tend to have

Abstract. Basically the introduction and what is to come.

Claims. This is the list (usually about 20 but can be far more, or far less, and can be the children of previous claims) of things the invention claims to do.

Drawings of the invention. Do note that patent drawings seldom resemble the final device, indeed not having them resemble the final device can both be a type of protection and something of an inside joke among those drawing up patents.

Diagrams if the drawing is not enough. This can often include flow charts.

Description of the invention in more detail.

HOPE patents for hackers talk is a more US focused approach to the concept but a useful one. Includes some limitations on the use of patents as well.

<https://www.youtube.com/watch?v=HPVhBbdLHtk>

Even without the software patents

<https://www.youtube.com/watch?v=GRAHlnbL66w>

there are some substantial differences between that and UK/EU style patent law but that can be left for another day.

Patent limitations and exemptions. Much like the other intellectual property laws patents have their own list of exemptions/exceptions to them, as well as defences that can be employed in court. One of the more notable is for private use (that being if it is for private non commercial use then it does not apply), which stands in stark contrast to copyright where private use is often a concern. Another notable being is if a patent is invalid then no infringement can be said to have occurred, this then leads to people being sued for infringement often trying to get the patent ruled invalid by the court.

Here are a list of defences and exemptions for the UK

<https://www.pinsentmasons.com/out-law/guides/defences-against-patent-infringement>

Covered above in the videos but worth noting here. Patents are supposed to be novel (which is to say not done before, a concept commonly known as prior art), non obvious to “a person skilled in the art” in the field and actually work (no perpetual motion machines, also might extend to people previously having tried to make something and failing not counting as prior art).

Different countries have wildly varying standards here. In some places (many European countries and the EU wide patents) the patent examiners may themselves be skilled in the field that the patent applied for concerns, where others may have few, if any, skills in the field.

Some places may consider prior art to be the whole body of work in the field in question (and sometimes outside it, though this gets harder) and others merely previously filed patents.

Obviousness is also a varying test between locations as to what gets counted at application, and possibly later on in court it can change again.

Generally speaking US patents are seen as easier to get where the same claims in Europe and the rest of the English speaking world may see the patent not granted, this in addition to the software patents that often don't exist elsewhere (and may be considered against the spirit and wording of the law). This can also lead to “patent trolls” where a small company that does little other than own patents (often of some dubiousness) will sue a bigger one in the hope of getting a settlement rather than fight an expensive case.

<https://techcrunch.com/2019/11/05/cloudflare-beat-a-patent-troll-what-now/>

Copyright trolls might also be said to exist, however these can be harder to define as there are legitimate companies that will acquire copyrights to various things (including viral videos, memes and similar such things) so as to manage them that then function very similarly to companies merely seeking a payday or “go away money”.

Trademark trolls are far less of a thing, however sometimes a company will register a trademark of a common term within an industry that causes troubles for others within the same industry.

Failing in a patent case can see large damages awarded, and prior to that may see an item blocked from shipping/sale (an injunction issued to prevent sale). These tend to be the two things you will see in patent cases.

Patents tend to be filed with an individual named (nominally the inventor of the concept) but attributed, or assigned if you want to use US parlance, to a company.

Sony is a big company so having a watchlist on their patents is likely to be tedious if your main interest is games.

Microsoft is similarly a big company with fingers in many different pies.

Nintendo also is not small but most of what they have will be relevant here as their primary interests are in games.

While those are the big three companies of most interest to patents then in places with software patents then other companies might have more (the big developers and publishers have several notable examples here), as might those looking at doing interesting peripherals. To that end it might be worth searching for existing products (if you have one you can try searching by number to see it) and seeing where their patents are attributed to so as to get a more refined search.

Companies can also be seen to gather long lists of patents as a form of protection; “sue me and I sue you with my list, we will both lose”. Working

groups to pool patents are also common, and “non aggression” pacts and groups are also increasingly common (<https://www.openinventionnetwork.com/> being a good example, and saw Microsoft open much of its considerable collection to it in 2018). It can also be seen to stifle competition in a market, especially if obviousness and prior art is not well respected and patents are wrapped up in an implementation of standards; there is a reason you may have had to compile various pieces of video software, or seek a version compiled from someone outside the project in years past. Or if you prefer many of those cool devices either made in China, eastern Europe or made by small groups of engineering inclined types would probably fall foul of patent laws in many places (that and electrical testing is also not cheap but more on that one later).

In any case see if you can find an existing games related patent for your region to see what location they lodge their patent with, and what terms they might use to narrow things down. If you are dealing with another region do also make sure to observe any regional differences; computer games vs video games being a big one for this.

US

<http://patft.uspto.gov/>

UK

<https://www.gov.uk/search-for-patent>

Canada

<https://www.ic.gc.ca/opic-cipo/cpd/eng/introduction.html>

Republic of Ireland

<https://www.ipoi.gov.ie/en/>

European patent office (Individual EU member state ones are also available, see second link)

<https://www.epo.org/searching-for-patents.html>

<https://www.epo.org/service-support/useful-links/national-offices.html>

Australia

<http://pericles.ipaustralia.gov.au/ols/auspat/quickSearch.do>

New Zealand

<https://www.iponz.govt.nz/about-ip/patents/search/>

Japan (simple patent search)

<https://www.j-platpat.inpit.go.jp/>

6.1.3 Copyright

Copyright is probably the one most people are familiar with but also subject to serious misinformation and misunderstandings of what it is and what it does.

Short version is it is there to protect a work and elements thereof, though there are substantial caveats and enough asterisks to that statement to fill a book. Originally it lasted a fairly short amount of time but today it is different.

CGP grey copyright less one day

<https://www.youtube.com/watch?v=tk862BbjWx4>

Or if you prefer the little year counter that ticked over a short while back at time of writing means we now have works from public domain day, with works from that year that is still on everybody’s mind (that is 1924 by the way)

<https://web.law.duke.edu/cspd/publicdomainday/2020/>

This public domain rolling release idea only kicked back off in 2019 as well following an extension back in the late 1990s.

<https://web.law.duke.edu/cspd/publicdomainday/2019/>

To put it more bluntly assuming current lifetimes there is a decent chance you will never live to see anything you played as a kid become public domain by virtue of ageing out.

Technically it is granted automatically but in the case of the US then most companies will actively register the work as well, mainly as it confers a few legal benefits.

<https://www.youtube.com/watch?v=JuxKY2MLrHY>

The US also has a quirk with copyright registration prior to 1978 which is more related to films and music, though we may see some interesting things with games at some point.

Copyright registration is not as easily searched as trademarks and patents so we tend not to see anything here, or have anything you can follow along with.

For the US there is <https://cocatalog.loc.gov/cgi-bin/Pwebrecon.cgi?DB=local&PAGE=First> that might yield you something, but it more useful for more historical lookups or possibly to get an idea of which company owns what (more on work for hire in a bit) than current ones.

UK myths of copyright

<https://hallellis.co.uk/blog/myths-of-copyright-law/>

This is not to say copyright is not a concept that comes up time and time again in computer games as it is. It permeates almost everything we do (far more so than trademarks and patents) and its reach is felt by everybody operating within gaming commentary, reviews and such like.

One thing to know about it all is the exemptions to it, along with the concept of fair use (trademarks have a similar one called fair dealing).

The short version is reviews, criticism, parody and elements of teaching/education and reporting are supposed to be allowed under copyright. For a long time parody was not recognised in various places (the UK being among the more notable here) but today it is fairly broadly recognised.

<https://fairuse.stanford.edu/overview/fair-use/four-factors/>

This would also mean videos of game footage, and indeed basic let's plays could be troubled here as not being fair use. A let's play may rise to the level of review or parody but you would probably have to qualify it.

There are dozens more considerations as far as copyright goes (facts are not copyrightable, organisations of facts is a different matter being just one thing of many here) but that would take us further afield.

Game companies do occasionally sue each other over copyright disputes but it is not as common as contract disputes.

Work for hire

If a person that creates a work owns that work then how do companies ever own any? This is because most such works are made on a work for hire basis. It goes by different terms in different industries (in music you tend to be dubbed a session musician) and countries but it is widely recognised. A variation on the theme also crops up again in Hollywood accounting but more on that later.

Anyway the idea is you can create a work and retain the rights or someone can commission you to create a work and in doing so you sign the rights over to that work. Obviously there are myriad variations on this theme (only for use in this work, not to be modified, can't be reproduced, I get a cut of any

profits/sales, only for a game but not the music CD of the game and so on) with disputes over those forming the basis of many negotiations and issues (the 2007–08 strike by the two main writers guilds in America being a good example of this).

A notable exception in recent times was Poland. In it the author of the books *The Witcher* is based upon filed suit, and eventually came to an arrangement with the game developer, for more royalties but that is very much the exception.

<https://polandin.com/39283603/witcher-creator-demands-millions-from-video-game-studio>

You tend to mainly encounter this in either

1) Cases where people reuse old code they technically should not, *Fallout Shelter* vs *Westworld* being a good example of a potential case here

<https://uk.ign.com/articles/2019/01/04/bethesda-suing-warner-bros-for-blatant-rip-off-of-fallout-shelter>

2) Cases where developers have a contract for either everything made on work computers, and on occasion anything made at all during their employment (even on their own time on their own machines). The full nature of this area of law is beyond the scope of this document, full of tangents though it may be.

That said do be aware of it should you take this journalism lark beyond “citizen reporter” and start to write for one or more publications. It is of vital importance in many fields, especially IT and writing, so it should not be too hard to find an up to date legal breakdown of rights and responsibilities here for your country.

Historically one of the more notable ones for this was the early days of ID software, makers of a little game called *Doom*, one minor title called *Wolfenstein 3D*, and another almost unheard of series called *Quake*, wherein the employer of many key ID personnel was also the host of the computers they used to make some of the earlier efforts and thus might to be able to claim some ownership of things.

Content posted on/created on websites.

In the terms and conditions of use for websites they may have a line saying they are allowed. Ostensibly this is so they can use an example of it in a promotional work without having to seek permissions

User created content in games

User created content in games is usually still the rights of the user that made it, with the main exception being if it is monetised within a game wherein some cut is usually given to the developers and thus needs to have that worked in. They may also have a line saying any resulting stories may bear similarity to your content; fan fiction and fan works communities often see these as there are limited stories that can be told (especially if said fan works are in keeping with the established universe).

One notable exception, recent at time of writing, is *Warcraft 3* reformed. Here there was a line in the terms that gave Blizzard ownership of custom content, or at least very broad permissions to use it. This is presumed to be in response to the “Defense of the Ancients” (often known as *DOTA*) map/mod that was

made and ultimately spawned the MOBA genre of games which Blizzard could be said to have lost out upon.

Copyright lawyer analysis (starts at 5:35)

<https://www.youtube.com/watch?v=3zQXg7BLQXo>

Orphan/abandoned works, or a complete non concept

Companies go pop all the time (bankruptcy will be covered in the busienss section). Companies also have intellectual property assets that but for all of the earliest games we are still decades away from seeing things go public domain. Sometimes these assets are bought up by other companies, which may in turn go pop, or individuals that then return to being just that. Complicated agreements on ownership of works based on other works (films, books, comics and the like), or using other technology, and the distribution of new copies only makes this worse.

This means nobody quite knows who owns some works, including some rather significant ones. Some have lobbied to have these works without a parent company (orphan works if you will) rendered as essentially public domain. This can also be known as abandonware.

This has never gone anywhere in terms of making laws (proving orphan status is rather difficult) and is not even a legal defence anywhere. There are however abandonware sites that will seek to collect such works, or works they deem as such. Many times despite technically owning things for the better part of a century to come, and said complicated ownership, companies will not care about such things.

You do however have a somewhat related concept in open source game clones wherein games might have code released for them (often without the artistic assets though) or be recreated by fans intent on playing the original game.

<https://osgameclones.com/> is one such site covering things here.

6.1.4 Design rights, registered designs, trade secrets and the like

The three types of intellectual property forming section headers here are the biggest and most prevalent but there are further types. The above two are the UK names for the concept, other places might use different ones. In most cases they are hybrids of one or more of the big concepts and deal with things like colours associated with a brand, or particular designs of devices that might not rise to the level of patent but still represent some effort.

This sort of thing sometimes troubles third party importers of things if they happen to share a shape or colour.

<https://www.dyoung.com/en/knowledgebank/articles/design-infringement-ukipo>

<https://www.clarkewillmott.com/legal-services/intellectual-property-lawyers/design-rights/>

Registered and unregistered versions exist, with a search for registered designs available. Turnaround times and payments for both if being registered are often very low.

<https://www.registered-design.service.gov.uk/find/>

<https://www.tmdn.org/tmdsview-web/welcome>

While not for games the TED talk given on intellectual property in the fashion industry provides something of an insight into how some of this can play out

https://www.ted.com/talks/johanna_blakley_lessons_from_fashion_s_free_culture/transcript?language=en

Trade secrets

There is however the concept of “trade secrets” wherein a formulation or method of making something is kept secret, should someone that has been told this recreate it outside the scope of their actions within the company (say quitting and starting their own competing company, or recreating it at a competitor) then that can result in legal troubles. Trade secrets in games, certainly legal cases involving it, are rarer to encounter than other industries but at the same time is more subject to it than in many other places. The threshold for what constitutes a trade secret can also be quite low. It could also appear if a game industry insider shares details of how something works, which may well then play into protecting your sources.

The following is a legal analysis (somewhat US centric) on the concept with a focus on games, entertainment and programming/IT focuses would also work here.

<https://www.slideshare.net/kyconkli/tradesecrets0522>

6.2 Legal stuff (finding it, reading it, knowing what to look for)

The above stuff on copyright and other intellectual property is but a small aspect of the law as it applies to things in games, and the world at large. The following contains a little bit more on what can be found.

6.2.1 Legislation and how it works

As well as court cases there might new laws introduced to a given location that have some effect on games.

This will vary from country to country, and usually regions within it. Descriptions of individual countries often tend to devolve pretty quickly into something needing a flow chart. You are encouraged to look up what goes for the countries you either live in or are interested in as part of this. Most countries themselves will put out documentation on how it all works, but external assessments can also be a good thing.

Most countries will have a delineation between civil law (this being supposed to govern interactions between companies, individuals and any combination of those) and criminal law wherein actions taken in contravention of these laws are said to be against the state (as in the general concept, not component geographical area of the US) and will be prosecuted by the state’s own legal teams.

Both fields might have laws applying to computer games and their interactions with the world, and companies and individuals might run afoul of both of them with computer games being a relevant factor within them.

Civil cases may also be resolved “out of court”, with that often being the preference of both the court and parties involved. In such cases it is common for secrecy as to the result to be a condition of settlement. Occasionally such settlements do get leaked but they are unpredictable as to where and when they might happen.

US law

Of interest to both those living under its laws and being one of the major markets then most people involved in games.

US law is broken down mostly into state level and federal level, though various territories and reservations can make this a bit more complicated. More local districts (down to city level and things broadly akin to cities like “inincorporated” parts of counties) can also have their own extra laws but they tend to apply within their own borders and do not change so much, beyond maybe giving a developer a tax break, loan or similar as well as maybe extra taxes (computer games have variously been targets of local level “sin taxes” over the years).

State level tends to apply only to a given state, and federal level is more or less nationwide but tends to concern itself with serious acts. If you think some aspect of the law was not addressed in an earlier trial you can appeal a case, with various levels of appeal within state, within a district comprised of several states (but not all the country) and eventually ending up with the US Supreme Court which governs the whole country.

The foundational aspect of US law is probably the US constitution, with its first bunch of amendments also being of great interest (particularly the first amendment, this being the one concerning free speech, as it applies to games and the potential censorship thereof). States may have their own constitution but part of being in the USA is that they all follow the US constitution.

6.2.2 Where to find new/proposed and existing laws?

Secret laws tend to be considered anathema to a free society so all laws tend to be made available, as are new laws. There may be court cases that change how things are used (indeed many legal types will tell you laws are just paper until a judge rules on them), the laws may be unjust (most countries have guidelines on how to make new laws and what is and is not allowed in them, or are party to agreements even higher up that govern it) and the text itself may be quite dense and arcane but they should still be available. A small extra section is added in the US law section dealing with working groups, investigations and the like, such a feature is common to all law making everywhere and goes under various names. Indeed being called to testify before such groups/committees would generally be treated as seriously as a court case, though lobby groups and other interested parties are not above twisting narratives to support themselves.

US State laws

Your chosen state will have bills. Any and all states can have things impacting law here; for instance it was Hawaii that was at the forefront of the anti loot box bills in the US. To that end doing more than the usual five places that other state based breakdowns have considered would not suffice. Fortunately all the websites for state level laws are available on the following website

<https://www.congress.gov/state-legislature-websites>

Federal laws. This is the domain of congress

<https://www.govtrack.us/congress/bills/>

Various entities may also form working groups, investigative bodies and occasionally the various upper US bodies have been seen to investigate things.

These will usually be formed in response to an event, before a bill is proposed, when a bill is being considered and occasionally as a means of reforming old laws that might be getting in the way.

Lobby groups are particularly active in these scenarios, and individuals may be called (possibly even compelled) to testify.

Notable example of a Senate hearing. In response to various groups expressing concern, primarily the PMRC which saw many notable people running it (Tipper Gore, then wife of one of the people asking questions in the hearing, being among them) over lyrics to music. Here several musical artists were called to testify in front of a senate hearing concerning their lyrics. Examples of similar such things occur to this day, especially with technology changing at a pace the law sometimes struggles to keep up with.

<https://www.youtube.com/watch?v=S0Vyr1TylTE>

Right to repair

Active in late 2019 and early 2020 and provides a reasonable modern example of it all in action at state level. Saw the ESA game publisher lobby group turn up to oppose it.

https://www.youtube.com/playlist?list=PLkVbIsAWN2lsmovRO20_gtfUfgWi-XnnT

Europe Europe. Each country within various things called Europe², and possibly subdivisions of them, can enact their own rules too beyond whatever groups they belong too also say they have to implement.

EU

https://europa.eu/european-union/law_en

https://ec.europa.eu/info/law/law-making-process/types-eu-law_en

<https://europa.eu/youreurope/business/upcoming-eu-regulations/index.en.htm>

UK

<http://www.legislation.gov.uk/>

<http://www.legislation.gov.uk/changes>

Proposed bills before parliament

<https://services.parliament.uk/bills/>

Note each of the countries within the UK and associated islands has may have slightly different laws, developed governments/parliaments governing different aspects of law, some of which may change how computer games play out there.

Republic of Ireland

General policy

https://www.citizensinformation.ie/en/government_in_ireland/national-government/houses_of_the_oireach

Full laws

<http://www.irishstatutebook.ie/>

Bills before

<https://www.oireachtas.ie/en/bills/>

Other parts of the world Most of these will be English speaking countries or other notable countries from the ones noted earlier in the document. Countries

² Europe is more of a historical/geographic/cultural term. While many will assume the European Union (EU) represents Europe it is but one entity within it, albeit a powerful one encompassing or otherwise representing much of it. The EEA (European Economic Area), various courts, status of Russia and surrounding regions all make it rather complicated.

will tend to make new/proposed and existing laws publically available so it should just be a matter of a simple search to find a country not covered. Many countries that do not have English as primary language will have translations of their laws to English (it is the international language of business, science, a lot of trade, a lot of media and more besides) but it might not be immediate, or indeed might be a paid service and also subject to translation errors. Your country, or the likes of various US departments concerned with foreign affairs, might also have a guide to laws in another country (indeed some of the US ones are listed below for Japan and South Korea).

Canada

<https://laws.justice.gc.ca/eng/>

<https://www.justice.gc.ca/eng/csj-sjc/pl/index.html>

<https://openparliament.ca/bills/>

Australia

Full laws

<https://www.legislation.gov.au/>

Bills put before the government

<https://www.legislation.gov.au/Browse/ByYearNumber/Bills/InForce/0/0/>

State level umbrella link

<https://www.australia.gov.au/information-and-services/public-safety-and-law/legislation/states-and-territories>

How state and federal laws interact

<https://eoc.sa.gov.au/resources/discrimination-laws/australian-laws/how-state-and-federal-laws-interact>

New Zealand

Legislation

<http://www.legislation.govt.nz/>

Proposed laws

<https://www.parliament.nz/en/pb/bills-and-laws/bills-proposed-laws/>

Japan

<https://www.loc.gov/law/help/guide/nations/japan.php>

South Korea

<http://www.loc.gov/law/help/guide/nations/southkorea.php>

6.2.3 Consumer protection law and advertising complaints

Consumer protection law might also be something to be aware of here. Two main scenarios it really ever crops up in are in false advertising (the lawsuit for Mass Effect 3 probably being the most notable, and cleared of all charges in 2012. No Man's Sky was also troubled by this but also ultimately cleared <https://www.forbes.com/sites/kevinmurnane/2016/11/30/no-mans-sky-cleared-of-false-advertising-claims/>) and hardware failure which is by far the more common occurrence.

Hardware failure and response to it is most notable with Microsoft's Xbox 360 Red Ring of Death (RRoD) failures, this being the "generous" warranty extension offered by Microsoft in various places was actually more likely to just bring it into line with national, or in the case of the EU then international, standards. See the UK's sale of goods act for more on that one (<http://www.legislation.gov.uk/ukpga/1979/54>), though it should be noted that things have since changed a bit.

More recently failures in the “joycon” controllers for the Nintendo Switch saw some action in this space.

That said we are starting to see movement on allowing resale of downloadable games, with consumer rights being a guiding principle in that, so there is that.

Related to that is right to repair, active at time of writing in the form of a bill appearing in various US states, and slightly earlier rulings on what violates a warranty such that the manufacturer does not have to repair things.

Advertising complaints

You do occasionally get complaints to advertising authorities on less consumer terms and more individual terms. Every advertising company wants a “viral” or otherwise memorable advert and part of that often sees them push the boat out a bit, and as pushing the boat out can be easily done with advertising (the censorship bodies for games, restrictive as they may be, have nothing on advertising standards types). The legal powers of advertising bodies is subject to endless scrutiny, limitations (for a famous example in the US see the FCC vs cable providers, though there are exceptions for TV for children and political advertising) and varies massively between countries or subdivisions of them (down to even city department level in the case of posters up in some trains).

It can also come back the other way and find individuals that might not have (properly) disclosed a relationship with a game company to preview/review/demo a title and said title was provided for free or with a monetary reward. What goes here varies by country as far as what is required. Sometimes the acknowledgement has to only be a simple byline in a description, other times it has to be more formal. Going further then in terms of general morals then it gets to be pondered what an individual cares to accept in these situations. A simple game code might not sway opinion too much, and an objective opinion could well be had, but a paid for trip to an event is a different matter, even before you consider the psychology of said events.

You are left to your own devices to determine what you want to see or will accept as here. There will be some further discussion later on some of the various aspects seen as part of all this, things like embargos, provisos, restrictions on coverage and more.

6.2.4 Precedent

Not all countries will use this concept, France being a notable exception (it mainly being “persuasive” there), but it is the idea that all previous cases can be referenced in consideration of a new case and any rulings formed by it inform the direction, logic and flow of the current case. Older cases that are relevant to a current case will then be “cited”, and certain older cases become of greater importance as a result. Lawyers, judges and researchers in law will spend considerable amounts of time learning of said old important cases, learning of any new ones and finding ones that apply to their current cases.

New precedents are not exactly rare but they are notable, and computer games have given us several over the decades that have had wide reaching effects.

Three of the more important for US law have been

Sega Enterprises Ltd. v. Accolade Inc. (concerns the ability to run your own code on a system by bypassing its protections)

<https://h2o.law.harvard.edu/cases/4486>

Lewis Galoob Toys Inc. v. Nintendo of America Inc (concerns the ability to modify code of an existing work)

<https://h2o.law.harvard.edu/cases/4459>

Note also the full name of the companies involved. This is one of the reasons you may need to know what companies are involved with what.

Brown v. Entertainment Merchants Association (2011) (concerns the US first amendment wherein a law prohibiting sale or rental of violent games was struck down, in doing so blocking various threats to the sale of games that were arising around the US)

<https://www.mtsu.edu/first-amendment/article/1382/brown-v-entertainment-merchants-association>

6.2.5 Countries affecting other countries

While most of the world operates under the idea of Westphalian sovereignty, or simply put each country determines its own laws that operate within their borders (and sometimes to their citizens when abroad), in reality they are far from closed systems.

A variety of effects can be seen as a result of laws in one country. Most notably countries with a large potential customer pool may change what is done for the general geographic area. Germany having considerable restrictions has been known to change what is done for the rest of Europe.

Likewise the limits on volume, now often seen worldwide, arguably started with a French law. That said as there was measurable hearing loss in many of the youth in various countries as a result of poor headphone usage then that is probably a more easily justified move. Moves to standardise hardware also may go worldwide or have worldwide effects, or possibly limit users in smaller countries with different standards (the history of 60Hz video in Europe being an interesting case study here).

Countries will also seek to harmonise their laws with trading partners to facilitate an easier time of things. As the US is a massive trading block, and the EU a massive trading block then various other places will attempt to play to each of those.

On the matter of the EU then one of their big acts is that countries in their membership (and occasionally those sort of involved in it) will have to pass national legislation mirroring their edicts before so many years after they are issued. These can be repeatedly demonstrated to have effected consumer protection law, environmental disposal law, laws concerning the unlocking of devices and in some cases linguistic requirements.

In addition to laws in a given country you also have increasing numbers of countries opening up, and sometimes shutting down too. Most the opening up is said countries becoming more economically prosperous such that they can afford computer games, or companies reducing prices in them to possibly sway people from piracy, but others might have had legal restrictions that frustrate things.

Most will probably note China in this which variously banned and then unbanned game consoles in the country.

<https://www.cnet.com/news/after-13-year-ban-china-to-allow-game-console-sales/>

More recently they were seen to impose game curfews for those under 18

<https://www.bbc.co.uk/news/world-asia-50315960>

Also of interest in coming years might be the various countries in the middle east which variously have been known to restrict things. Usually concerns over morality, concerns over youth safety and concerns over security. As part of a liberalisation of a country though, which is something many of those are contending with, then that tends to see a loosening of restrictions.

Import restrictions can also apply to various places; the hardware playing computer games is sometimes considered sensitive technology.

This article for instance details how the Playstation 1 CPU is being used as a space probe, and space probe is functionally not so very different to big missile.

Likewise a game console might be subject to certain tariffs where a normal computer is not; guess one of the reasons why the PS2 and PS3 had various options for Linux support and thus were a “real computer”?

It might also have effects on regions bordering another, and in the case of the internet places one can make it appear as though you are located in. Many otherwise small towns in border regions or ports in favourable tax regions often see disproportionally large sales of goods that are harder to obtain the other side of the border. Goods restrictions are a less studied concept but still apply.

6.2.6 Freedom of information requests and declassification

Probably the only thing that is often paid (though theoretically it should be a token sum, or possibly “reasonable sum” rather than a considerable one) if you are requesting things yourself, more general releases tend to be free. Most countries these days have mechanisms by which you can request data held by a company, or the government, on a given topic. What you are allowed to request, and what a company might deny or redact information in varies from place to place, and of course nobody ever gets anything wrong here.

It is less commonly seen in games. That said the FBI was compelled to release information on an investigation they did into the “gamergate” controversy.

FBI link

<https://vault.fbi.gov/gamergate>

The resulting document is also a nice example of a redacted document (classically this is the black lines various agencies will put through documents they are set to release or share with another party), albeit a badly redacted one in many cases (some names are redacted and said names are available in the cited urls, never mind the resulting links, often less than a paragraph away).

Not so common nowadays but you did also used to see people use the strikethrough command of various PDF documents, but leave the underlying text such that a highlight, copy and paste would reveal it.

<https://www.racefans.net/2007/09/20/ferrari-and-mclaren-secrets-leaked-in-fia-document/> being one such example.

More classically you might compare lengths of text, see if there are any ascenders or descenders from various characters (think tjpqfy and various other characters) to see if you can fit something in the missing space via use of linguistics or event knowledge.

There is also a second version of this where some places forcibly declassify documents after so many years (usually thirty years but the UK has a twenty

year rule these days), or so many years after the death of the individual concerned. 30 years from time of writing would place you around the launch of the SNES so there might be interesting things gleaned about any practices undertaken, hearings engaged in and more besides as that period and years prior were the subject of some turmoil here.

US

<https://www.archives.gov/declassification>

<https://www.fbi.gov/services/information-management/foipa>

UK

<https://www.nationalarchives.gov.uk/about/our-role/transparency/20-year-rule/>

<https://www.gov.uk/government/government-efficiency-transparency-and-accountability#transparency>

Australia

<https://catalogue.nla.gov.au/Search/Home?lookfor=declassified&submit=Submit+search+query>

<https://www.oaic.gov.au/freedom-of-information/>

New Zealand

<https://www.archives.govt.nz/about-us/whats-new/declassified-mfat-files-released-to-the-public>

<https://www.dia.govt.nz/Official-Information-Act-requests>

Canada

<https://declassified.library.utoronto.ca/>

<https://www.canada.ca/en/treasury-board-secretariat/services/access-information-privacy.html>

Republic of Ireland

<https://www.nationalarchives.ie/>

<https://foi.gov.ie/>

Generally the national archives, or other prominent libraries, for a given country will receive anything released automatically or as a result of another. Otherwise the law enforcement agency in question might host things, or an umbrella government department will be available to handle things.

Formulating your own request is another matter that you might need expert help with, or to follow the template for. While you can often ask for fairly broad searches the narrower the better, if only for your wallet.

6.2.7 Court cases

Court cases. These tend to happen after a game is said and done and someone either failed to provide the required product, or failed to fulfil terms of a contract or payments for it. That said results of cases can bankrupt companies (sometimes even if they win), and they can happen before games are released if something egregious has possibly happened, or released to a given console. Paying out millions, especially if the reasoning for it is dubious, can also leave a sour taste in someone's mouth so they may be less likely to work with some of the parties or individuals involved in the future. More on that in business discussions later.

It is rare for consumers to get involved in these sorts of cases, and most of the ones you see will be for failed hardware. You tend to get many people grouped together into a so called class action, though companies will occasionally try to sneak in a line to a terms of service agreement which prevents that. Other times

you might see something called arbitration happen, though that is a somewhat different affair where often a retired judge or similar legal skills will attempt to have parties resolve a dispute in a legally binding manner outside court. Arbitration has also featured in many employee vs employer disputes.

That said prior to launch there can be consumer petitions and more besides. Said petitions are rarely acknowledged, or demonstrated, as accomplishing anything but can be something to consider.

Similarly you may find copyright cases, defamation/libel cases and other such things being lodged against both developers of works, and those seeking to cover them in various capacities so it can be beneficial to know how to read court documents, and what the types of courts are (most places have three, that being civil for person to person/company to company, local for smaller matters or state laws and national ones for really big criminal stuff, appeals to rulings can be handled by various levels of appeals courts (often ending with supreme courts). Such things are well with the normal parameters of a journalist, citizen or otherwise, to cover so be aware of it.

6.2.8 Finding legal documents

For some cases a judge might restrict access to a case, though this is typically reserved for cases where one or more parties require it to be safe (child custody, battered spouse and the like). In most cases, especially those involving companies and contract or intellectual property disputes, this will not be the case. What you may find instead is that cases are settled out of court and thus the complete resolution may not be available.

While many places will make their legal proceeding publically available (transparency in your legal system is usually viewed as a good thing in a free country) legal documents can be harder to obtain than some might like. There are however some free services.

The following will hopefully serve as place to find a basic overview for the regions listed (English speaking only right now) and place to start to generate a list of things to watch or search.

US

<https://free.law/> provides <https://www.courtlistener.com/> as well as a few other services.

<http://www.freepatentsonline.com/> can be more manageable than the official services for patents.

<https://dockets.justia.com/> is more limited and not as fast to update as some things but it is worth having.

<https://www.pacer.gov/> is the official service for many courts in the US, though usage can come at a cost.

UK

<https://www.thelawpages.com/legal-directory/crown-courts.php>

<https://www.supremecourt.uk/current-cases/>

<https://www.judiciary.uk/about-the-judiciary/the-justice-system/jurisdictions/civil-jurisdiction/>

The different countries and protectorates within the UK often also have their own legal systems variously separate from the main UK parliament and England.

Canada

Can be broken down into province/territory level depending upon the case. Some may also be harder to access without going there in person and only limited information may be posted online.

<https://www.lib.sfu.ca/help/research-assistance/subject/criminology/legal-information/courtrecords>

<https://www.canlii.org/en/index.html>

British Columbia civil search

<https://justice.gov.bc.ca/cso/eseach/civil/partySearch.do>

Ontario

https://www.attorneygeneral.jus.gov.on.ca/english/courts/civil/suing_and_being_sued_10.php

Republic of Ireland

<http://www.courts.ie/courts.ie/Library3.nsf/advancedsearch?openform&l=en>

<https://www.accesstolaw.com/other-jurisdictions/republic-of-ireland/>

New Zealand

<https://www.courtsofnz.govt.nz/going-to-court/media/finding-out-about-a-case>

Australia

Each state will tend to handle civil affairs, and Federal affairs will be handled by

<https://www.fedcourt.gov.au/services/check-progress-of-a-case>

<https://www.fedcourt.gov.au/online-services/federal-law-search>

http://www.courts.justice.nsw.gov.au/Pages/cats/publications/catscorporate_judgments_decisions.aspx

<https://guides.slv.vic.gov.au/courtcases/courtandpolice>

<https://www.districtcourt.wa.gov.au/C/courtsDecisions.aspx>

<https://www.courts.qld.gov.au/services/search-for-a-court-file>

<https://www.courts.tas.gov.au/decisions>

http://www.courts.sa.gov.au/sheriff/cause_lists/index.html

6.2.9 Cost of litigation

The laws might say many things but it can also often come down to the person with the deepest pockets. Lawsuits are expensive things to create and maintain and many times we have seen this in effect. In some places, and sometimes just with sections of law in those places, the losing side has to pay the fees of the victor but other times you each have to pay your own lawyer.

A notable example of this Sony vs Bleem.

Bleem was an emulator for the Playstation 1, allowing PS1 games to be played on the PC and there was another version for the Sega Dreamcast (Sega released this while the PS1 was still pretty active). While Bleem ultimately won (emulation tends to be considered legal as a general concept) the costs involved meant they had to stop operations.

6.2.10 Injunctions/injunctive relief

This is something a court can issue either at the end of a case, or sometimes at the start of a case if allowing them to continue would be a burden upon the party seeking the injunction and it is reasonable to do so. Here under penalty of law a company or person will be ordered to stop doing something they are doing (usually shipping a product or selling a service, but it can rise to having all unsold items returned for destruction) or possibly hand over items. Patent cases tend to see more injunctions issued to stop sales of consoles or peripherals.

One such example of the concept

<https://www.eurogamer.net/articles/2012-11-09-silicon-knights-has-a-month-to-recall-and-destroy-all-unsold-copies-of-too-human-x-men-destiny-more>

6.2.11 DMCA

The DMCA is a piece of US copyright law and while it technically only applies within the US as so many sites do business in the US, indeed many services operate with user agreements that they themselves agree to operate under US law, then they tend to try to not run afoul of it.

Part of that is the ability to send a DMCA notice (related concepts include cease and desist), sometimes called a takedown notice and often used as a verb (to be DMCAed). This requires the host (different concept to a publisher) to remove the content pretty fast if they don't wish to be sued (it is a concept called safe harbor, often being talked about in terms of "safe harbor provisions"). It is possible for the owner of the content that got a notice to file a counter claim as well but the full procedure here is better covered in a more long form legal discussion. It has its uses but it is an oft abused piece of legislation used in error, used in malice and used to silence criticism at times.

What you might be more interested in is <https://www.lumendatabase.org/> which contains a library of such notices filed.

<https://torrentfreak.com/> also frequently covers related matters.

DMCA exemptions

Every so many years the US Copyright office is tasked with reviewing the DMCA and granting further exemptions to its restrictions.

<https://www.eff.org/cases/2018-dmca-rulemaking> covers some of this.

Historically computer games have formed several actively considered, and sometimes granted, new exemptions. They might also be noted as specific exclusions within, or otherwise have language very carefully chosen to exclude, some of those new exemptions.

6.2.12 Tax laws and incentives

For an area of law that is a direct collision of law, accountancy and politics then these can get hideously complicated. That said various jurisdictions (or designated areas) might be allowed to create laws and regulations favourable to certain types of business, and likewise they might remove them at a later date.

New ones may not always see new businesses arrive or expand operations, similarly removing them might not see businesses leave. In any case such things can be something to report upon, and with computing generally being able to be done anywhere you can ship a computer to then it can be worth looking out for these.

6.2.13 General legal knowledge

While watching videos is seldom a great substitute for actual training, legal or otherwise, you can still learn much

Lawful Masses with Leonard French

https://www.youtube.com/user/ljfrench009/videos?disable_polymer=1

Run by an actual lawyer (copyright speciality) and frequently covers game industry and entertainment industry related cases here, including analysis of court documents if you do want a cursory grounding in aspects of things here.

Several other such channels are also available and cover related fields

Steve Lehto (more consumer protection and vehicle law but does cover warranties and service)

https://www.youtube.com/channel/UCMljRGC0eBJrxbUorWEnasg/videos?disable_polymer=1

Leagle Eagle (some copyright related content, as well as “youtube” related cases).

https://www.youtube.com/channel/UCpa-Zb0ZcQjTCCP1Dx_1M8Q/videos?disable_polymer=1

Youtuber law (dormant at time of writing but as the name implies a lot of responses to various videos and video production type cases).

https://www.youtube.com/channel/UCJgUkWtBuxh-2jK0aBWoSXw/videos?disable_polymer=1

Not a video but

EFF

<https://www.eff.org/>

The bill themselves as “The leading nonprofit defending digital privacy, free speech, and innovation.” and they are pretty much that. Some documents of theirs have already been referenced (they often do very nice overviews of concepts, cases, defences), and they frequently provide legal assistance (full defences right down to amicus briefs, those being things parties with an interest in the case can file to let their views be known in addition to the actual people involved) in cases related to intellectual property, consumer rights and the like. As such they are well worth noting as a source of news and analysis.

Hacker conferences also often host talks of interesting cases, general developments and overviews of law as it might pertain to hackers, indeed some of them have already been linked.

Some of the biggest hacker conferences are, or in some cases were, Defcon, Black Hat, Hackers on Planet Earth (HOPE), Derbycon, C3 (usually given a number to signify what year, the end of 2019 one being 36c3) aka Chaos Community Congress, Kiwicon, Shmoocon, ToorCon, and this in addition to other such talk conferences like google tech talks and ted. Full listing following the section on general conferences.

6.3 Game rating, classification and censorship boards.

By virtue of the companies making consoles, people distributing games or countries themselves then pretty much everywhere in the world that consumes games will have a censorship/classification/rating board. Sometimes they are industry driven (or set up by industry to avoid a government crackdown), sometimes they are officially government boards, sometimes they are unofficial but given weight of law, and sometimes they cover larger regions (Europe for instance having the Pan European Game Information, aka PEGI, setup that is law in a fair few European countries but not in others).

Ratings appearing for games can indicate a game is coming to a region (you are supposed to have a work to rate for most of them), possibly the name of a title (recall subtitles often noting something about the game), a vague indication of release date (while games can be delayed or sat on awaiting a better release time then it tends to be fairly close to the mark), sometimes the leaks include information about a title and pictures of it sent in as part of the rating process

(while films and TV are often watched then games tend to be self reported to make things more workable for the censors) and the age rating itself might speak to content or troubles in releasing it in a country; many of the higher ratings will be refused by console companies, and some of the larger vendors of games.

This is also where some of the normally less notable countries can have things spill.

Also of note in this is how harsh some places are, or indeed what their ratings are. Aside from the obvious ones like China then it is noted that historically Australia have been very harsh, and Germany also has some interesting rules here. With Germany often being the main point of operations for many companies operating in Europe this can have knock on effects across Europe, though as time goes on this is less prevalent.

What each location dislikes seeing the most is a subject for a different day but typically sex, drugs, ~~and rock and roll~~, violence and profanity are what causes restrictions in games, with different countries of similar heritage often having wildly different interpretations of what is suitable for what groups (if it is even allowed at all), to say nothing of massive differences in what is allowed in film, TV, music, books, games and more besides. Gambling, be it actual or internal, and aspects of “Discrimination” can also be in play these days, and some boards have also concerned themselves in with in application payments/purchases aka microtransactions.

US and Canada

<https://www.esrb.org/>

Europe

Europe has PEGI. Most EU countries (including the UK and Ireland) and other things part of Europe, also Israel, will use it

<https://pegi.info/>

In the UK it was formerly the job of the BBFC (the ratings you see in coloured circles on films and TV show DVDs) rated things. Since 2012 PEGI has force of law.

Several other countries do retain rights to ban things beyond what PEGI says.

Germany

Probably the main exception to PEGI for Europe. Its USK is a quasi government affair. Officially it is not a government department but going against its recommendations and advertising things without their approval (or, worse still, disapproval) could find yourself answering to the law with fairly serious penalties <https://usk.de/en/home/obligations-for-content-providers/>. As mentioned their standards are also often quite a lot stricter than elsewhere, with the most notable historically being depiction of Nazi symbols, uniforms, concepts and whatnot being if not outright banned then effectively banned for use in games.

https://usk.de/en/?s&jump=usktitle&post_type=usktitle

Australia

Historically games lacked the “18” rating (as in suitable for persons the age of, broadly similar in scope to most of the rest of the English speaking world as to what gets that) which meant everything in turn had to aim for a 15 rating. Today they do have such things, but it is by no means easy sailing and still often sees things troubled when going for release there.

<https://www.classification.gov.au/>

New Zealand

<https://www.classificationoffice.govt.nz/find-ratings>

6.4 Game translators, game guides, game testers and related concepts

Other than the programmers and those doing ratings there exist other groups that may have various levels of official early access or information prior to release. The list of individuals beyond the developers, artists and management thereof can be quite long indeed and can range from those in warehouses, pressing plants, printers and shops right on up to kids of executives having new stuff to test (sometimes someone's uncle really does work for Nintendo), however there are some groups more notable than others.

6.4.1 Game translators

Games often want to be translated, or maybe localised (you might have to convert systems of measurement, adapt concepts that are common in one place to ones common in your intended destination, or be sure not to offend local sensibilities), to be released into another region, indeed even the various versions of English often pose a problem despite them being some of the least divergent “world” languages.

<https://www.loekalization.com/> is a Japanese to Dutch translation firm and their articles offer a fascinating insight into and grounding in the business of game translation for those curious.

Being fairly low profile, restricted to a few individuals and insulated/closed off by design (secrecy being a job/industry requirement in most cases) then leaks from this sector are far less common than other things, though you may find your chosen language is getting a translation or that a notable (for good or ill) translation house is being tasked with the job. Outside firms might also only be given limited information about a work, indeed a playable build of the game would be a rarity, so they may also have limited knowledge of things here.

That said it is a possibility and thus you should be aware of it.

6.4.2 Game guides

At the end of 2019 we saw a game guide for Pokemon be leaked ahead of the street date of the game it was for, and further still from when the guide was set to be released. The resulting court actions (more on related concepts in the section below) were quite interesting as these things go but the information contained within the leaks, especially by virtue of being from an official source, was good to have.

6.4.3 Game testers (internal, beta and otherwise)

Companies hire people to test their games. What this testing entails varies massively, and testing itself happens, or can happen, at all stages of the game from still prototyping mechanics to released once you say it works. Sometimes these people are essentially coders themselves doing things like <https://www.joelonsoftware.com/2010/01/26/why-testers/> and other times they are simple players of games that thought they would give it a go.

Either way then such people will almost inevitably be working on prerelease and thus have information on upcoming games. Knowing this then such testers will be bound by very strong non disclosure agreements and we rarely see leaks. That said many such testers end up speaking about their experiences after the fact so can provide some insight for some kind of post mortem, not to mention the game developers conference often hosts panels called post mortems to cover what happened during development of a game or lifetime of a company.

Related to this though is various flavours of beta test, some of which may be made available to the public but under the condition they keep various aspects private. This sort of thing is far more apt to generate leaks.

On public tests then be aware if you are either going to leak video or screenshots of your own or those of someone you care about (even if it is just wanting to avoid being blacklisted from further beta tests for that company) that most such things will have a watermark of sorts.

For an example of how in depth this can get then back in 2012 Blizzard was caught watermarking their images in a way that might never have been detected but for a quirk of the game

<https://www.ghacks.net/2012/09/12/blizzard-watermarking-wow-screenshots/>

This also can be considered to apply to surveys, and game companies have been known to broadcast very early information (as in prototyping and commissioning stages) about games to such services.

While you may not be able to detect/decode such watermarks you might be able to defeat them with simple noise filters and tweaks trivially done in image editors but still leave enough information for the people you wish to share information with. This in addition to making whole new images as metadata is also a thing – <https://www.howtogeek.com/203592/what-is-exif-data-and-how-to-remove-it/> for but one example of the concept.

In short know what you are doing here as you only have to slip up once and upload the original raw image.

You also have the external detection problem. In the case of surveys if you have 30 similar images but only give out 5 for a question then you can potentially narrow down a leak easily.

In the case of betas then as “metrics” has been an industry buzzword for several years now the list of key strokes/location and view direction might be taken during a beta and such things reconstructed after the fact.

Or for a quick bit of maths, and sort of example of the things you can do with data

60 frames per second is the average game these days

Say 10 hours of play (3600 seconds in an hour, 36000 for said 10 hours or 2160000 frames) during this beta.

64 bits for a double precision floating point (fairly normal for a modern 3d game direction or position) multiplied by 7 for x,y,z location, and j,k,l view direction with one more for time. 448 bits, double it to account for keys pressed and inventory, and for fun round up to get an even kilobyte.

One kilobyte per frame then multiplying across then about 2.1 gigabytes if uncompressed for said 10 hours, far less if you don’t double it earlier (or do double it and call it a 120fps game) and as things don’t necessarily always be moving then compressed is far smaller. Such data also being invaluable in development for figuring out early exploits/patterns, play behaviours and tracking leaks (nobody else being in this exact location after all).

Oh and this also assumes they don't have a nice "they pressed print screen" warning a la the same thing many do for those self destructing chat message applications popular among the youth.

6.5 Electrical standards testing

Unlike trademarks and patents above then the US' FCC and other such entities in other countries don't always showcase all that they are testing, or may have to keep some or even all aspects private. Other places might only have to internally hold a file themselves declaring that they meet the standards, so called "self-declaration". However historically the FCC, and its equivalents in other countries (some of which might be private companies offering a mark accepted by the location in question), have had photos and more sneak their way out in addition to what has been publicly found.

If you want to search the US FCC then

<https://apps.fcc.gov/oetcf/eas/reports/GenericSearch.cfm>

Much like the patents mentioned elsewhere there are more user friendly searches as well

<https://fccid.io/>

It should be noted that very minor changes still require a measure of re-certification so not everything you might find is relevant. Minor changes need recertification for as any electrical engineer will tell you then minor changes in trace location will potentially cause noise to make everything fail, and this also applies to external noise generated and potential for things to be unsafe. This also means minor tweaks for developer tools, models for trusted reviewers and tools for trade shows might have to go through such certification so do be aware of that.

In the US then Title 47 CFR Part 15 (probably parts A and C for this sort of thing) being the piece of law governing this.

Canada

ISED are the body for higher end radio.

Japan

Arib are the body concerned with things here.

Australia (mostly electrical safety for external power supplies and similar things, their electromagnetic/radio stuff for most game consoles and peripherals possibly being internal only or otherwise self certified).

<https://equipment.erac.gov.au/Public/>

EU

https://ec.europa.eu/info/business-economy-euro/product-safety-and-requirements/eu-product-requirements_en

In the interest of keeping this relatively brief the process of this is known as electrical compliance, radio compliance, electromagnetic compliance, instead of compliance then some places use the word conformance, and similar such things. Just to state it as well then there are two main avenues, those being electromagnetic (does it spit out too much radio interference) and electrical safety (if the power supply fails will it hurt people? Could possibly include audio as well but that might be in with electromagnetic). Laser safety can also be a thing, though in most cases that will just be a laser for an optical drive, and you might meet physical safety if it somehow gets classified as an exercise

device or medical device (most companies will avoid this and aim for it to be a toy instead).

In general this sort of thing is a big business that various groups of lawyers, technical translators and technology firms help international companies with. If you want to search for whatever type of compliance or conformance and your country of choice you will likely find one of said firms give brief description of what is required to enter that market and thus what to search for in turn to find a search.

<https://www.7layers.com/type-approval> is one such resource that was nice at time of writing this.

In general you will tend not to find many new models as such things are done long after announcement but it might give an idea about when a revision to a device might hit your part of the world, or some idea that a release is coming. Alternatively when dealing with companies like Nintendo that have been known to literally have devices in vendor warehouses to ship the next day, all while swearing up and down nothing new is coming, this sort of thing could yield additional confirmation.

Should you have a device from a region you want to look at then the manuals for the device, as well as maybe the label, will often have markings and text to indicate what it complies with and search for those to see what newer things are made. Bonus here is it will often give a number to search with much like patent numbers and thus you can then find an old application to figure out if there are any good/non obvious names to check with. Such things might be an importer that took it upon themselves to sort something, or a local company (Nintendo doing much of their stuff in China with the company known as iQue for instance).

6.6 Leaks and after action reports from game developers, publishers and related parties

The developers themselves then people are often in a hurry to disclose what they have been working on. If you can find a developer of the game on a forum, podcast, conference talk (though the game developers conference aka GDC is more famous for its post mortems of games then you can still get glimpses into what happens next), interviews with websites, services like twitter, linkedin profile and so on and so on then they might yield something. In the case of linkedin then for the unfamiliar the service is something of a combination of CV database and social media site “for professionals” so if your newly available on the job market developer lists the last 4 years using a certain technology then that might be interesting information. Them working at a new company despite previously being a high up member of the team (or whole ranks of lower level team members leaving) can also be an indicator of things within the company.

For really early news then developers advertising for jobs can give a clue as to what is needed. If the role calls for experience in a given field it is presumed that said field is then useful.

It is also not unknown for developer to give commentary on their games some time after release, both for general interest and to attempt to drum up interest for their next work.

In addition to the “post mortem” series from GDC then some examples of this might be

IGN plays. On one particular occasion they played Doom with John Romero who in turn took time to explain aspects of the game as it was being played.
<https://www.ign.com/videos/2013/12/10/we-play-doom-with-john-romero>
 Ars technica's "War Stories" series
<https://www.youtube.com/playlist?list=PLKBPwuu3eCYkScmqpD9xE7UZsszweVO0n>

Conker's Bad Fur Day "Director's commentary"
<https://www.youtube.com/watch?v=VgtAXCaSlpk>

Video need not be the only form, Cannon Fodder 2's "Untold Story" is often considered a top notch example of this sort of thing for a maybe not troubled game but one that had issues living up to its previous entry, and how various factors came to cause that

<http://worldofstuart.excellentcontent.com/cf2/cf2.htm>

7 User comments, comments from notable figures, meta analysis and in game events

A consensus of fans, comments from ones leading the industry (or their niche within it) and the opinions of self styled commentators upon events and the state of things as a whole can all yield discussions worth having and items worth pondering.

7.1 On the nature of comments

Much gets made of reactions to news, releases and more by the general gaming public, and indeed as they are the ones providing the bulk of the sales, multiplayer lobbies and the like in many cases trends in their opinions might well matter or be worthy of consideration. Some may wish to make efforts to categorise these people (those on sites dealing with previous entries for instance).

Some also like to compare and contrast stories from notable figures, the often talk at conferences and to the press in general, and other publications.

7.2 Meta review ranking sites

A contentious concept among gamers, and fans of accurate statistics alike. These are sites that seek to take review ratings from multiple sites, though which site gets included is rather contentious for some of these, and collate the data to generate one overall score, ostensibly to provide an average. However owing to proprietary hidden weighting systems, dubious conversion methods, interpolation (3 out of 5 is anywhere from 50% to 69.99999..%), as well as the concept itself being rather dubious thanks to score inflation (7/10 for many is an average game, anybody that knows numbers would say that is not a mid point between 0 and 10, some sites recognise this and adjust/score accordingly) and general difficulties in condensing a review into a score in the first place. Never the less they might well serve to indicate the general opinion of a game, or how divided people (be they fellow "professional critics", said critics and fans or just fans by themselves) are on a matter; quite often region differences can be interesting to explore here. Can also be a good place to find new sources of information as those places carrying reviews will also often tend to house news.

Metacritic's gaming section. This is probably the most popular one in games.

<https://www.metacritic.com/game>

Opencritic's gaming section. A relative newcomer but one aiming to fix at least some of the perceived flaws with metacritic.

<https://opencritic.com/>

Many will also seek opinions from those online shops selling games, be they downloadable/"digital" or physical, if they should offer such functionality.

7.3 Notable events within games

Games might have potentially hundreds of thousands of active players, and be in persistent worlds. Just as competitions between a few might of interest then mass events or notable shifts within games can be of interest to many.

For games with hundreds of thousands of players then the "massively multiplayer" umbrella tends to be a good place to start looking for examples.

One of the more notable games in this space would be EVE online. What is EVE online is the subject of works far longer than this, however to put it simply it is a game wherein a single game universe is pretty much entirely player run. Players may form up into factions and contribute resources towards their faction's goals. Thousands of active players form a working economy that frequently vie for power and control, all of which have their own power dynamics, notable individuals, supply issues and everything else associated with either companies or countries.

Surprise cheats/exploits/hacks/bugs

It is almost a fact of modern development that there will be bugs in a game, or cheats and exploits made, or simply unintended functionality discovered. These can be purely within a game, or external to it. These might radically change the perception of a game, especially if possesses online multiplayer, and as such may catch the interest of those involved with games.

Analysis of communities is also a topic that can provide glimpses into things some did not know or had not engaged with in some time.

Habbo "pool's closed" and related activities.

<https://www.youtube.com/watch?v=fp2EZbbuMa0>

You may also find there to be other mass participation cultural events.

Examples might include

Twitch plays pokemon

Here a live stream was set up but the command given over to users on the chat channel as to the next action. Being a "collaborative" effort then the resulting puzzles, failures and internal lore created proved to be a fascinating case study in all sorts of behaviours.

Saltybet

<https://www.saltybet.com/>

Game engines are covered elsewhere, however less is said in that of the open source/freeware made ones. One of those is a fighting game engine called MUGEN for which custom characters can be made. The creators of the concept took all the characters they could find across the internet and pitted them in AI driven matches. At its height it drew in active users that games from major publishers would be envious of.

Part III. Business stuff

Much like almost everything else here then there are major professions dealing with it if you want but owing to the ways laws work there is a lot of data out there that can make for a worthwhile analysis.

It should also be noted that if people that speak Japanese are hard to come by in these circles then people that can play forensic accountant and business analyst are even more rare, and potentially could shed even more light on things than we normally see.

8 Stock markets

You will hear talk of stock markets at times. They are a fairly simple concept. Companies may sell off pieces of them to private investors, and later on they may choose, or occasionally be forced, to go on a market for selling said pieces (the move from private company to public one being known as an initial public offering or IPO). What said pieces do varies a lot between companies but at times also confer the ability to vote on company direction, or get the head of companies (usually a chief executive officer aka CEO) and board members fired. Other times you might get a cut of profits (or a selection of them) in a process known as dividends, some companies never give them.

All sorts of terms come up at this point that you can spend a month learning and might only be of limited use in most situations, but vital in others.

Still “buy low, sell high” is a phrase that is almost the first thing you will hear. The idea being you buy a stock when it is low price and sell it when it is high price.

Things that might cause low prices are lower than expected sales of items, lawsuits going against you, laws in general seeking to curtail your practices, negative news stories about you or key figures in your company, bad earnings reports/projections, low dividend rates, your industry going down in general, your stock being seen as over valued, selling more shares in your company than were out there originally as it means everything will be worth less than before* and can be seen as a sign of financial difficulty, and more besides.

*exception to this is when an up and coming company does it, usually prior to the IPO stuff mentioned earlier. If the price is so much higher than when the earlier investors bought in then even if they lose half the value if they are up 20 times on their initial investment afterwards then that is a good investment, and the company can continue growing (possibly at said silly rate so said 20x will soon be 2000x or something just as ridiculous). This is more of a thing for technology firms than game companies though, though the two are hardly unrelated and we will likely see a few more of these in years to come.

Things that might cause high prices are basically the opposite of the above, you firing people (seriously, though it can also be a sign of hard times), not giving dividends (the theory being that the money you would have given out stays in the company), excitement about new products, upcoming mergers/takeovers (existing investors might get a nice cash lump sum or stock in the new/bigger company), your stock being seen as under valued and the list goes on again.

There are dozens of stock markets all over the world, some companies being on multiple ones of them. Game companies can be on almost any of them, but

there is obviously a bias towards media, technology and such like. Some are also big enough to be on the lists of biggest stocks in the world.

Stock prices are considered time sensitive news so up to the second (or millisecond) data might be obtained for a price. Today though you can usually get prices with a 5 minute or so delay for free, and might be able to sign up to an investment service of a sort to get quicker ones. Charts are also usually available for free.

Current price, day end price, day start price, whether said price is up or down on the start of the day (or month, or quarter, or year), volume (how many shares are being traded in that period – more volume means something might have happened), maybe a stress price (lowest it has ever been), highest price it has ever been valued at and more are listed on most information sheets.

Going long

This is the classic buy low and sell high thing where you try to buy in when a stock costs not a lot and sell after it has increased in value. The bigger returns you can make in a shorter time then the better investor you are, typically being compared to index funds (basically you buy a share in every company on the market and if they all average out as going up in price then you make money, here is one for the popular US based “DOW Jones” market <https://www.macrotrends.net/1319/dow-jones-100-year-historical-chart>), in bad cases to savings accounts in banks and in terrible cases compared to inflation (the average price by which consumer goods rose or fell).

Shorting and short selling

If you think a company is going to go down in price you may do something known as short selling, aka short a company. The basic idea is you say in however many days I will deliver you X shares of this company buy pay me this price now. In X days (or some point in the meantime) you buy the stock, presumably as the price dropped in the meantime, and give it to the person that paid you for it back when. After fees, insurance and whatever else might be required you hopefully then made a profit.

8.1 Popular stocks and basic ideas of stocks

It is also noted that in many cases in the eyes of investors then you are only as good as the last quarter (year) you had. Anybody will also tell you that investors are, by and large, completely clueless and might only work off simple numbers they have in front of them rather than a deep understanding of the company they wish to invest in and the industry at large, though they may pay people, called analysts, to tell them what to think here. Sometimes analysts are quite good, other times they are only slightly less clueless about things. Do remember though that it is the analyst’s job to predict stock prices and other related info and not necessarily good games, good devices and whatever else. Often times the would be followers of game news don’t appreciate this and react rather negatively to what is actually good advice, Michael Pachter’s reception in various places probably being the prime example of this.

It should also be said that many executives, which for some bizarre reason appear on stage at conferences for games, are also chasing said stock price.

To that end it can be quite a bizarre thing to follow as a lay person, and on the other hand as a follower of games with some funds to spare it can also be lucrative if there is some bit of silly news now causing a panic but in a year or so you know some sequel is going to come out that will likely rock the industry.

It is also noted that investment in games is viewed as something of a high risk-high reward investment. This is as a smash viral mega hit, which can come from just about anywhere or anyone, might make percentage returns on investment that far exceed anything more conventional companies return, and even a more modest hit might still make its money back many times, but at the same time game companies release maybe one game every two or three years these days so a failure of a game might also mean bankruptcy of that company and all your money, or essentially all your money, tied up in that company gone.

List of stocks and their stock code of popular gaming companies. Some might have other codes and be traded on other markets.

Nintendo (NTDOY)

<https://uk.finance.yahoo.com/quote/NTDOY?p=NTDOY&.tsrc=fin-srch>

Microsoft (MSFT)

<https://uk.finance.yahoo.com/quote/MSFT?p=MSFT&.tsrc=fin-srch>

Electronic Arts (EA)

<https://uk.finance.yahoo.com/quote/EA?p=EA.tsrc=fin-srch>

Ubisoft Entertainment SA (UBL.PA)

<https://uk.finance.yahoo.com/quote/UBL.PA?p=UBL.PA&.tsrc=fin-srch>

Activision Blizzard ATVI

<https://uk.finance.yahoo.com/quote/ATVI?p=ATVI&.tsrc=fin-srch>

Take-Two Interactive Software (TTWO)

<https://uk.finance.yahoo.com/quote/TTWO?p=TTWO&.tsrc=fin-srch>

Konami (KNM)

<https://uk.finance.yahoo.com/quote/KNMCY?p=KNMCY&.tsrc=fin-srch>

Square Enix (SGAMY)

<https://uk.finance.yahoo.com/quote/SGAMY?p=SGAMY&.tsrc=fin-srch>

Namco Bandai Holdings (FRA:N9B)

<https://markets.ft.com/data/equities/tearsheet/summary?s=N9B:FRA>

Note Valve (the company behind the practically dominant PC games download service known as Steam) is not a public company, and thus what information we have on their financials is usually speculative at best. Bethesda and id Software are subsidiaries under the private company Zenimax Media. Likewise Sony and Microsoft are far bigger than just games so their reports or company health can be both obscured by games or obscure the true nature of games within them. It is also the job of some very highly paid accountants to not necessarily obscure things but put things in the right bucket such that various goals can be achieved. A nice example of this in action is how much do you think the trademark for Coca Cola is worth? If you look on some balance sheets then rather than having an expensive asset (which you can get taxed on in some places) then it is given a ridiculously small value for those purposes, this despite everybody who knows anything would value it in the billions.

9 Game company income streams

One game every few years is a hard life to lead from a financial perspective. This is why companies will often seek to have more than one means of earning money, or to use financial type parlance then “diversify your income streams”.

Alternatively money may not govern everything but it has its hands in most things, and following the money is frequently going to get you more information.

A variety of methods are available here for income

- Classically there was “work for hire” where you have your people do some work (or offer “consulting services”) for another company’s game, or maybe a film maker, to help them along. Obviously this comes at the cost of not having all your people available for your new game or updates to current ones.
- You might sell the rights to release the game on another console/platform, or in another region.
- You also had engine sales if your company had built its own engine. Indeed prior to the whole Fortnite thing then one time developer Epic was probably at risk of becoming more known for its Unreal Engine than any of its games. Quake and Doom are earlier examples of this concept.
- You could try to become the bank and become a publisher for a smaller developer.
- Expansion packs to games. You make some more content, possibly standalone but also possibly requiring the base game, and sell that. Today it is more commonly called downloadable content aka DLC.
- Rereleases of games. Any number of forms here ranging from “gold editions” (these days think game of the year editions) to selling emulated copies of old games you might have in your library.
- Licensing your title to films/TV/whatever. You tend to have the “which person is doing the other person a favour” debate in this one as you just as easily might pay for something here and call it advertising for you.
- Merchandise. Toys, posters, books, comics, films, cartoons/TV shows/web shows, clothes, bedsheets, shampoo/bath toys, watches, jewellery, food and so on and so on all being things with serious examples. Again you might find yourself in the “what is advertising we ought to pay for and what is something we can charge for?” debate.
- If you are a game hardware company then you tend to also sell access to your console, maybe take a cut of any sales, and also sell new hardware (extra controllers, better video cables, hardware addons perhaps though those tend not to do that well, new hardware revisions and whatever else). You might also see the rights to make controllers and other accessories to your game console, and in recent years companies even added protections that prevented other people from even making things as simple as memory cards.

More recently

- Subscriptions to your game. It is unknown what the absolute first might have been here, probably a premium rate line to a multi user dungeon aka MUD that predates the internet, but starting with the 16 bit era and exploding with the rise of the massively multiplayer online game (World of Warcraft might be the most notable example nowadays but back when it would probably have gone to Neverwinter Nights, Ultima Online or Everquest) came a nice “recurring revenue stream” by way of subscriptions to your service. Traditionally it was either for a service as a whole or access to a persistent server but these days some companies have seen people part with their money for “premium” access to multiplayer servers (even peer to peer ones), see people pay for a “season pass”, and other such things. Said multiplayer servers are something you might also charge individuals to run, or they might buy storage space for different things.
- Related to this is recurrent payments or one of donations some users might make in the case of smaller games and projects. Such projects can include emulators, niche games, particular authors/figures and also cover the fields of journalism and commentary of games.
- While individual crowdfunding efforts have been seen for big games from big publishers (initial funding and a clear indicator of interest being nice things to have) this has yet to be particularly observed in higher end games. A variety of sources of these are available, the most notable being patreon and subscribestar for the recurrent payments and the various donation options afforded those doing video streams and timed releases.
- In game transactions aka microtransactions. Seen for a variety of things including extra weapons, customisations, allowing people to select their favourite character (as opposed to a randomly selected one), better/extra features within a game, means to progress in a game, means to speed up progression of a task in a game, extra lives, unlocking things within a game and on and on.
- “Lootboxes” are a more recent iteration on this, though precursors to it have been around in games for a while and the real world longer still. Here people pay for randomised rewards/perks/unlocks in a game. Its similarities to aspects of gambling, though there is also gambling with in game items to consider in this, has seen some governments take notice of things here and consider legislation against it.
- In game advertising. While commonly associated with mobile games today this practice goes back decades (see something like Zool advertising lollipops) but has got more and more prevalent as time went on. These days even includes adverts that are streamed from online locations and thus can be tracked and updated.
- Mechanical turk and computer resource exchange. A mechanical turk is a name given to outsourcing a usually very repetitive or tedious action to others to get done quicker than your internal workforce might be able to accomplish. Get the players of your game to solve an abstract puzzle that represents your problem and you can sell the solution to it, though cheesy films and TV shows will often see you invited into a secret government

program or skilled competition, and there are games made with more humanitarian goals (see foldit, Phylo, OntoGame, Eyewire, EteRNA or more simply why you probably spent the last few years telling a computer what are traffic lights, cars, bridges and more when trying to download a file or sign up to a site).

- Data on games might also be of interest here but that is usually something a company pays another company to help generate and understand.
- Resource exchange just means the players of your game either knowingly, though sometimes unknowingly, give over some amount of computer resources that you sell on or otherwise use to generate income. A bitcoin miner embedded in a game being a classic example of this one.
- Merchandise is probably the most notable here and of particular interest might be Pokemon:

Reports vary a bit but estimates have the total franchise as raking in some 90 billion US dollars since its inception with maybe only 15 billion of that being from games (3 billion of which might have been from Pokemon Go).

This is to say more several times more money has, and is, earned by pokemon merchandise and non game materials than has ever been earned by the games. The games then can be something of an afterthought, or just good enough to keep the whole affair in the public consciousness.

10 Earnings, financial statements and investor reports

Owning just one share in public companies entitles you to certain pieces of data, though in practice as anybody can become a shareholder or might once have been one then said data is usually made available to the general public.

Do note that if you are in a location with a one share type rule then in reporting on things you are technically reporting on something you have a vested financial interest in (even if the share price at the time is less than the cost of lunch most days), and if you find yourself as a trusted reporter or voice in the gaming press then reporting on things, especially without disclosing the relationship, may see yourself engaged in market manipulation (a crime in many places, often quite a serious one). 2008 saw a fake report via hacked news that the CEO of Apple had suffered a heart attack, stock prices fell by 5.4% which could make someone a lot of money. <https://www.wired.com/2008/10/fake-ireport-of/>

Such reports are generally made for legal compliance and investors rather than would be fans of the products the company makes so as the would be fan you instead get to dig through it and interpret what goes. Much like the legal stuff covered before then financial people often have their own phrases, formats, language and beyond.

Once more then watching videos is not a great substitute for learning what goes but it can provide some insight and tools to analyse things with.

Company man frequently covers companies and the things you might wish to look at to assess their health, or lack thereof

https://www.youtube.com/channel/UCQMMyhrt92_8XM0KgZH6VnRg/videos?disable_polymer=1

Economics explained

https://www.youtube.com/user/JitaLounge/videos?disable_polymer=1

They have several on game economies as well.

Investor relations. Investor reports, earnings predictions and matching thereof.

As well as annual earnings/investor reports then companies may also be compelled to release revenue and profit predictions for the next year, or just next quarter. Not meeting predictions, which a company may or indeed may have to announce ahead of time, is generally viewed as a bad thing and will see stock prices go down. These predictions and upcoming year reports do occasionally note what games are coming out, or indeed what games are not set to come out during that year.

When searching for a company not mentioned below then “investor relations” is a reasonable search for the location of all their reports, and more besides.

Sony

<https://www.sony.net/SonyInfo/IR/>

Microsoft

<https://www.microsoft.com/en-us/investor>

Nintendo

<https://www.nintendo.co.jp/ir/en/library/annual/index.html>

<https://www.marketwatch.com/investing/stock/ntdoy/financials>

<https://www.macrotrends.net/stocks/charts/NTDOY/nintendo/financial-statements>

In the report see the breakdown of divisions/subsidiaries for the company for an example of how such things can be structured.

Electronic Arts (EA)

<https://ir.ea.com/financial-information/annual-reports-and-proxy-information/default.aspx>

Ubisoft Entertainment SA

https://www.ubisoft.com/en-US/company/investor_center/annual_report.aspx

Sega (Sega Sammy)

<https://www.segasammy.co.jp/english/ir/>

Activision Blizzard

<https://investor.activision.com/annual-reports>

Take-Two Interactive Software

Owners of Rockstar games and 2k games, among others

<https://ir.take2games.com/investor-overview>

Konami

<https://www.konami.com/ir/en/>

Square Enix

<https://www.hd.square-enix.com/eng/ir/>

Namco Bandai Holdings

<https://www.bandainamco.co.jp/en/ir/index.html>

Apple

<https://investor.apple.com/investor-relations/default.aspx>

Google (as of 2015 they technically fall under the purview of Alphabet inc.)

<https://abc.xyz/investor/>

Notable private companies

Bethesda and id are both subsidiaries of ZeniMax Media Inc which are a private company and thus are not required to give public statements.

Valve are similarly a private company.

10.1 Profit, income, expenses, expenditures, and loss

Profit is what you have left over after all your expenses (debt payments, rent, staff payments, electricity, taxes, advertising and so on) are taken care of.

Income is all the money you brought in from sales and the other things mentioned in the income streams section.

If your income is less than your expenses then you make a loss. There are complicated financial reasons why you may want to have a loss or maintain a loss in some circumstances (usually some kind of tax break, avoiding taxes or debt relief), and your highly paid accountants may indeed create the appearance of a loss. If you do make an actual loss then the money is presumably covered either by taking out a loan, getting more investment, selling off of assets or taking from money in the bank made in better times. If they can not do any of those then bankruptcy looms, more on that later.

Assets vary slightly depending upon the person you are speaking to, especially if they are an accountant, and where you are in the world. Generally they are either intellectual properties you hold, contracts you have (say a lease on a building) or devices of some considerable value that will retain some value when you come to dispose of it, the “loss” of said value as the years roll on may also be offset in your accounts if you know what you are doing. Lower cost items and things you pay for and are used (say a phone call) are treated as expenses, though if the earlier sections were not legal advice then this is certainly not accounting advice and all sorts of things can happen depending upon how clever your accountants are, what the laws are at any given point, location or time.

Debt to income and debt to assets ratios

Recall the earlier part where investors were said to often favour simple numbers when analysing a company. These are some of those.

They are pretty much as the names imply and are the ratio of debts a company holds to their income, and their debts to total of their assets.

Further fun ratios are profit to earnings; you might make 100 billion a year but if you only make 1 million profit then you have a low PE ratio, and a bad year might see you falter. Also you are less likely to give much out as dividends. In US markets Amazon (one of the biggest vendors of games, maker of games, publisher of games, makers of game hardware) are an interesting exception to this rule but you can learn about that one elsewhere, also nobody quite knows why people truly allow Amazon to get away with this.

10.2 Credit ratings

Companies use credit in ways and amounts that would boggle the minds of most normal individuals, though also in ways that will be familiar to said same. As such they have credit ratings just like people, governments and other such groups.

A falling credit rating in a company can both be a sign of internal strife, and a cause of it; lower rating, more expensive credit, less credit available, fewer things get done if credit is part of cash flow, less money in, new even lower rating, and so on and so on.

What meaning it, or a change in it, will have to you concerning what, why, when and where new games, systems and such will appear is minimal. It tends to be more of a factor when looking at a company's recent history or decisions after the fact. That said less money tends to mean less risk, or leaning harder into proven revenue streams (hello microtransactions where there might not have been before).

This should also be considered when seeing financial reports mentioning that the "liquid assets" (the funds available for immediate use, as opposed to tied up in/realised with buildings, tools, brands and such) might only be a few hundred thousand or similar; if an advertising campaign costs millions then a few hundred thousand will not go far the immediate thought would be "not good for them", however cheap credit lines might be in the millions and speaking to people in credit industries then turnaround from phone call (no pre approval) to transfer of funds can be as low as 10 minutes.

10.3 Investor calls

Instead of obtaining credit a company may request their existing investors give them some more money, or hold a discussion about obtaining additional investors for the project in question. Such meetings are often held behind closed doors and may showcase some considerable information.

There are also alternatives to this where companies may put themselves in the hands of another. Bethesda and Zenimax media's formation and sometimes troubled history being another example of options here.

10.4 Investor removal of funds/investors pulling funds

Depending upon the investor agreement then the investors may be entitled to "cash in" their investment at some point and you have to pay them out.

Alternatively there may be an agreement wherein investors will make a further cash injection at a milestone agreed upon beforehand. If your company fails to reach that milestone then no more new cash and you may find yourself "out of runway" (your business might be said to "take off" if it succeeds) and forced to close.

International exports and currency fluctuations

Most people meet this when going on holiday or buying dodgy things off foreign websites.

Short version is local currencies may convert differently depending upon all manner of factors (war, elections, laws happening, drought, demand for currency, new resources, good companies, corruption and so on) and if you as the would be game developer, publisher or hardware maker wants to pay your employees in the currency of your country then this becomes a factor to consider. It then also troubles those looking to import your devices in other countries.

11 Bankruptcy

As having a failed company or debts in general chase a person, or company, for life is not a great plan most countries have a concept called bankruptcy, sometimes insolvency or sequestration. As it is a nice collision of law, finance, governments, creditors and people with vested interests at every level then to say that it is a field unto itself, a common phrase in this document already, would be an understatement.

In the broadest terms there are usually multiple types. Some will be aimed at allowing people to “restructure debt” and come to agreement with their creditors. Others will be of the “walk away” variety. Big companies if they approach this field tend to go for the former type, in the US this being called Chapter 11 (usually heard in a phrase like “they filed for Chapter 11”, or sometimes “Chapter 11 bankruptcy protection” as it is designed as a tool to avoid outright bankruptcy). Sometimes companies come back from bankruptcy and go on to do good things. More often than not if they make it through bankruptcy and emerge the other side then whatever remains of them (parts of the business may be sold off to fund debts, indeed they are often auctioned off) are often seriously prone to buyouts, if the original people owed the debts don’t outright own the company or its best assets.

It is also far from unknown for a bankrupt company to have its name bought out and used by another company.

For instance Atari games is not really anything to do with Atari that made consoles in the 1970s and 1980s and is instead what one time quite notable developer-publisher Infogrames uses.

THQ Nordic has little to do with the game developer-publisher from the 1990s and early 2000s and instead is the name Nordic Games (themselves a public front for another group) assumed a few years after THQ went bankrupt (they had purchased some of their assets as well).

As mentioned in the section on investing above then game industry investment is considered risky for a reason, and as such bankrupt companies are very common and bankruptcy in turn often sees development halted and games cancelled.

Bankruptcy/liquidation of vendors, wholesalers and related companies can also see deals people might be interested in.

12 Subsidiaries

Generally speaking subsidiaries are companies a larger company might set up to allow that one to deal with the day to day running of the business in that territory (it is easier to find accountants, investors, meet clients, recruit translators and so forth if you are in and understand the country in question), as well as shield the larger company from losses there. The models they will employ are as diverse as anything else. Some will be little more than a puppet made for legal purposes, others will be almost entirely separate entities but on something like good terms with the original company and thus able to get, or possibly be duty bound or able to be commanded, to release their products in that region. Said separate entities, which can also be developers in the case of games, also have a habit of either surviving bankruptcy of the parent, or buying their way

out of said parent.

Subsidiaries may also be bought and sold like any other aspect of the company, or shuttered if the parent company so deems it.

Subsidiaries can also be formed to deal with intellectual property concerns, both containing it if working in places with fewer protections, and working around restrictions like software being tied to a company.

Less seen in games but if one aspect of the company either looks like it might sustain itself or bring in wealth beyond its normal duties, then that can be one thing. You see it commonly in companies with a lot of vehicles that are not always in use where they may in turn form “fleet” companies. Some game companies have been seen to have their outsourcing division be a subsidiary of sorts.

The diligent journalist will make sure to note which aspect of the company they are dealing with, as well as explain the greater structure where necessary.

The Chinese market subsidiaries are probably some of the more interesting at time of writing. China itself is a massive market (with a population of several billion and it being a rapidly emerging country financially with serious technical capabilities it is all but assured) but even more so than most other countries is the difficulty in entering it.

A variety of factors are associated here but the big one is the Chinese government is incredibly restrictive on what is allowed to be seen, shown and discussed, to the point where you kind of need a local company (all of which report to the Chinese government in various capacities) that knows the ways of China. The censorship associated with these dealings has also on several notable occasions spilled out of China and informed actions outside of the country.

Another is your intellectual property is almost assumed to be forfeit in many such countries and having a nice pipeline back to your main base of operations is then less than ideal. While not quite as troubling as it is for hardware manufacturing companies it is noted that game development does involve a lot of intellectual property.

Chinese companies have also been known to reach out and buy chunks of non Chinese companies, most notable probably being Tencent which owns stakes in no small number of companies including Epic (makers of the Unreal engine, Fortnite, the Epic Games Store and many things besides), Activision (Call of Duty), Ubisoft, straight up owns Riot Games (League of Legends) and mostly owns Supercell (Clash of Clans). This is also before you consider their Weplay, a mostly internal to China service, which is almost double as big as Steam is.

NetEase. Partners with Blizzard for their Chinese interests.

Nintendo was among the earlier to engage with such markets. They engaged the services of a company called iQue back in the N64 days but most would know them more for the iQue DS. Today iQue is noted in their financial statements which also serve as a good example of what you can expect to find detailing company structures.

13 Mergers and buyouts

Two or more firms with aligning interests are often prone to merging, or possibly seeing one buying out another. Here they will combine various aspects of their operations to make one big company out of it all (or maybe a subsidiary).

Such things are often tightly controlled by governments and will have to be approved by them lest a single company buy out all competition and cause market issues (one company controlling a market is generally called a monopoly, two companies controlling a market then tending to be called a duopoly and if they work together can be just as bad). Said departments are usually referred to as competition regulators, though any given country might have a slightly different name or have it fall under general commerce authorities. Companies might also get broken up by such regulators, however it is somewhat rare to see this.

Such things will tend to be made public ahead of time and shareholders informed, and possibly given a vote. When they are not given a vote it is usually because of a rule like owners of 90% of the stocks are entitled to buy out the remaining 10%, though rules on what might happen in such scenarios varies by country and possibly industry.

14 Further accountancy and business lookup

Most countries will have a public register of if not every business then every limited liability one, publicly traded one or equivalent (those letters put after company names like LLC, LLP, LTD, PLC, GmbH do actually mean something).

Pretty much every game company will adopt one of those forms for tax purposes (in the UK any company with an income, that is to say all money coming in and not just profit, over £85,000 will need to register for VAT and it is very easy to get to that limit), liability purposes (you might have insurance as an individual but if you cause a problem then you can be on the hook for all the costs attributed to you in the eventual court case, or if there are debts associated with your business as an individual then those too might attach themselves to you, limited companies might be nothing at all or a trivial sum like £1) or general financial purposes (many places will not give loans to non limited companies, VAT registered companies have to charge VAT but they also get to claim it back on their purchases).

Anyway these public lists will often list the executives of a company, and addresses of said company, which can give you some idea of who is involved with it. This sort of thing is of most interest when a new company is formed and you seek to find out the people involved to check what their past work is.

Company lookups, this in addition to whatever business directories you might have. Also trademarks and patents covered earlier can yield information or help refine searches.

US

The US has no official national registry and it is all done at state level. Some services will offer to search all states for you, though naturally for a fee. If it is a notable company an investment company might also note its location. Bloomberg are a major source of financial news, and might include information on even some private companies

<https://www.bloomberg.com/profile/company/3329065Z:US> being a link to their profile on ZeniMax Media Inc.

Good news is reports on new companies will mention what state the business is doing business in, and bigger companies might have patents that allow you to track them down.

There are a few options more likely than others. Delaware, California (because San Francisco/Silicon valley), Washington (because other technology companies including Microsoft), Texas (both high tech and in some cases favourable patent laws) and New York. Aside from Delaware all not coincidentally places that are hotbeds of game making and technology companies. Like Delaware certain states may have favourable tax laws (or loopholes as the case may be) that see some companies choose plant their flag there but that is rapidly heading back into accounting practices beyond the scope of this article.

So as to keep this reasonably short then only those states mentioned there will be linked here, every state/district/territory bar some of the smallest ones should have a simple electronic search if you need it

Delaware

<https://icis.corp.delaware.gov/Ecorp/EntitySearch/NameSearch.aspx>

California

<https://www.sos.ca.gov/business-programs/business-entities/cbs-search-tips/>

Washington state

<https://www.sos.wa.gov/corps/>

Texas

<https://mycpa.cpa.state.tx.us/coa/Index.html>

New York State

https://www.dos.ny.gov/corps/bus_entity_search.html

Canada

<https://www.canada.ca/en/services/business/research/directoriescanadiancompanies.html>

UK

<https://beta.companieshouse.gov.uk/>

Ireland

Owing to favourable tax rates then many companies doing business in Europe will be registered in The Republic of Ireland, though they may still have satellite operations in other countries.

<https://search.cro.ie/company/CompanySearch.aspx>

EU and a few non member states overview

https://e-justice.europa.eu/content_business_registers_in_member_states-106-en.do

https://e-justice.europa.eu/content_business_registers_in_member_states-106-ii-en.do?member=1

Germany

https://e-justice.europa.eu/content_business_registers_in_member_states-106-de-en.do?member=1

France

<https://www.infogreffe.fr/>

That said most information is apparently something you might need to be in France (or even a subsection of it) to do, and might need fees paid.

https://e-justice.europa.eu/content_business_registers_in_member_states-106-fr-en.do?member=1

Italy

<http://www.registroimprese.it/home>

https://e-justice.europa.eu/content_business_registers_in_member_states-106-it-en.do?member=1

Spain

<https://www.registradores.org/registroonline/home.seam>

Not freely available.

https://e-justice.europa.eu/content_business_registers_in_member_states-106-es-en.do?member=1

Japan

<https://www1.touki.or.jp/>

<http://www.info-clipper.com/en/company/search/japan.jp.html>

<https://www.jpx.co.jp/english/listing/co-search/index.html>

Official offerings are paid access.

Australia

<https://abr.business.gov.au/>

They note that the name search is only provided for a few more years.

New Zealand

<https://companies-register.companiesoffice.govt.nz/>

South Korea

There are some official services available but the following is in English

<https://englishdart.fss.or.kr/>

Such services, or an additional search, may also yield a business charter, mission statement, articles or incorporation, articles of association and more besides which can give an idea of people involved, and plans for the company.

15 Hollywood accounting and the construction of the game industry

Hollywood accounting is the name given to the concept seen where various industries, Hollywood being among the earlier and thus gave it the name, do creative things with their accounts, subsidiaries, contractors and more to avoid paying as much tax or assuming as much liability for failures. The extent to so called Hollywood accounting happens within the game industry is largely unknown to the general public at the time of writing this. Given it happens routinely with films then as games now often exceed even top rated films (recall earlier Pokemon Go getting some 3 billion over its lifetime, ignoring these being box office takings then nothing has yet reached that level, and number 6 is below 2 billion, you are not even at 50 before you get below 1 billion) it would be shocking not to. Franchises change this look a bit, but they exist for games too.

Anyway the general idea is a new film is greenlit. An accountant will set up another company (new greenlit film ltd perhaps) and the film production company will lease the rights to this new company, as well as maybe charge it to use its sets, gear, talent and whatever else. If it all goes down in flames then new greenlit film ltd takes all the burden, but if it starts to make money then the fees due to the film production company start to kick in and the film production company might also make merchandise and whatever else. Eventually new greenlit film ltd won't be able to keep up payments any more (every film is a loss remember) and oh wow the rights revert back to film production company just in time for the sweet DVD sale money to come in.

Variations on this exist for everything from pharmaceuticals to technology, though many such companies will do more international tricks; if you ever see discussions of a tax holiday where companies want to bring their money back into the US then this is likely part of that. Film productions might do this

as well; there is a reason film production does so much in Canada, and games benefit from similar incentives.

The basic model for games is the publisher-developer system. The developers get investment in return for rights to a work where the publisher sits back and collects any (or part of the) income for that investment (though obviously said publisher might have extra staff, engines, game assets, contacts with high end writers/musicians/animators/franchises, access to big platforms, money for marketing/existing marketing contacts and so on). If it all goes wrong then the publisher might be out some money, but will likely be able to come in and gut the development studio to try to claw back their investment (possibly before giving whatever work was already done to another team to finish). If the publisher has enough new games coming out then the idea will be that any nice profits will cover the losses, as well keep income continuously coming in rather than in massive infusions every two, three or more years.

The developer might later be bought by a publisher but will be kept as a secondary company both so the publisher can sell them on later without having to split the business, not have to pay fees to the developer or shut them down/move them around without too much fuss.

There are further things that might be done here when companies are purchased by others.

For instance recruitment in the technology sector (of which games are a part) is a very expensive or otherwise difficult (some might say the same thing as expensive) process so it can be easier to just buy a company and get a whole bunch of new, possibly proven, employees already set up to work.

Similarly developing new technology is hard so if some earnest young go getters (or disgruntled industry veterans) want to make a shiny new technology and actually manage to pull something off then you might be able to buy the whole company (and technology along with it) for less than said company might charge for how long you want to use it, or have it available right then where it might take you a few years to make an equivalent (assuming you even can). If said go getters took money from investors then said investors might have a say here and if the money the buyer offers is enough that their return on investment is something they can live with then so much the better.

15.1 Game industry makeup

There are many ways to categorise many things but the following should serve as a brief overview of the games industry.

Historically you had console manufacturers, publishers, developers and everybody else (third party peripheral makers being among those). There can be big ones and small ones of each, blurred lines (you might publish within your home region but let others publish outside it) and the modern world also brings “digital publishers” wherein often quite small teams can afford to make a game and get it released to an online platform for the cost of development plus uploading it.

15.1.1 The PC and console manufactures

These companies will get the bulk of the attention, and tend to have two main lines at any one time. Those being home consoles that connect to a TV and

handhelds which are aimed at being portable.

Some like to compare them the silicon production industry where you have fabless chip makers and those with fabs, that is to say actually make the chips, but that analogy is somewhat tenuous for if nothing else then a console maker not having some of the big publishers committed to making games for their devices is seen as very bad news.

Today there are three main console makers

Sony

Massive Japanese electronics manufacturer and media producer with interests in a lot of entertainment fields.

The subdivision known for games is called Sony Interactive Entertainment but previously went under Sony Computer Entertainment.

Entered the market in earnest with the Playstation 1, though various chips and projects had occurred before then. Two attempts at entering the handheld market with Playstation Portable (PSP) and Playstation Vita.

Parent company

<https://www.sony.net/>

Sony Interactive Entertainment

<https://www.sie.com/en/index.html>

Playstation Website

<https://www.playstation.com/>

Microsoft

Massive American software developer. Known for a near monopoly in operating systems on the Personal Computer. Technically never released a handheld but portable versions of the PC have long been available. Did also attempt to enter the mobile phone market, and had previously had a very very early tablet market (they were still known as PDAs at the time), but all failed.

Entered the console manufacture market with the original Xbox in 2001. Had previously been a game publisher, was responsible for the DirectX video/audio/controller input standard that largely governs PC game development and increase of the PC gaming market, and was noted as manufacturing a line of controllers called Sidewinder.

Console efforts to date have been successful in Europe and North America but Japan less so.

Owner of many game developers and game franchises include Halo, Gears of War, Minecraft, Forza, State of Decay, Age of Empires, the developer Rare, various Lucasarts titles following purchase of developers Double Fine, Fable and many more).

Microsoft main website

<https://www.microsoft.com/>

Xbox website

<https://www.xbox.com/>

Xbox Game studios (previously Microsoft Studios, Microsoft games and Microsoft Game Studios)

<https://www.xbox.com/en-GB/xbox-game-studios>

Nintendo

Japanese game publisher and only console maker primarily focused on games. Entered the market with arcades but is generally most notable for the NES (Nintendo Entertainment System, Famicom in Japan) and later gameboy handheld line. Naming scheme for consoles changes often with no consistent name

between devices. Develops almost exclusively for their consoles, though some arcade games do get made and their properties have been seen on mobile platforms.

Notable for any number of games. The Mario Franchise (Mario platformers, Mario sports titles, Mario Kart, Mario Party, Wario, Yoshi and many more), Kirby, Super Smash Bros., Zelda, Fire Emblem, Advance Wars, Star Fox, Animal Crossing, Donkey Kong, F-Zero, Brain Age, Metroid, and also owns the Pokemon Franchise with some other companies.

<https://www.nintendo.com/>

Regional variations

<https://www.nintendo.com/regionselector/>

PC

Following the arcade era, and more or less throughout it all as well, then you have Personal Computer aka PC. Originally developed by IBM has since come to be dominated by Microsoft and their Windows operating system. Microsoft also notably control, though some of the others here have serious input as to its direction, the DirectX API that defines how games interact with 3d graphics hardware, sound and handle input into games.

For 3d there is a competing standard called OpenGL which is more popular among professional graphics users, though has some games made for it as well. A third standard called Vulkan has also arisen in more recent years and has considerable backing.

Other than Microsoft the CPU makers Intel and AMD usually trade places for most desirable processor, and ATI (owned by AMD since 2006) and Nvidia for most desirable graphics card.

Various other PC building companies have interests in selling premade machines (laptop or desktop), components (including graphics cards which are not always produced by the main company) and branded peripherals, and may sponsor/host competitions. They often have specialist “gamer” lines ostensibly focusing on parts more suited to playing higher end games than typical home user or business machines.

The PC is also typically the lead platform that game developers will write games for/on/with, and by virtue of PC parts being able to be swapped out for better performing ones, is where the most demanding games tend to be found.

Technically an open market but today is dominated by download only games (few, if any, discs are made any more, even for big games) and that market is largely dominated by Valve’s game download service Steam, which does have rules about what can be published (theoretically relaxed at present but still more than 0). More on game distribution services elsewhere in this.

Roadmaps and proposed standards

In cars it is generally noted what is on race cars today will be on high end cars next year, and maybe 5 to 10 years after that it will find its way onto everyday cars.

Computers follow broadly similar trends on many fronts. What today is only available to animation studios running essentially supercomputers will probably be on a high end PC card before too long, and then consoles some time after that. Going just beyond that is most of the big companies designing graphics and processing chips will have a roadmap for what they are planning and predict

to have in various chips at various price points for sometimes up to 10 years into the future (though they are often a bit hazy so tend to be dubbed something no-fear road maps).

Direct3d, Microsoft's means by which developers and chip designers can know how to interact with the 3d graphics cards/chips, is something of a collaborative effort between the various software and hardware creators. Much happens behind closed doors but the results can come out in various forms, with intel, amd and nvidia all variously saying something of what is to come.

Opengl and Vulkan

These are viewed as the main competitors to direct3d/directX in the 3d graphics space, and in engineering and high end graphics opengl is the main method considered. All the same players (save a reduced role for Microsoft) will be present here and it often follows closely with what the direct3d/directX is doing.

Intel and AMD, also being CPU makers, have their own projections for the futures of their CPUs. An analysis of features can be quite good but such things tend to be better reserved for when a new console is announced, indeed some of the breakdowns of the PS3's cell CPU said much of what was to come.

phrack.org discussion of the Cell CPU that would come to power the PS3

Some might go further and look at what ARM are doing for they have roadmaps as well, something that will change what comes into phones, tablets and often portable devices as well.

What may happen with more exotic chips (which other than original xbox most consoles were made with prior to the PS4 and xbox one) varies, though most predict the market is likely to be dominated by ARM designs and PC chips for some time to come.

15.1.2 Publishers

The console makers also often double as game publishers, and usually rank among the biggest earners and most number of released titles lists each year, but the main publishers, maybe only contributing the odd peripheral as far as hardware goes, would be

EA (Electronic Arts) Most noted for sports games (owning or having owned the rights to many popular real world leagues including FIFA football, Madden American football for the NFL, NBA basketball, NHL ice hockey, PGA golf, NASCAR car circuit racing, various rugby titles and several others), film and TV show tie in games, several computerised versions of popular board games, the Frostbite game engine, Battlefield, Burnout, Command & Conquer, Crysis, the developer Bioware since 2007, Medal of Honor, Need for Speed, Plants vs. Zombies, Sim City, The Sims, the Strike series, Titanfall and the Theme franchise (Theme Hospital and Theme Park) to name but a few.

Also noted as being a fairly prolific company for acquiring developers.

<https://www.ea.com/>

Ubisoft French game publisher. Noted for games including Assassin's Creed, Tom Clancy games (Splinter Cell, Ghost Recon, Rainbow Six, The Division), Prince of Persia, Far Cry, Just Dance, Rayman, Rabbids, Watch Dogs, Imagine series, Might and Magic and Petz among others.

<https://www.ubisoft.com/en-gb/>

Square Enix Formed of two major Japanese RPG (think Final Fantasy and Dragon Quest) powerhouses and still make those titles, however have since expanded to include Taito (Space Invaders, Bubble Bobble/Puzzle Bobble, Qix, Cooking Mama, Arkanoid and more), Eidos (Tomb Raider, Deus Ex, Hitman, Just Cause) and otherwise acting as publishers for games as varied as Life is Strange and Championship Manager.

<https://www.square-enix.com/>

Activision Blizzard In China their partners NetEase alone rank among the biggest publishers in games.

Noted for Call of Duty, Spyro (and Skylanders), Diablo, World of Warcraft, Starcraft, Candy Crush, Overwatch, Hearthstone and more besides. Also owns Major League Gaming, a major “esports” organisation.

<https://www.activisionblizzard.com/>

Tencent A massive Chinese conglomerate all but unknown outside Chinese gaming circles back in the mid 2010s, today they have stakes in many key companies in addition to their own considerable holdings and services.

<https://www.tencent.com/en-us/>

Article discussing some of their investments

Epic games Noted for Unreal, the Unreal game engine, Fortnite and Gears of War (earlier titles). Owners of Epic games store, positioning itself as rival to Steam and noted for aggressive procurement of games for it. Partially owned by Tencent.

<https://www.epicgames.com/>

Bandai Namco Considered a Japanese publisher and mostly handles games from that region.

Noted for Pac-Man, Soulcalibur, Dark Souls, Ridge Racer, Armored Core and many mega popular Japanese cartoon tie in games (Dragon Ball, Super Robot Wars, One Piece, Naruto). Also noted for publishing many Japanese games outside Japan.

<https://www.bandainamcoent.com/>

Konami Japanese publisher and mostly handles games from that region.

Noted for Metal Gear, Bomberman, Pro Evolution Soccer, Contra, Castlevania, Silent Hill, Frogger

<https://www.konami.com/>

Warner Brothers (Interactive Entertainment) Falling under the umbrella of the Warner Brothers group (Cartoon Network, New Line Cinema, DC comics), who in turn are owned by American telecoms group AT&T, they often have first pick of film and comic related properties (Lord of the Rings and DC comics properties being among the more notable there), the Lego franchise, F.E.A.R., brought The Witcher 3 to North America and also have a hand in some the later games in the Batman Arkham series.

<https://www.wbgames.com/>

Take-Two Interactive Predominately known as owners of developer-publishers Rockstar Games (GTA franchise, Max Payne, Red Dead Redemption, Bully, Manhunt and more) and 2K games (variety of sports games including North American licensed teams for baseball, ice hockey, basketball, WWE wrestling, Sid Meier's Civilization, Borderlands, Bioshock, XCOM). More recently founded Private Division aimed at independent developers, and presently owns Kerbal Space Program though also includes The Outer Worlds.

<https://www.take2games.com/>
<https://www.rockstargames.com/>
<https://2k.com/en-US/>
<https://www.privatedivision.com/>

Capcom Japanese based company known primarily for games. Have previously made notable arcade hardware and teamed up with other Japanese companies to make various games, including many highly regarded games for older Nintendo consoles.

Franchises include Street Fighter, Megaman, Resident Evil (Biohazard in Japan), Monster Hunter, Dead Rising, Ace Attorney

<http://www.capcom.com/>

1C Entertainment Russia based and noted for business software as well as games, and game retail within Russia.

Publishes games from smaller European developers, and other developers inside Russia

Noted games include IL-2 Sturmovik and King's Bounty: The Legend.

Games

<http://www.1cpublishing.eu/>

Business software

<http://1c.com/>

Nexon South Korea founded company but presently based in Japan. Most well known outside South Korea for publishing MapleStory, within South Korea and Japan they are a major force (in 2018 then 253 billion Yen revenue, over \$2 billion USD, where Square Enix in 2019 did 271 billion Yen and Capcom did not break 100 billion Yen).

<http://company.nexon.co.jp/en/>

Netmarble South Korean company known for mobile and web games, also has rights to various Disney properties.

<http://www.netmarble.net/>

Sega Officially Sega Sammy Holdings but typically referred to as Sega.

Former hardware developer and owner of the Sonic the Hedgehog franchise.

Also known for Crazy Taxi, Bayonetta, Phantasy Star, Puyo Puyo, Streets of Rage, Virtua Fighter, Super Monkey Ball,

Also owns Atlus games (Persona, Megami Tensei, Etrian Odyssey) and other developers include those responsible for Total War, various Warhammer titles, Company of Heroes and Hatsune Miku.

<https://www.segasammy.co.jp/english/>

NIS America/Nippon Ichi Software Japan based company but the US operation (NIS America) is known for publishing various Japanese games from many Japanese developers.

Disgaea is probably the most notable franchise but various others have considerable followings, as do its titles it releases outside Japan.

Japanese website

<https://www.nippon1.co.jp/index.html>

NIS America website

<https://www.nisamerica.com/>

THQ Nordic, public face of Embracer group. Based in Austria, though the holding company (Embracer group) that owns them is based in Sweden and owns developers all over Europe. Since 2011 has been undergoing an aggressive expansion by purchasing developers and game rights.

Rebrand of Nordic games following a purchase of selection of THQ's assets, including the name.

Owens a multitude of titles (or sometimes just the rights to the franchise and not previous entries), though most have not seen publication in some time or have long passed their heyday.

Still Timesplitters, Carmageddon, Alone in the Dark, Kingdoms of Amalur: Reckoning, Gothic, F-22, Delta Force, Titan Quest, MX vs ATV, Painkiller, Dungeon Lords and Giana Sisters are counted among that list.

Embracer

<https://embracer.com/>

THQ Nordic

<https://www.thqnordic.com/>

Also owns **Koch Media-Deep Silver**

<https://www.kochmedia.com/en/>

505 Presently headquartered in the US (California based) they have roots and offices in Europe. Often also publish Japanese games that otherwise did not get publishers. Presently seen more as a porting house handling either the PC ports or console ports of titles, and also publisher of independent games.

Terraria, Sniper Elite, Brothers: A Tale of Two Sons, Payday 2 and set to release the PC port of Death Stranding.

<https://505games.com/>

ZeniMax Media inc Bethesda, subsidiary of ZeniMax Media and publisher for titles produced by companies it owns (id Software (Doom, Quake), MachineGames (Wolfenstein, though id did some earlier titles), Arkane Studios (Dishonored), Tango Gameworks (The Evil Within).

Other than its publishing duties known for Elder Scrolls series (Skyrim being most recent) and modern Fallout series (3, New Vegas, 4, 76, Fallout Shelter).

Bethesda

<https://bethesda.net/en/dashboard>

<https://bethesda.gamestudios.com/>

Zenimax

<https://www.zenimax.com/>

Apple Today most prominent in their mobile OS known as IOS where they have a perception of being a premium market.

<https://www.apple.com/ios/>

Third party browsers of the store are available

<https://theappstore.org/>

Also have a smaller presence in the desktop/consumer computer space where their OSX operating system competes with Microsoft's Windows and enjoys a measure of popularity with American university/college students. Third party developers may be seen to port previously Windows exclusive games to this operating system, and sometimes also the Linux family of operating systems.

Google Seen most prominently in their Android operating system that is very popular for phones, tablets, certain TVs and other devices in need of such a system.

<https://www.android.com/>

<https://play.google.com/store/apps/category/GAME>

Have variously attempted inroads into game development, and have purchased several developers

<https://techcrunch.com/2019/12/19/google-buys-game-developer-typhoon-studios/>

<https://www.blog.google/products/stadia/first-stadia-studio-coming-montreal/>

Amazon One of the bigger online vendors of games (and everything else), they have never the less attempted to put out game consoles and have been seen to purchase, fund and create developers, as well as sell their own game playing devices. They also own the video streaming service called Twitch popular in gaming circles.

Main site (the region selector can also be a quick guide to new and second hand prices in various countries.

https://www.amazon.com/gp/navigation-country/select-country/ref=footer_icp_cp_c?ie=UTF8&preferen

The game development arm

<https://www.amazongames.com/>

Article on Amazon's interest in game development going back several years at time of writing

<https://www.investors.com/news/technology/how-amazon-aims-to-disrupt-microsoft-sony-in-gaming-consoles/>

15.1.3 Game Engine Makers and middleware

Simulating physics and otherwise getting computers to do complex, the engine that drives the game if you will, tasks is a complicated matter. Developers soon noticed that you could reuse old code to do new things, or improve on it for the sequels to games. You could also sell access to this engine (or the latest version/support for it) to other game developers.

Would be game developers might also be hired based on their experience with/ability to use certain engines, and they might be taught in schools how to develop for one. Middleware developers and artists are also going to be judged on how well they interact with engines.

On the journalism side of things an engine or piece of middleware being ported to a new platform opens up doors for various games to be ported to it, and middleware companies have occasionally been known to leak upcoming games. Likewise if you are reading job adverts for game companies then being able to recognise the names of some of these can give you hints as to what they are working on.

Game engines

Notable game engines include

Epic Games with Unreal, though they also go back to ZZT. Unreal, originally a name of the game franchise it spawned from, being used by devs big and small to produce some of the biggest games almost every year. Also used for increasing amounts of standalone animations.

<https://www.unrealengine.com/en-US/>

ID Software with Doom and later Quake (the engine eventually becoming the id Tech family of engines) being among the more notable early developers here. Today the new engines are internal use only but older ones have since been released as open source.

<https://github.com/id-Software>

Unity. Something of a darling of the independent game creators.

<https://unity.com/>

LucasArts with SCUMM (SCripting Utility for Maniac Mansion) being among the earliest.

Today you are probably best directed towards the “emulator” SCUMMVM

<https://www.scummvm.org/>

Valve with the Source Engine (itself a derivative of Quake/id Tech).

https://developer.valvesoftware.com/wiki/Main_Page

Crytek CryEngine

<https://www.cryengine.com/>

Middleware

Middleware is the term used to describe software other developers can buy in that is not an engine.

Audio and video, especially in places where software patents exist, are some of the more notable examples here.

RAD Bink. Used by dozens of high profile games for many decades at this point

<http://www.radgametools.com/binkgames.htm>

CRI Middleware

Another audio-video company. Probably most known for the ADX audio format and Sofdec video format.

<https://www.criware.com/en/>

Mobiclip. Video codec makers tightly wound in with Nintendo hardware (them producing the main ones seen on the GBA and DS) before being purchased by Nintendo in 2012.

15.1.4 Arcades (coin-ops)

These are dedicated machines that maybe housed just one game or possibly a small section of games. While far less prevalent today, especially in the US and Canada, arcades for a long time represented the forefront of gaming. It was where all the best hardware, graphics and, arguably, gameplay was showcased. The alternative title some use for the concept hinting at them being funded as a pay to play type (be it number of lives or time based) model. This meant each arcade machine could bring in considerable income and hopefully offset the high cost of development of software and hardware.

Japan still has a notable market for arcade titles, and such things are available in many locations in Europe, but are less present in the US and Canada. Indeed the phrase arcade in the US might well conjure up visions of the earliest arcade games or Street Fighter rather than 3d games.

Several notable franchises do still get entries into them via arcades, possibly even exclusive levels, games and stories.

Related to this is the pachinko market in Japan that many prominent Japanese game developers have examples of their franchises in, if not outright focuses upon such a market. The revenues from the pachinko market are considerable though.

15.1.5 Older console makers include

As well as the current manufacturers of consoles and notable parts of the PC then there have historically been many others that tried their hand and might be referenced in historical discussions. Some companies or their products don't always meet the definition of game console as some would define it, most notably by being open to develop for and often featuring keyboards. That said they are devices you usually could connect to your TV and their contributions to computer games are considerable.

Here is a list of some of the more notable ones.

Sega Entered the arcade market first but had some early success in Japan with the SG1000 line. Most would be more likely to remember the Master System and later Megadrive/Genesis where it competed against Nintendo's SNES (even being the more popular in some locations), though the Saturn and Dreamcast will not be absent in discussions of consoles of their respective vintages either. Their "Sonic the Hedgehog" mascot probably being among the more recognisable game mascots/characters as well.

Last console they made was the Sega Dreamcast. Today is a game publisher of some note.

Commodore Various "home computers"/minicomputers. PET and Vic20 are among the earlier items but today most well known for either the Commodore 64 or its Amiga successor.

Atari A variety of consoles from the Atari 2600 to the Atari Jaguar

The failure of Atari in 1983 is also said to be what caused the “video game crash”, a point in the North American market, and primarily restricted to it, where computer games were deemed not viable as a product by many investors and there was a large die off in game developers, publishers and the like. Nintendo’s entry in the US market being seen as a brave move at the time and end of the crash.

Others might be said to include

Amstrad (Amstrad CPC), **Apple** (Apple II, today in gaming more known for their IOS mobile devices), **Sinclair** (ZX Spectrum), **NEC** (TurboGrafx/PC Engine and PC-8800 series in Japan), **3DO** (3DO Interactive Multiplayer, an early CD based device), **Acorn** (BBC Micro, and would go on to essentially create ARM, as in the thing powering most mobile phones and tablets), **SNK** (Known mostly for their arcade boards and the Neo Geo, and Neo Geo Pocket which was a handheld device), **Vtech** (more famous for their educational devices but made some standalone computing devices as well), **Intellivision** (brand of toy manufacturers Mattel, the Intellivision family being its most noted products. Name exists today as a somewhat related company. Mattel also responsible for a lot of games and early distribution of home consoles in various territories.), **Sharp** (X1, one of the big three 1980s home computers in Japan), **Fujitsu** (FM-7, another of the big three in Japan. Company today is best known as a PC maker), **Coleco** (Colecovision) and this could go on, especially if you go into the various ones made in Eastern Europe, the USSR and other countries not normally considered in this.

15.1.6 Mobile Phone and Tablet Market

Defined primarily by the operating systems they run. Install bases exceed any console and probably PC, even more so in developing countries. Not every device uses games but the market potential for mobile games is huge, and only getting bigger. Monetisation within the market presently focuses primarily upon “microtransactions” (more later but in short they are small fees, often for consumable items within a game) rather than singular products which causes something of a rift among more traditional gaming markets.

Android

Android’s development is owned and directed by Google and the “Open Handset Alliance” (http://www.openhandsetalliance.com/oha_members.html) but is distributed by a variety of hardware makers, including Google which periodically had “flagship” phones and tablets made.

<https://www.android.com/>

Google are also seen with products like the game stream service known as Stadia

<https://stadia.google.com/>

Apple IOS

Made and distributed solely by Apple. Incompatible with Android, though some older models have had ports of Android to them.

Apple do have some history in older games in North America. Most would know them primarily from the Apple II in the late 1970s through mid 1980s (though software would continue being developed for some years afterwards) but there are also products like the Pippin.

Main Apple website
<https://www.apple.com/>
IOS website
<https://www.apple.com/ios/>

15.1.7 Console generations

A term largely understood by both followers of the gaming industry and players themselves. It refers to the phenomenon where console manufacturers will tend to release a radically updated (if not outright new) piece of hardware every 5 to 7 years wherein games made for it will not work on older hardware, and games made for the older pieces of hardware will slowly stop being made. Sometimes these new pieces of hardware are compatible with older devices (so called backwards compatibility), and sometimes a few pieces of code might run in a reduced form on older devices (Nintendo's gameboy and gameboy colour being among the more notable for this), but it is generally the exception rather than the rule.

This also leads to the phrases “next-gen” and “last-gen” broadly referring to both the devices from the relevant generations themselves and any graphics or gameplay they might have.

Starting from the early 1970s there have been 8 generations to today in 2020 with the 9th being presently unveiled by Microsoft and Sony (Nintendo's Switch being harder to categorise here).

Console manufacturers will occasionally release consoles earlier or later in this cycle, and possibly try to defy it entirely. Likewise they can release add-ons within a device's lifetime to try to extend it, or expand capabilities. They may even release slightly upgraded (or in some cases downgraded to meet a lower price) versions of a device that may or may not work, or work differently, with certain games. Most addons are generally seen to reduce sales of games that depend upon them and are not all well liked. News of such addons or “refreshes”/revisions are often of great interest, and often kept rather secret or vague, by the console manufacturers. Thus the patent, trademark, shipping (Nintendo have on several occasions quite famously stated no revision is coming despite them literally being offered for sale a day later, when they were literally in the warehouses of vendors), electronics testing leaks and chip vendor collaborations methods of generating information being discussed elsewhere in this.

The PC is somewhat immune to the concept of generations but can both push ahead of what consoles do, be held back by them, as well have its own points of delineation (be it by graphics card compatibility with new standards or operating systems supporting them). That said with usually fairly minimal effort you can play just about old game on a modern PC, and maybe even still buy a copy.

16 Lobbyists, industry groups, unions and you

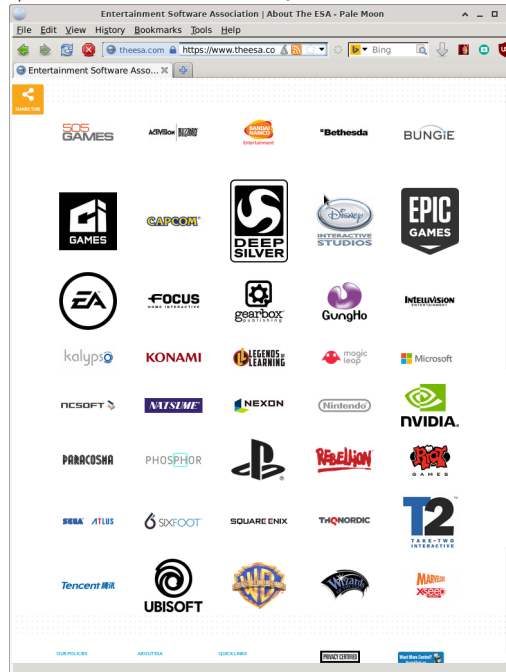
Not so much of a thing for the day to day interested in games journalist but it should be noted that the ESA (the Entertainment Software Association, <https://www.theesa.com/about-esa>) was one of the key players hoping to combat the right to repair legislation that was going around the US in early 2020

<https://www.youtube.com/watch?v=KAVp1WVq-1Q>

and have similarly been vocal when it comes to having the DMCA exemptions for aspects of games

<https://www.gamesindustry.biz/articles/2018-02-19-esa-opposes-rule-dmca-rule-change-aimed-at-preserving-abandoned-online-games>

They in turn represent many of the big developers, publishers, hardware makers and more besides as an industry group and advocacy (aka government lobbying) group. The following is a shot of their website detailing their partners/members from January 2020



They do have an interest in “protecting the industry’s First Amendment rights at both the federal and state levels”, and indeed you might find them wherever a politician gets the bright idea to try to force censorship into US law.

16.0.1 Lobbyists and industry groups

With the games industry making as much as it does then you will find such groups all over the world.

Note that game developers and game publishers often have different groups by virtue of having different interests (see all the publishers not playing nice with game developers over the decades), not all publishers are members of all groups and in some places there may be competing groups.

The US primarily has the ESA

<https://www.theesa.com/about-esa>

Canada

Entertainment Software Association of Canada aka ESAC

<http://theesa.ca/>

UK

This would arguably be the UKIE, though their previous title of ELSPA should be noted as part of this.

<https://ukie.org.uk/>

France

<https://www.sell.fr/>

At one time also the group responsible for game ratings in France.

Japan

Computer Entertainment Supplier's Association aka CESA

https://www.cesa.or.jp/profile_e/oc.html

Game developers tend to be primarily served by

IGDA (also hosters of the GDC industry conference)

<https://igda.org/>

Though the UK also hosts **TIGA**

<https://tiga.org/> even if they include “digital publishers” as well these days.

New Zealand Game Developers Association (NZGDA)

<https://nzgda.com/>

16.0.2 Unions

Unions, these being legally recognised groups that ostensibly concern themselves with the wellbeing of their ranks in the workplace and if they have a large chunk of your workforce in their ranks they have some serious collective bargaining power over pay, holiday, rights and whatever else. They are less of a concept in the game industry than many others so can be skipped as part of this. This may or may not change in the future. Typically though high tech and high paid industries feature less of this than other industries, with the typical rationale being that such individuals are in high demand and hard to replace so companies tend to treat them well, and can move on if they do find themselves in an untenable position.

Game journalism on the other hand did feature a few notable formations of unions among some of the more popular sites.

Development crunch

Often discussed when the formation of unions is considered is crunch. Crunch is a term that refers to when deadlines, self imposed or otherwise, approach that people are encouraged or expected to work longer hours to meet it. A concept common in almost any industry it is however noted that game developers can experience a somewhat more potent version of it, and possibly for longer than good project management would say is ideal. Practices here vary wildly between projects, developers and even teams within them, as do the results of it.

17 Game sales and sales windows

Once upon a time new game sales were reported to various groups (possibly the industry bodies discussed in an earlier section), and others would buy that data and share with the world.

<http://www.vgchartz.com/> being among the most noted, though some might say notorious, of these.

The nature of some of this data was dubious, and that is before we start to consider “number of items shipped” (as opposed to sold) being a stat some places favour, but it could indicate many things.

Today with the increasing number of popular downloadable game services that actively hide and do not report data then getting a clear picture of sales is harder.

Said download services also increase the sales windows, or at the very least radically alter their nature.

In the discussion of Hollywood accounting it is often only box office takings, maybe even only domestic ones, that get compared against development (and maybe advertising) budgets and people declare profit or loss based on that. Now compared to pay per view/streaming services, disc sales, international sales, merchandise, other licensing and more besides it is rare something does not make a profit. In games then for many years people assumed it was only the initial month or two, maybe a grey label/player's choice run for some games, and then it was all over and possibly worse if there were licensing issues to deal with (see why we have never seen a rerelease/emulated version of Goldeneye for the N64). Today this downloadable games lark having essentially infinite catalogues/shelf space, theoretically at least the option to sell it now and forever more (though do consider how many things have been "delisted" in the last however many years, something that is very much of interest to gamers), some aspects of second run/print on demand, rereleases (sometimes called remaster but that word tends to be as abused as beta is in normal software development) means "long tail" sales can add up to significant amounts, possibly even enough to trouble sequels more than previous games already do.

Related to this is sales and deals available on games, especially on downloadable game services.

Something is worth what someone else is willing to pay

17.1 What should a game cost?

Answer is as much as we can get. Trouble comes in this varies a lot between people. In some industries you could release to the higher paid crowd first but that is untenable for games. For a monoprice world (or country as the case may be; lower income countries often have cheaper games locked to that region or language) then that historically for mainstream consoles meant around \$60 USD or £40 for a "full price" game and half that for a "budget title", reissues falling either side of that. PC games tended to be slightly less, with maybe a super budget series. Games on tapes varied again. Discussion of second hand markets gets even more complicated, and today is even worse thanks to "retro" collecting becoming a thing.

The explosion of "collector's editions" means for a small amount more in shipping and development you can ship a plastic widget, maybe an audio CD and a small printed book of artwork or something and get more for it.

Today the other things talked about in the revenue streams discussion play a larger role still, and have complicated the "full price" - "budget price" dichotomy.

Regardless of all of that however prices still set expectations about what a game should feature, what it is forgivable to lack and what level of the mystical concept known as polish should be present at launch, or very soon thereafter.

17.1.1 The nature of whales

Whales is a term that rose to prominence in the other gaming industry, or gambling as most of us would know it.

It refers to individuals that will pump inordinate amounts of money into a game if given the chance. It is a concept most prevalent in mobile gaming (as in Android and IOS) but is increasingly seen in more traditional gaming markets with the earlier inroads probably being sports games, and free to play online games.

It has however been seen that developers seemingly tailor their games to attract/retain whales, possibly at the cost of enjoyment for others.

17.1.2 Second hand games

An interesting concept from a variety of approaches. Some will look at the legal, and sometimes psychological and game design, manoeuvrings that companies engage in to prevent them (this despite the option to resell your owned items being a fundamental aspect of law, including those things governed primarily as intellectual property, for over a century in the US and elsewhere).

Some will look at the common vendors of them.

Some will look at the current prices, and what influences them.

Some will attempt to chart prices with respect to time.

Some will attempt to predict what games will do what in the future. High future prices tend to be a quality of the item in question (unboxed tending to be the most sought after, however if such things degrade with time, say for instance a game has a battery, then a fix for it, combination of demand, notability of the game, how successful the device/game was at the time, backwards compatibility of future devices (the Nintendo Gamecube was something of a flop, most iterations of the Nintendo Wii that followed it could play Gamecube games though so prices went up from rather low amounts), how many copies of the game were made/shipped, version of the game (unless notable bugs were fixed then second run copies tend to be less), peripherals it might have come with, region issues (including seeing a game flop in a region), future success of a franchise if it started small (or maybe burned out), and in some cases future of the genre (the comparative lack of skateboarding games, much less good ones, at time of writing seeing older generation titles still maintain reasonable prices). There are doubtless more factors, and it is generally noted that Nintendo games stay at higher prices throughout a console's run, but it is a cause for investigation.

Second hand games, especially when things dip into whatever gets called retro at the time in question, also often have their own subcultures, conferences, sales events, auctions, notable finds and the like.

17.2 Game of the year and compilation editions

Game of the year, commonly shortened to GOTY and GOTY editions.

Not a new concept, indeed PC games in the late 1980s and certainly 1990s would often release so called "gold editions" (a different concept to a game going gold which refers to a game being completed and sent off to have discs/carts made), complete editions and ultimate editions containing fixes, enhancements,

new content or the various expansions (Downloadable Content aka DLC in modern parlance, expansion packs and map packs in older terms) released since the initial release.

Some have critiqued the use of the term GOTY to refer to such editions wherein “a notable publication” did not make such an award to a game but it is not a notion that gained much weight.

Some have shifted back towards older terms here, and as expansions can trickle out for longer than the year at best that some games would be eligible for such awards, to say nothing of games with continuous development then it can also be a harder term to justify.

17.3 Amazon and gamestop listings and the nature of placeholders

Between delays and secrecy it is not always known when a new game will be released. One group not as subject to secrecy is the people selling it. Historically this was game shops but today they are routinely available in supermarkets, online shops not focused on games and more besides.

These retailers have been known to break secrecy surrounding release dates, names, prices, possibly include boxart detailing features, characters present or having screenshots.

As such many will watch them with a careful eye.

It should however be noted that these places will know a game is coming and insert placeholders for their database with an estimated release date (traditionally big games released between late September and mid November, and it is still an active time). Various reasons this is done but the main thing to note is to be wary with such things.

There are other shops that leak things. Most notably in late 2019 a leak concerning the Resident Evil 3 remake was found on the Playstation store.

<https://www.forbes.com/sites/davidthier/2019/12/03/resident-evil-3-remake-leaks-on-playstation-store-announcement-likely-soon/>

17.4 PC download market, also console online premium services.

New games might be learned of here, many contain well curated information on the games in question, and deals that might be available are of interest to many. As such it can be worth watching these or knowing of them. Many will also offer additional subscription services to gain a selection of games per month, discounts and more besides.

Beyond those mentioned below are also often “key resellers” where people will make use of gifting (or possibly resale where allowed/compelled by law) features to resell games. These can be controversial as they might employ workarounds for regional locking, might see fraudulent transactions and might be stolen keys. As such many of those below will note themselves as only selling directly from manufacturers.

Valve’s Steam <https://store.steampowered.com/>

The PC market is said to be dominated by this. It is the primary platform for most people looking to play PC games from large publishers, and a games not being included on it is often seen as a bold move or a troubling one for some consumers.

itch.io <https://itch.io/>

Noted for many free, open source, independent developer games and more besides.

Good Old Games aka GOG.com <https://www.gog.com/>

Starting out mostly as a place to find older titles it has since moved into new games, and being a primary launch platform for some of them.

Noted as being free of DRM (digital rights management, tools to prevent the games being copied).

Humble bundle/humble store <https://www.humblebundle.com/>

Nowadays owned by the same group as IGN. Started out as a monthly collection of games you could “pay what you like” for, often DRM free ones. Today focuses mainly on Steam games/delivery.

Later opened up a more conventional online games shop, something of a more curated.

Later still offered a monthly subscription service wherein a selection of games get offerered.

Epic Games Store <https://www.epicgames.com/store/en-US/>

Unreal and Fortnite developers, along with investor Tencent, opened up this store as a competitor to Valve’s Steam. Noted as being aggressive in acquiring properties for it, timed exclusive or otherwise, by means of purchase of games, funding development and aggressive pricing.

GamersGate <https://gamersgate.com/>

Originally founded by Paradox interactive (Crusader Kings, Europa Universalis, Stellaris, Hearts of Iron, publisher for Mount & Blade and much more besides) it has since been spun off but retains ties.

Somewhat smaller shop, often stocks old games, bundles and more besides but does carry new titles. Also noted for being DRM free and these days allowing simple downloads of games (no client program required).

Green Man Gaming <https://www.greenmangaming.com/>

Another of the smaller shops, though still a notable player with many key figures from (or formerly from) big gaming companies involved. Has since branched out into publishing titles.

Origin <https://www.origin.com/>

EA’s attempt at creating a store. Predominately stocked with their own titles, some of which may not be available on Steam.

Gamesplanet <https://gamesplanet.com/>

A company that sells keys for games on other services, though make a claim of everything they sell being officially sanctioned for sale. Have teamed up with various PC/phone/electronics manufacturers in the past.

Uplay <https://uplay.ubisoft.com/>

Ubisoft's attempt at creating a store. Often tied closely to or pushed heavily by their games and may be required for online capabilities (ostensibly used for matchmaking, in game bonuses and in game purchases), even if games otherwise available on other platforms.

WildTangent <https://www.wildtangent.com/gamesApp>

Noted for being bundled with various popular independent titles and computers from various popular PC manufacturers. Most games are of the simpler "casual" variety but does include many notable titles from larger developers.

Blizzard's battle.net <http://www.battle.net/>

Originally a hosting service for their online components of games, has since grown to include the option to sell games (mostly limited to their own titles and those of Activision, particularly the Call of Duty games).

Consoles

The consoles also have subscription services, originally aimed at being a paywall for online play (today used by the three major players for all of their current devices) they have expanded somewhat and many will have or otherwise have a premium version that gives access to a library of games.

Some of the above services, and other retailers will allow purchase of codes but all the consoles are locked down to official services unless otherwise hacked not to (which is hard, and often not available for newer devices). Most will also allow purchase of subscriptions in game shops and other places where there are gift cards.

Sony subscription Playstation Plus

<https://www.playstation.com/en-gb/explore/playstation-plus/>

Originally starting as an extra option for the PS3 (which had free online) it grants users a selection of titles each month to retain as long as their subscription to the service lasts. (and they add them to their account when each new list goes live).

Microsoft Xbox subscription Active since the original xbox

<https://www.xbox.com/en-GB/live/gold>

The premium service is known as xbox game pass.

<https://www.xbox.com/en-GB/xbox-game-pass>

Microsoft more recently has been seen attempting to integrate its games with its own store and PC offerings.

Nintendo online subscription <https://www.nintendo.com/switch/online-service/>

Starting with the Nintendo Switch, albeit some time after launch, Nintendo has moved to paid online multiplayer. With it features a selection of older emulated titles.

17.5 Popular physical disc/hardware retailers (online, brick and mortar?)?

The era of the dedicated game retailer in high streets, shopping centres/malls and the like is variously drawing to a close or otherwise undergoing something of a change, much as they in turn largely did for the independent vendors of games before them.

Online distribution of both physical games and games that never existed in a physical form changed things, changed the second hand games market they once depended upon for a substantial portion of their income, and games are popular enough that more general supermarkets, former music/video retailers, high street shops, catalogue shops (though they have long carried games, indeed old catalogues can be good sources of information for historical research), out of town electronics shops (bestbuy for instance) and general goods shops (Walmart in the US is noted as a large purchaser of games, enough that them refusing to carry a title was notable) often carry a range of games.

The said the failings and good fortune of retailers is within the remit of the would be journalist, and often of interest to those following games.

As mentioned above a variety of supermarkets and similar shops feature in this space nowadays, though are often limited to “charting” games, select new games, some peripherals, maybe some print magazines in the magazine section and maybe a console or two in their bigger shops. There are some with broader selection (charting plus other popular titles) and some go further still and trade in second hand games. Such places can also be a source of deals as they look to make shelf/warehouse space, can be the last people to stock rare or unexpectedly popular games/peripherals and their removal from sale often represents a turning point in a console’s life.

To that end local game shops and more dedicated retailers represent something more. Some places have a retailer that is dedicated to second hand games and related entertainment and electronics too.

Online the landscape is very different. At any given time there could be selling sections on a thousand little forums (and Facebook groups), but above it all looms a few legacy options from game shops, big box electronic sellers, Amazon and ebay.

While ebay is mostly considered a second hand market it is usually observed any new game that gets a console release will be available on it in very short order (indeed some make a habit of beating games quickly so as to be able to resell as lose as little money as possible), and some vendors might move directly to the platform. It can also be a source of rare games, items and odd things people find (any number of developer kits and prototypes have been listed on them over the years).

Amazon is slightly less popular for second hand games, and there are all sorts of thoughts about what its second hand market is like for games, but its percentage of the new games market is considerable, just as it is for many other things.

Any and all retailers can be embroiled in controversies ranging from their handling of games, not carrying certain games, handling of staff, chosen prices and more besides. Likewise their financial situation and habit of purchasing competition and being purchased also are of interest to many (both generally as sources of games, and for more long term memories).

Main bricks and mortar retailers, and some notable regional online, for the various countries.

Electronics Boutique (known today as EB) has variously had interests in many countries, and falls under the Gamestop brand. Gamestop even without that holds many locations in Europe (<https://www.gamestop.eu/>), though in France they operate more under the Micromania banner (<https://www.micromania.fr/>). Many places will have some measure of independent game shops still available or newly formed.

There are also still places where game shops might buy from wholesalers/distributors who work in various capacities (sometimes simple buy lots and split up, other times acting as ones getting discs pressed). Wholesalers are usually of less interest to everyday gaming, the exceptions being when they refuse to sell to retailers (usually for reasons of bad credit) or act as a source for leaks. Clearance from such places can also net deals worth sharing if they are not simply being auctioned off.

17.5.1 US

Gamestop

<https://gamestop.com/>

Corporate page

<https://gamestop.gcs-web.com/home-page>

Once the dominant player in game retail in the US (and many other places) it is presently seen as being in something of a decline.

Also noted as owners of the Game Informer publication.

As mentioned above the various electronics and “we sell everything” vendors also feature highly in game selling activities, sometimes also including second hand.

17.5.2 Canada

EB games

<https://www.ebgames.ca/>

Notable numbers of independent shops in various cities sampled. Bestbuy Canada also noted vendors of games here.

17.5.3 UK

GAME

<https://www.game.co.uk/>

Major high street retailer of games in the UK. Handles second hand goods (phones, tablets, consoles and games) but not necessarily retro.

Formerly Future Zone and after that Electronics Boutique (EB games), though the Electronics Boutique was a complicated licensing agreement with

partial ownership rather than being a subsidiary. 2002 saw all Electronics Boutique shops become GAME, with them having purchased another chain called Game in 1999 to allow for it.

Among other notable purchases over the years it purchased its rival Gamesstation in 2007 and their parent company eventually rebranded them both to GAME in 2012. 2012 also seeing various game companies refusing to provide new titles as its financial situation was not so good (<https://www.bbc.co.uk/news/business-17336697>), this would be one aspect of credit ratings.

Saw a takeover in 2019 (<https://www.retailgazette.co.uk/blog/2019/07/sports-directs-stake-in-game-grows-to-84/>), notably for less money than they had paid for Gamesstation in 2007 (<https://assets.publishing.service.gov.uk/media/555de3bce5274a74ca0000bb/GAME>), that also being an example of a government regulator looking at a purchase of a company).

Once had a Australian spinoff (a company formerly known as Gameswizards) but the 2012 difficulties did not help that one and it ultimately was shuttered.

CeX

<https://uk.webuy.com/>

Chain with shops in many countries (India and Australia have several each) but primarily in the UK and Europe. Mostly focused on second hand software and electronics, though rapid turnaround means newer titles are often available. Also noted as being one of the few chains dealing in “retro” games, though prices, selection and quality can be limited.

Another notable second hand chain with significant interest in games, including some retro, would be cash converters (<https://www.cashconverters.co.uk/>) though they are a worldwide chain with significant operations in many countries.

17.5.4 Republic of Ireland

Gamestop are the primary vendor for many locations

<https://www.gamestop.eu/>

CeX

<https://ie.webuy.com/>

Much the same as the other countries these are a chain of shops that deal in second hand games, films, consoles, phones and other electronics.

Smyths Toy Superstores

<https://www.smythstoys.com/ie/en-ie/video-games>

Mostly a toy shop but have a serious line in games in many places, and especially prominent in some towns and cities.

17.5.5 Australia

EB games

<https://www.ebgames.com.au/>

Subsidiary of Gamestop in the US.

Gametradars

<https://www.gametradars.com.au/>

Another troubled game retailer has since significant loss of locations in recent years.

Mostly noted for their second hand, import and such line. Rather notably they also deal in retro beyond what more mainstream shops will handle.

JB Hi-Fi

<https://www.jbhifi.com.au/collections/games-consoles>

Primarily a “consumer goods” retailer their games sections might be the primary location for many, and variously makes up a significant portion of business (though falling in recent times).

17.5.6 New Zealand

EB games

<https://www.ebgames.co.nz/>

Mighty Ape

While an online shop it is the current form of the former high street shop Gamezone

<https://www.mightyape.co.nz/>

18 Consumer and morality advocacy/activism groups

As well as general consumer/fan commentary and petitions and media commentary there exist other groups that would seek to influence the content of games.

These can be anything from animal rights groups not liking seeing meat in a cooking game, to environmental groups trying to assess footprints of companies making things (Nintendo quite notably providing no info so often scoring low on reports), to “concerned parents”, to anti gambling, to activist lawyers, to government led groups (senate hearings in the US were mentioned at one point, and cases have made it to the US Supreme court), to those seeking “more representation” of some group they perceive as slighted or marginalised, to religiously motivated groups and many more besides.

They might seek the companies in question remove a given product, stop doing business with a given area, change employment practices, “fix” a given product, release information on their inner workings, seek to start a boycott, want future entries to include or not include something, seek to stop a company partnering with another company/individual, stop advertisers from working with a company and the list goes on.

How much power any one group might bring to bear or how much support they have from the markets in question is often part of the assessment, and can vary wildly between games released by the same company.

They have been said to have succeeded in the past in getting games withdrawn from vendors (including very big ones), new laws either put up for consideration or passed, censorship, filing court cases, turning public opinion around on a matter and more besides.

Such things are also where many of those reporting on the news can move from simple reporting to activism (or counter activism) in their own right. This may or may not be in line with standards that are said to be followed but it is worth noting.

Part IV. General interest section

The following section contains things of general interest for the gaming industry and culture, as well as aspects of analysis that are useful but did not fit into other sections.

19 Game information databases

It can on occasion be useful to have lists of games released, versions released, credits (official and unofficial), notable industry figures and be able to narrow things down and sort things. The following are some of the services that attempt to offer such things, or could be used in such a capacity.

Mobygames database

<https://www.mobygames.com/>

One of the older databases of computer game related information (individuals, companies, publishers and games as well as what aspects of games might be) but has a lot of good information.

giantbomb database

<https://www.giantbomb.com/games/>

A newer database but never the less one that has some useful information.

Gamefaqs

<https://gamefaqs.gamespot.com/>

Often incomplete or inaccurate but can help find information on publishers (or indeed publishers in different regions), developers, release dates and more besides.

None of these databases are as reliable/comprehensive as the likes of IMDB might be for films and TV. <https://www.imdb.com/>

It should be noted however that IMDB does actually do quite well for voice actors and those doing motion capture work in games.

In a somewhat amusing twist it is often the people dumping games and cracking any protection that lend themselves to the more complete lists of games available for at least some of the newer systems. Though “The Scene” has existed for a long time, see “DEF CON 18 - Jason Scott - You’re Stealing It Wrong! 30 Years of Inter-Pirate Battles” for a nice introduction to that one, then it was a less organised affair during the PS1 and earlier. Indeed it is only relatively recently we have seen proper archives of Nintendo SNES games be assembled.

<https://scenerules.org/> might also be of interest as it details past and present “scene rules”.

For anything the age of the GBA or original xbox or newer though then these scenes often represent some of the more complete information at least about the existence of the games themselves.

GBA, DS, PSP, 3DS, Wii, PSN, Vita and to a slightly lesser extent the GB and GBC

<http://www.advanscene.com/>

ABGX

Xbox, Xbox 360, Wii, PS3, Wii U, Vita, 3DS and any associated downloadable content services for each of those

<https://web.archive.org/web/20180924024951/http://www.abgx.net/>

ABGX360

Lots of information about variations of 360 games, possibly more than the Scene sources

<http://www.abgx360.cc/verified.php>

“pre databases” aka preDBs can also find older information if some of the sites above are more concerned about games. Leaked developer kits for instance.

No-intro undumped game lists. No intro also maintain lists of games for given systems, though typically in the form of “dats” for other programs.

https://wiki.no-intro.org/index.php?title=Undumped_Games_Lists

Various others include goodtools, MAME (the source code for which also doubles as hardware documentation for arcades).

20 Game conferences and you

While today some game companies can advertise their wares by themselves (Sony, Microsoft and Nintendo all having notable news streams at various points throughout the year) then historically the better place to do it was at a game conference. They still form good sources of news, and times for them are predictable.

20.1 Notable game industry conferences

E3 <https://www.e3expo.com/>

Organised by the ESA (the trade group/lobby group for the game publishers). Probably still the biggest game show in the English speaking world, though its prestige is somewhat questioned of late and has seen several notable companies withdraw from attendance, or reduce their attendance. Usually held in June or so and forms/formed the main news generating week in the run up to the historically important September through Christmas window, as well as maybe some things on the year to come (being at more than two E3 events is generally not considered good).

Of particular note are the talks held by various console makers and publishers that generally are seen to lay out what is coming up for the following year and said sales window and a few further future plans.

GDC (game developers conference) <https://www.gdconf.com/>

As the name implies it is a conference for game developers. It hosts all manner of interesting talks that might interest game developers, and fans of game history. New trailers and announcements are far from unheard of either. Many of said talks can be found

<https://www.gdcvault.com/>

PAX Penny Arcade Expo.

<https://www.paxsite.com/>

Conference started by popular web comic Penny Arcade and has since grown into an international (US and Australia anyway) series of conferences hosting talks, trailers and other such things. Seldom a source of news but the talks can be held by any number of notable figures within the industry.

There is a more private developer only conference held before the main PAX (these days called PAX West) that can occasionally yield some interesting information.

Tokyo Game Show <https://expo.nikkeibp.co.jp/tgs/>

Probably the main Japanese game show, and these days being held a few months after E3 means it can be a good source of near release gameplay footage where E3 might be more of a prerendered or earlier footage affair. Otherwise as the name would imply it is also where a lot of Japanese game developers show off their works and upcoming games.

There are industry only days and a public days.

As with E3 there are often shows from particular developers and console makers that might be of interest.

gamescom <https://www.gamescom.global/>

Held in Germany it is probably the biggest games conference in Europe. Not always the greatest source of news but frequently where you will find the smaller European developers either in general or showcasing things in a longer segment than they might be afforded in the US shows.

Does hold an industry/not general public day.

Blizzcon <https://blizzcon.com/en-us/>

Held by Blizzard (developers/publishers of Overwatch, World of Warcraft, Hearthstone, Warcraft, Diablo, Starcraft) and Activision (Call of Duty, and many others).

Mostly a source for those two developer/publishers, with more focus on Blizzard. As those games represent some of the biggest in the world and this is where sequels, expansions and mobile phone spinoffs are announced it is of interest.

Quakecon <https://www.quakecon.org/>

One of the earlier conferences/publishers to break away from E3. These days a conference for Zenimax, the parent company of Bethesda (modern Fallout games, Elder Scrolls games), ID Software (Doom, Quake, Wolfenstein, Rage), Arkane Studios (Arx Fatalis, Dishonored) and several others.

A more in depth focus those developers and games made by them can be found here.

SXSW Also known as South By Southwest

<https://www.sxsw.com/>

While not primarily a games show their “SXSW Interactive” division does host many notable industry figures, awards and displays.

Consumer Electronics Show (CES) <https://www.ces.tech/>

Not a game focused show but is where consumer electronics are often shown off, and notably featured the announcement of the original xbox. Will however usually host Sony, Microsoft and peripheral makers for all of those, as well as mobile phone and tablet vendors and electronics companies making components for all of said same.

As such can yield interesting details.

Comicon (SDCC) <https://www.comic-con.org/>

An annual event, though with spinoffs.

While originally aimed at comics it has since grown to include other media, and that can include games. Any game focus is usually pretty light overall but if a property otherwise discussed at such a thing is to include a game then more information might be obtained. Its popularity (attendance numbers can be a bit contentious depending upon how they count but over 100,000 in recent years) means game developers may be quite keen to show their wares here.

D.I.C.E. summit <https://www.dicesummit.org/>

Something of a meetup of game industry executives and other high up types, often has awards and interesting speeches from people that do shape the industry. Few announcements but can yield things to discuss.

20.2 Smaller conferences

There are many more conferences that deal with games, some attended by popular developers, publishers, hardware manufacturers, industry figures and those looking to commentate upon events within it. Likewise there are many shows detailing new hardware, dedicated to selling second hand games (some of which can be very rare and hard to come by) and otherwise enjoying games as a culture. Some are organised around specific goals, some are organised by popular websites (the PAX one mentioned above being something that broke out of the mould here so to speak) and some are organised by people to have something in their local area. Any and all may be of interest to you and those you write for, sometimes if only ironically.

20.3 Hacker conferences

Hackers will frequently analyse games, game hardware and conduct talks on relevant fields. Some of the biggest hacker conferences are, or in some cases were

Defcon

<https://www.defcon.org/>

Black Hat

<https://www.blackhat.com/>

Hackers on Planet Earth (HOPE)

<https://hope.net/>

Derbycon

<https://www.derbycon.com/>

C3 (usually given a number to signify what year, the end of 2019 one being 36c3) aka **Chaos Community Congress**

Noted for being a place where many exploits for consoles are demoed and released, also for talks covering the hardware in some depth.

<https://www.ccc.de/en/>

Kiwicon

<https://www.kiwicon.org/>

Shmoocon

<https://www.shmoocon.org/>

ToorCon

<https://toorcon.net/>

This in addition to other such talk conferences like google tech talks, ted.

Most of those will all maintain various channels of recorded presentations in recent years.

Many older talks can also be found on <https://www.youtube.com/channel/UCEPzS1rYsrkqzSLNp76nrcg>

20.4 Game jams and Tech demos

Often seen as development draws to a close, or the discs go off to be pressed. Here a development team might be given free reign to fix a bug that they particularly want to squash, “make something cool” or otherwise do something with the game that was not part of the core design document. The results of such things might well make their way into the first patches, sequels, extra paid content, extra free content or even spin off games.

Technical demonstrations, something usually attributed to the “demoscene”, are also a thing with many developers of those going on to make games, and it also tending to showcase the potential of systems. <http://www.pouet.net/> is a good start down that path if you want, and will cover many “parties” as they are known.

20.5 Trailers and stage demos

While demos of games goes back decades then as well as screenshots of a game developers have sought to get footage of games out there for as long as it is has been possible, be it by getting things on TV or by attaching things to magazines and with devices themselves. Borrowing the term from traditional video media then such things became known as trailers.

Such things are also among the earliest information given about a game, and often the last examples of what a final game might look like before the game is released to the public.

Things to watch out for with trailers and stage demos

In advertising there is a phrase that perception is reality, and if you can make people perceive your game as better than it is you might sell more games (or so the theory goes). Developers can try to achieve this in all manner of ways, here are just a handful of the more popular (and more insidious) ones.

Prerendered footage

One thing to watch out for is the extent of prerendered footage within a trailer. It is easier to make things look more impressive when rendered outside of a game which also has to handle everything in real time. As such developers and their marketing teams will often put such content within a trailer, with the amount of it creeping up at times. Some take the position that anything that is not gameplay is not worth considering, and barring text cards and story inferences from said prerendered footage it is not an untenable position.

Non final hardware renders

As mentioned elsewhere games are not usually made on the consoles themselves and instead are made on PCs. The consoles themselves also often resemble

PCs after a fashion. To that end some developers will demonstrate their upcoming games not on the consoles themselves but on high powered PCs that far exceed the power of the consoles in question, and might not even resemble the console's architecture.

To what extent this matters is a hotly debated topic as “build and then optimise” is a near dominant means of creating code, but at the same time “build and cut back until you achieve the results you need” is also a thing. This also says nothing about timeframes involved; if it is happening a month before launch then that might say something far different to several years before launch.

Bullshots

The term rose to particular popularity during the final release of Ubisoft's *Watch Dogs*, a highly anticipated open world answer to the ever popular *Grand Theft Auto*. Various showings of the game in previous years had detailed all manner of visual effects, mechanics and more that served to generate much interest, though some might say hype, that were no longer present in the final released version, or were sometimes still present but disabled (some hackers fiddling with the internals then enabled them as opposed to recreating them). The lack of the visual effects in particular making the game look somewhat less than the earlier footage had described, which when coupled with the somewhat reduced mechanics and maybe not as refined gameplay saw it have something of a community backlash.

Related to this is stage demo build vs actual build.

Development of any project is often not a matter of slowly adding content to a final build but creating mechanics. If a work in progress is to be shown there might be a second build made to refine the mechanics to something like the final version, and then shown when a parallel course of development happens on the final release. Sometimes these two builds can stray massively.

Interesting examples of things here might be seen in the *Gears of War 2* leaked build and another could be seen in *Aliens Colonial Marines*. The latter is a game with a very storied history that many have sought to analyse, but here the vast differences in graphics, enemy behaviours and more between the final release and stage demos seen at conferences provide a pretty good example of what to see here.

First 15 minutes

Once a popular style of video from general video creators these days the developers themselves will often seek to have such a thing made. How effective this is in films and games is hotly debated with the “sometimes less is more” being a fairly strong notion, however the first 15 minutes in games is a very long considered aspect of game design, be it how the first level of *Super Mario Brothers* on the NES is held up as a top example of how to teach the basic mechanics of your game in the first few seconds through to phrases like “design the first level last” and ideas like showcasing the height of gameplay features (maybe even tweaked slightly so) in said opening sequence if they are to be drip fed throughout the game.

20.6 Awards and awards shows in general

There is no particular industry recognised award akin to things that exist in films, science, maths, music and other such fields where such awards stand head and shoulders above any other. Instead most “outlets” will issue awards at the end of the year, and conferences might award a best in conference type award, or series of awards.

The closest that exists is The Game Awards, something that arose from the Spike Video Game Awards and has many of the bigger companies represented on panels, but memories of the earlier awards, dubious results, everybody else routinely issuing their own awards and everything else means they lack particular recognition among dedicated players and the public alike.

<https://thegameawards.com/>

21 Science journals

Less commonly reported on than science, medicine, engineering and other fields of technology they still represent a source of potentially interesting news, study results and the like.

Once was what is in arcades would make its way to consoles is today what is on PC will make its way to consoles, and then handhelds/mobile.

What will make it onto PC is probably housed within these journals and thus can be worth having a look.

Similarly the coming years will likely see an explosion of “artificial intelligence” papers as various design, dynamic creation of quests, dynamic creation of voices, and, of course, simple opposition becomes something a computer can plausibly create.

Computer synthesised voices can already be made from a minimal amount of training data.

Games such a Go, long considered one of the hardest commonly played board games and impossible for brute force on anything even on the horizon of supercomputers, has a world ranked AI now.

If Go is not your preferred game then Super Smash Brothers has an AI that can rank alongside world class players.

The full system of how journals and research works, are supposed to work and how they practically work is left for another day.

Generally there are two main types with the first being pay to publish. These vary dramatically in quality but there are those that will publish almost anything sent if the fee is paid and thus are looked down upon.

The second is more traditional peer reviewed journals. The idea being that anybody in the field that conducts some research can submit their work for review, usually professionals, academics and graduate students on up but you can see undergraduates and complete outsiders at times. The review process involves anonymous peers in your field reviewing the work and seeing if it passes muster.

Access to these journals is typically paid for, and can be quite considerable. Libraries might stock them, especially university ones, and universities might have electronic access. Most journals will provide an abstract that might contain interesting info, but more importantly will contain the names of authors and possibly their institution and the name of the paper which might allow you

to locate it somewhere else (say their personal pages, universities/employers or another free journal).

A third one has started to arise in the internet age with verification of published results being conducted by other interested parties.

The hierarchy of journals is another concept. Your field will likely have specific journals but there will be umbrella ones that have more prestige to be published in. The most well known of these is probably going to be Nature, which ostensibly covers natural sciences. <https://www.nature.com/>

Computer games don’t necessarily have a specific one, and the various advancements that could be relevant to games could be published almost anywhere; computing, medicine, AI, graphics, music, sociology, psychology, law and things as offbeat as supply chain management all have things that could be of interest here.

<https://www.researchgate.net/> is a popular service that serves to unite many publications. Google provides another <https://scholar.google.com/>

<https://alternativeto.net/software/researchgate/> will cover other such services.

You could use such services to find journals with papers covering what you are interested in and select those for further query or future reference.

Also much like games, and seemingly everything else, there are conferences held all the time. Papers are quite often presented at such conferences, which may or may not be recorded or transcribed.

22 Competition/“esports”, challenge runs and speedrunning

When it comes to defining games some will wish to include the idea of a win state, or at least a failure state. While that can be debated both such things are a prevalent concept within games and like most things called games there is an element of competition involved. This manifests in computer game culture in three main forms, though each break down several more times within themselves, and maybe even on game by game or franchise by franchise basis.

22.1 Competitive gaming and esports.

If there exists a means to pit two or more players against each other then it will be done.

Traditionally fighting games formed the bigger draw in this, with arcade game mastery another a popular one. These were soon joined by shooting games and driving games.

Today almost every style of game is represented in competition with particularly popular ones including fighting games, first person shooting games and variations thereof, card games, real time strategy games and . It also often goes under the banner of electronic sports, or more commonly its portmanteau esports.

While most games have individual characteristics as far as their contests most will have a circuit rather than a developer/publisher funded effort. Some will have online entry, others will not.

22.1.1 Major contest groups

Major League Gaming (MLG) covering mostly first person shooters, though several others things are present. One of the more notable for different rule changes.

<https://www.mlg.com/>

Evolution Championship Series (Evo) mostly covering fighting games.

<http://evo.shoryuken.com/>

Intel Extreme Masters

<https://www.intelxtrememasters.com/>

Rules for competitions and dubiousness

The rules for any given competition can vary dramatically, and the mode of competition might represent something very far removed from typical play, possibly even changed at code level to reflect that.

Most games, especially at competitive level, can also have whole lexicons associated with them (see for instance “the meta game” for a common term that might be unfamiliar to those that never saw a contest before), and also styles of play that might not be obvious, even to a veteran player of games in general.

Reasons for such changes and setups vary, as will how far from what are generally considered ideas of good competition design. Balance and fairness is one such consideration, though it can also be attempting to ensure a spectacle.

If covering this be sure to understand the rules of the given contest, and consider conveying them to your audience.

High score based competitions are recorded in various places, though one of the primary sources, and one used by the Guinness Book of Records, is

<https://www.twingalaxies.com/>

Controversies and difficulties with them have led to multiple other sites though.

22.1.2 Speedrunning

The objective of this concept is to beat a game or a level within it as fast as you can. Many games will feature additional variations concerning the things that must be done within the game. This will typically be termed with a percent completion, any% being whatever goes and usually some number reflecting a complete run of normal play. Available game difficulties made by the developers may also facilitate a further categorisation. Things can also come the other way and “fastest means to lose a game”, or “fastest way to lose game from a given position” have also been attempted for some games, though ones where this in and of itself presents a challenge.

The primary split, though different communities will have different standards as to what counts as what here, is between conventional play and tool assisted speedruns (commonly referred to as TAS).

Conventional play is much as it sounds and, with some notable exceptions both in general and to facilitate a run in and of itself, will typically eschew computer or hardware assistance and essentially play with what might be said to be a normal setup (though usually with the most optimal copy of a game

and hardware setup available for given techniques, bugs to exploit or speed in general).

Tool assisted runs are usually then free to use various amounts of computer assistance, including frame perfect inputs on emulators which may well also read conditions within a game (especially in cases where random events within a game, a concept referred within many communities throughout gaming as RNG which is short for random number generator), to determine said optimal point.

The nature of segmented runs, wherein a level or save might be used to chain together the best runs of a given level to make an overall run on a game, is also debated constantly.

History of runs and the development of them is an interesting topic for many where the morph from conventionally skilled play through to mastery of levels, mechanics and inputs, possibly also the discovery of new exploits or mechanics changing the nature of things.

As mentioned the rules for all of it vary wildly between communities, games and players themselves and thus an individual game, many of which have been around for decades, will tend to warrant its own investigation.

The conventional play category also lends itself to live play at times where skilled players will attempt to do such things live and might then eschew less reliable but better outcome methods.

While today streams of such skilled play are a popular thing there are also events wherein such things get attempted live.

Notable events for this include

The games done quick events (various events throughout the year)

<https://gamesdonequick.com/> , a spinoff of <http://speeddemosarchive.com/>

TSG (the speed gamers)

<http://blog.tsg.tv/>

A hub for a lot of speedrunning discussion in general

<https://www.speedrun.com/>

22.1.3 Challenge runs

Challenge runs are both something of an offshoot of speedrunning and their own thing, and are the most prone to solo forms of play but never the less can be covered here and can be the source of any number of modifications, information being learned about the game and other such things you and others might be curious about.

Some will define their own runs for fun. Others will compete, even if only against themselves, in rules formulated by a community. Some will seek to exploit features within a game to amusing ends, or to generate new exploits of mechanics the developers did not foresee or optimise for which eventually feed into speedrunning, which may in turn feed back into this.

In general though the main sorts of challenges typically seen are can you beat the game without damage, without dying, without healing, without using certain items (usually ones considered a core concept or possibly overpowered), only with a certain move/weapon (often a weaker, scarcer resources or harder to execute one), without killing anything, with killing everything, without resetting upon a bad decision (typically referred to as iron man, and may exist as a mechanic developers make available within a game), solo (which is to say if a

game allows multiple party members, or possibly forces multiple members then not that), stealth runs, low level runs, runs with other means of input (say a dance mat or a steering wheel) and without letting any people you can save (party members or non player characters) die.

Popular runs include Pokemon Nuzlocke challenge

https://bulbapedia.bulbagarden.net/wiki/Nuzlocke_Challenge

For a more general overview

<https://tvtropes.org/pmwiki/pmwiki.php/Main/SelfImposedChallenge>

23 Gambling

Gambling and computer games are variously tied together. Sometimes more than people imagine, other times a lot less.

Four primary interactions though

23.0.1 Microtransactions and “loot boxes”

Players may, and will be subtly encouraged, to buy in game items with real currency, however as these items are randomised you might not get what you want. Depending upon where you are this might count as gambling, and might not (functionally it resembles a lucky dip and you are always getting a result). Companies will often attempt to go as close to the line here where the law counts, or indeed abandon entire (small) countries when it matters.

See for instance Belgium vs loot boxes

<https://www.forbes.com/sites/insertcoin/2019/01/29/ea-surrenders-in-belgian-fifa-ultimate-team-loot-box-fight-raising-potential-red-flags/>

23.0.2 Skins and “in game casinos”

If you can give an in game item to someone else, possibly even exchange it for money (be it officially or unofficially), it can act as a stand in for cash or have a secondary market work in and of itself.

Unofficial casinos can also pop up in games. One of the more notable versions of this is Habbo Hotel’s casinos, with similar activities being known at points in other free form games like Minecraft and Roblox wherein their programmability allows for such things.

Habbo’s gambling

<https://www.youtube.com/watch?v=hE6jxjKPNZQ>

23.0.3 Gambling actual and employment of game techniques

Decades of computer games have left essentially everybody enjoying game mechanics over “draw a card”, “pull a level” or “roll a dice”. This has caused the gambling industry in a race to attract a new audience, and they do it by incorporating tests of skill from computer games into their games. Surprisingly enough game developers are pretty good at making such things.

They can come in form of things as banal as a Tetris challenge game on a pub quiz machine, to online casinos, to full blown games you will only see in a proper casino.

There are some games that allow actual gambling and have it baked in at low levels. See something like Entropia Universe with Economics Explained's video on the matter being a nice primer

<https://www.youtube.com/watch?v=PjhHazg5GRY>

Pachinko in Japan also sees many game developers/publishers issue machines featuring their games, and has seen some companies turn from games to focus more on such things

<https://www.businessinsider.com/what-is-pachinko-gambling-japan-2018-7?r=US&IR=T>

23.0.4 Betting on contests

If there is a contest then you can bet on it, and gaming contests can attract reasonably sized betting pools. What places will take bets varies by country but there are many.

Being a new and somewhat unknown, possibly unregulated to a certain degree (national regulations might exist but internal ones and understanding of it all are less in place than many traditional sports), there are many credible accusations of foul play within it.

24 Data analysis

Not everything will be a simple matter of searching data from official sources, press releases, things developers let slip, and government provided/mandated records. Sometimes things will have to be inferred and data generated. 3 Main fields here

1) Unintended uses of a game, website, API or similar.

See Steam player count leak for an example of this one.

<https://arstechnica.com/gaming/2018/07/steam-data-leak-reveals-precise-player-count-for-thousands-of-games/>

The late 2019 leak concerning the Resident Evil 3 remake via scraping the Playstation store.

<https://www.forbes.com/sites/davidthier/2019/12/03/resident-evil-3-remake-leaks-on-playstation-store-announcement-likely-soon/>

2) Game playing

A game might hide mechanics but they also have plenty on show. Simply playing and noting things, or possibly capturing footage and analysing things, can yield very interesting information as far as timings, hit boxes and graphical techniques employed. Sometimes you might want to go further and look at things not normally looked at during normal play.

More simply put if a drop rate of an item within a game is said to be 50% and you trial 100 times then while theoretically possible to get a considerably lower or higher number than 50 from those it is unlikely (see normal distribution for more on that one). Drop rates are boring (win rates maybe less so, especially if real money is involved) but rates are involved in any number of hidden behind the scenes calculations of rankings and more besides.

On the more conventionally technical side of things then Digital foundry is one of the more notable sites/groups for performing this kind of analysis, though it can stray into other fields and is generally seen to be in possession of some very nice tools.

<https://www.eurogamer.net/digitalfoundry>

More conventional mathematical analysis

<https://towardsdatascience.com/tagged/gaming> has a variety of interesting articles wherein some fairly conventionally available data is interpreted to reveal hidden data and aspects of the hidden algorithms governing everything from ranking systems. For ranking systems then The Math Behind Your Competitive Overwatch Match serves as a nice example of digging into game provided information to unearth some hidden aspects, and how ranking systems that aspire to tell you more than who played the most and was matched against the worst opponents (beating a master just once tending to be better than beating a thousand neophytes) actually work.

3) ROM hacking analysis of files

This is a process some erroneously call data mining. If you encounter data mining in industry it will be a field wherein people take existing sets of data and analyse or combine them to show new results, though often fascinating ones. Sometimes the data miner will generate data if it is reasonably simple to do so, or might direct further data gathering efforts, but will seldom involve them analysing file formats.

Most times you see this in discussion of computer games it has been closer to a ROM hacker analysis of a file. This is to say people tore into a game, analysed the file formats, strings (strings is the name for text in various programming circles), code that runs and determined something about the nature of the game, cut content, hidden content, or possibly sequels/expansions and interactions.

ROM hacking is its own field. Much can be learned about a game using it but it is probably outside the scope of this document.

Four main fields for ROM hacking

1) PC game hacking, though ROM hacking there is likely a lesser known term and certainly not associated with it. Most PC game modding revolves more around using tools provided by developers and working within existing file formats but in depth analysis and manipulation of file formats is far from unknown here.

<https://www.moddb.com/> is a good start for this world, though specific franchises might have whole communities dedicated to them and barely covered outside them.

2) Older games in the English speaking world tend to revolve around sites like

<http://www.romhacking.net/>

3) Some specific franchises might have their own circles that concern themselves with more or more of the titles.

Most of these are for fairly obvious franchises. Think Mario platformers (though 2d and 3d don't always cross pollinate), Mario Kart, Sonic, Final Fantasy, various other Square Enix franchises, Pokemon, Zelda, Animal Crossing,

various flavours of Megaman (platformer and battle network circles don't always cross pollinate).

However lesser known franchises do often get a few individuals make significant contributions to the understanding of the games in question.

Fire Pro Wrestling, Advance Wars, Phoenix Wright, Fire Emblem (though today it is something of a popular franchise its hacking scene goes very far back) all feature here.

4) Newer consoles not covered by romhacking.net above tend to be focused around those sites covering hacking them in general, or will have their works maintain a presence upon those sorts of sites in addition to those in 3) if relevant.

Cut content

While not exclusively dealing with content from hackers then content cut from games but still known of or found can be of interest to people, even more so when whole betas are discovered/leaked/provided or reconstructed.

There are two main sites most people will reference

https://tcrf.net/The_Cutting_Room_Floor

This primarily concerns itself with data from games, betas, demos, leaked versions and more besides.

<https://www.unseen64.net/>

This has content gleaned from games but will also cover more articles, videos or similar that show other things that never made the final cut.

Another site that concerns itself with history and preservation of information is

<https://www.gamingalexandria.com/wp/>

24.1 Historical analysis

Computer games have been around long enough now to have a history and while "what will be" is what most of this to have people learn to do then what was, and what could have been are ever popular topics and well within the remit of the would be journalist or industry commentator. Following careers of people, following franchises, following "genres" (whatever that might amount to), following reception/perception over time. All can paint a picture of what has happened and maybe where things are going.

Two interesting videos that cover a lot here might be

"Trouble with Firsts"

<https://www.youtube.com/watch?v=yojyTL7lqTQ>

ahoy's debate on what was the first video game might be

<https://www.youtube.com/watch?v=uHQ4WCU1WQc>

25 Test groups, focus groups and surveys

Sometimes a source of leaks, and other times interesting to find after something has failed or taken a radically different path to what some expected.

Much of these were covered elsewhere but to cover the general concept.

25.1 Surveys

Surveys have been conducted for a long time but in the modern day and age have become an industry in and of themselves, ones in the which the participants are often rewarded. Game specific ones are rare at time of writing so most game related ones will come from general consumer products or entertainment type surveys.

Information will tend to be minimal from these but they can produce artwork, screenshots and give some indication of direction taken. They can also be undertaken extremely early, even when works are still in the planning phases.

25.2 Focus groups

Another long time marketing concept. Here groups of people selected by various demographics (or maybe just pulled in from the street) will be asked to play a game/experience a work and comment upon what they felt. At times the planners of the test will deliberately target people primed for a work (say fans of previous entries or similar works) to seek their opinion, and these can be good sources of information.

The questions asked by the focus groups can also be just as interesting as any information given to the focus group participants. This is as it can reveal directions being considered, and what weaknesses the developers (or their governing parties) fear might be present in the work.

25.3 Test groups

Three primary splits here

1. In house testing
2. Closed betas
3. Open betas and demos

In house testing In games this is a paid job and was covered elsewhere. They can be simple players brought in and they can be coders in their own right tasked to break things within a game. They might be testing early code and they might be testing near complete. Such testers will usually be subject to strict non disclosure agreements if they should break secrecy prior to launch or for some time after and it is thus somewhat rare to see leaks here. Such agreements might well lapse in a few years, or they may have left the industry, so they can be good sources for retrospectives on games both well liked and otherwise.

Closed betas These were similarly covered elsewhere. Here various players of older titles, persons the developers want to court (be they popular sites, channels or players) and those that might get in by a signing up to a lottery of sorts are given access to a game (or content for it) still under some measure of development. This can include a simple code for access from their normal place or by having to travel to somewhere to see it or be secluded in a convention.

Secrecy tends not to be as strict as paid testers but is often still in place so be aware of this and the pitfalls of it. Travel to events are usually with the aim of having people provide previews on a work so it is less common to see tight restrictions there.

For an example of some of the language and ideas of the setups used you might look at the 2019 test screening leaks for the third of Disney's less than well received Star Wars trilogy

<https://cosmicbook.news/george-lucas-saving-star-wars-test-screenings-disaster>

Open betas and demos Here usually a time or content limited section of a game is made available. You may then learn of mechanics, characters, quality of contents and more from normal play, or possibly be delving into the content of said beta/demo if you have the requisite technical skills.

Most times the providers of such things will be keen to stress that "content of this demo represents a work in progress and may not be in the final game". This can be errors getting fixed, content gets refined and content gets cut. There is usually a time to release vs amount that can be done consideration to be had in this, and certain errors might be harder to correct than others. What you choose to take away from such things is a matter of personal opinion and technical skill; a programmer might well see errors that would require a radical rework of code to change and are thus unlikely.

Sometimes also side games can feature here. Dead Rising 2 for instance was preceded by a paid for "prequel", in the same sorts of timeframes we would have normally seen a demo, called Dead Rising 2: Case Zero wherein the new mechanics, characters, graphics, updates and more were variously introduced and hinted at.

26 Review codes, embargoes, and riders

Note this is a different concept to footage usage guidelines (more colloquially let's play guidelines), even if several of the things covered are similar. For examples of those https://www.nintendo.co.jp/networkservice_guideline/en/index.html and <https://www.xbox.com/en-us/developers/rules>. Nor are they the same as the terms of usage for games and services, though such things and changes to them are of interest to those following games.

If you are being provided with information or review copies/codes in something like a privileged capacity then it is common enough for said information or copy to come with restrictions on what can be done, sometimes this is called conditions.

The most basic is please only release this at/after a given date and time. Sometimes you might be allowed to run a preview or a stream beforehand but not review the title.

What happens from here varies. In twisted fantasy world then obviously the companies would like people to only sing the praises of their product in a manner they approve of. In reality we do have some ethics and maybe laws that get in away of that. Still there are times where a company or interviewee might be given final approval before publication. For an advertisement then final approval might well be a requirement.

Other times they might ask to be given a chance to respond prior to publication, in general news reporting then it is often considered good form to give the company/individual concerned by the story a chance to respond (hence things like many stories ending with “we reached out to # but they had not responded by the time we went to press”, or had declined to comment if they responded but said they have no response at this time).

Sometimes you might be asked to not show footage or screenshots beyond a certain point in the work. Atlus’ efforts with the Persona franchise being one of the more notable examples of this.

<https://www.forbes.com/sites/erikkain/2017/04/05/persona-5-streaming-ban-is-ludicrous-and-absurd/>

Though it should be noted it has since been relaxed a bit, up to you to consider whether that is an actual relaxation or as the bulk of the sales have likely been done then less need for restrictions.

Avoiding spoilers would be one way to look at that, though if we go back to copyright tests then having a work essentially in its totality (as might be the base for a full let’s play/stream) may impact its ability to sell the work.

You may be able to talk about things, especially in the context of a review, as restricting that would be deemed too much.

This is all in addition to requirements that may be placed on obtaining such a code/invite, like format the resulting work is to be in (these days that usually means needs a video version) and metrics the site/channel it is going on has.

In the case of video previews then it can get more complicated still. One of the more notable historical examples, though some might use the term debacles, was the Shadow of Mordor, a Lord of the Rings tie in game, for which that would have just broken terms (not allowed to mention Lord of the Rings there). <https://www.vg247.com/2014/10/07/shadow-of-mordor-promotion-under-fire/>

Should you break these restrictions then various things can happen. Chances are most won’t be legal sanctions but you may find yourself, and sites you work for/post on, blacklisted from information from that company, or indeed that PR person/group (and they do cycle through companies quite regularly). For some places then early information on games and ability to play through games prior to launch may be a selling point, indeed the race to be first to report on goes very far back, so be aware of that one. On the other hand just as many do well with a more considered take on a story after the events transpiring have become clearer.

Above then while legal sanctions are probably rare for informal agreements then if you signed a contract, as might those streamers and especially if money was involved, then breach of contract could be something you are slapped with.

27 Game theory and general design of games

Game theory is the name of a multi disciplinary combination of maths, physics, biology, psychology and more besides. It attempts to explain the actions of people within scenarios and how systems based upon them will work.

Consequently it has a great deal of application within computer games. It might be said that game theory is to games what camera operation/cinematography is to video, which is to say not the whole picture by any means but a key one you should probably learn the basics of.

Books have been written on individual games within it that are dozens of times longer than this work, and there are dozens of game theory games that describe mechanics of games. At present it is little understood by those playing games, those reviewing games and often even those making games (though they will often effectively arrive at the results that game theory provides, occasionally at considerable and theoretically unnecessary cost).

Never the less an elementary understanding of the concept can help make sense of a lot of things within games and may then be useful to you in investigating various aspects of games.

The following lecture “Practical Game Theory” serves as a reasonable introduction

<https://www.youtube.com/watch?v=hZDxLi6Xc40>

The book also mentioned in the above “Characteristics of Games” By George Skaff Elias, Richard Garfield and K. Robert Gutschera is highly recommended as a crash course in how games can work from both and mathematical and sometimes psychological level

<https://mitpress.mit.edu/books/characteristics-games>

28 Market segments and game genres

Much like the game industry, or indeed just about any human endeavour or creative pursuit, there are ways of categorising the markets and customers that people may adopt. It can help to be familiar with the existing ones. Different groups can adopt different categorisations and some can be quite contentious among the various groups, be it for cultural reasons, historical reasons or just plain logical reasons.

From the more scientific perspective the video streaming service Netflix is seen to have thousands (upwards of 20000) of categories of films and means of categorisation as a means of

<https://www.finder.com/uk/netflix/genre-list>

IMDB has also long had “plot keywords” https://www.imdb.com/title/tt0108255/keywords?ref_=tt_stry_k

Similar discussions will likely be familiar to fans of music, see something like the subgenres of metal and family trees there, or perhaps the once popular Winamp music player giving the band Primus its own genre.

Even within games the lists soon show their limitations (first person shooter arguably encompassing call of duty and portal) and variations of the categorisation problem appear.

Board games also serve to illustrate this quite well

<https://boardgamegeek.com/browse/boardgamemechanic>

<https://boardgamegeek.com/browse/boardgamefamily>

Game publishers, investment analysts and companies only tangentially in the games market might also have their own characterisations that many in the broader gaming culture ignore or are unaware of.

“Games for bored housewives” is one such market that seldom gets much coverage in the mainstream press but boasts and impressive number of titles, with several of the big developers having many such entries.

Mechanics, camera type (first person, third person, overhead/god sim), gameplay features (TTD/TTK, that being time to kill and time to die, being of importance to some players of online multiplayer shooting games), time

periods (world war 2, futuristic, historical, fantasy, modern), time within games (turn based, real time), graphics type (2d, 3d, cel shaded, 2.5d, hand drawn, CGI and the list goes on).

Psychologists, and psychologist working in adverting, also have their own grouping methods; personality quizzes long ago being noted as more effect than age, sex, location and maybe household income. Adam Curtis' documentary series "The century of the self" covering much of the background and rise of this if it is of interest.

Gamers (itself a somewhat contentious grouping) might also have their own at various points. It has somewhat dropped off in recent times but a classic example might be casual vs hardcore, though it gets tricky to draw sharp lines here and tends to be more a distinction of perception than of maths (the reactions and calculations/move possibilities of some match 3 games exceeding most or otherwise competing on the same levels as things in more traditional game spaces).

Part V. Useful tools and analysis methods

The following section is a list of tools you might find useful in addition to things linked and mentioned elsewhere in this.

29 How to use a search engine

It is constantly surprising how many people don't know how to use a search engine to narrow down their results, and the would be citizen journalist is highly encouraged to learn how to do this. This especially given how simple it is with just four sets of operators to do many things for you

Quote marks

The search will return only things with that phrase in it. Combine it with a year to start to limit results to that year; someone might still mention another year in a result but if the article, forum thread, post or similar is in any way dated then it can help find earlier takes, origins, track trends over time and more.

The insite operator, as in `insite:somesite.tld` . This will return only results from the website `somesite.tld` , and is quite useful if the internal search is limited, nonexistent or broken.

`inurl:` much like `insite` about it will only return things with the item in question being in the url.

* the asterisk is combined with other things.

- the minus sign immediately before (as in no space after) a word will remove things that contain that word, that phrase in quotes, that site if using the `insite:` operator or any other the others. You can have more than one. One of the more useful things to help narrow down results.

It is not just four operators though and there are plenty of others

<https://support.google.com/websearch/answer/2466433?hl=en>

<https://help.duckduckgo.com/duckduckgo-help-pages/results/syntax/>

<http://help.bing.microsoft.com/#apex/18/en-us/10002/0>

Seek similar such refinements if you are limited to an internal search engine for a site for some reason, including that the internal engine is more complete.

To say nothing of things like what you can do with things like

<https://www.wolframalpha.com/>

Basic website functionality and input manipulation

If you were told

youtube and GKY--qaHWSw

You would probably be able to go to youtube (or your history/bookmarks/open tabs), get a working video and paste over the video identifier/key with GKY--qaHWSw to get

<https://www.youtube.com/watch?v=GKY-qaHWSw>

The same applies to most websites. If you encounter a link to a forum that has moved then most people take great pains to transfer the old data (migration is never fun). This can also make navigating the wayback machine mentioned earlier.

Surprisingly few people will do such things though.

If you watch the url in the browser it may showcase what options you have. Sometimes it is good to get to page 2 of a search to reveal more options, or add as many options as you can into a search to learn what the operators are. It can be as simple as not having to go back to a search page to type in a new term if the term you entered (or possibly typoed) is up there in it, and it can yield much more. Change the operators to things you might like more or that will give you better results (can be as simple as increasing the results per page to 500 or something when it is normally 20) and enjoy.

Print and mobile versions of a given website can also be useful if something is split between multiple pages.

This can get far far more advanced, to start with we have things like cURL, your browser's own developer tools (for a start they often have simple things like view as mobile user which allows different content viewing options, though websites like <https://ready.mobi/> can also do this), things like described in "Defcon 21 - How my Botnet Purchased Millions of Dollars in Cars and Defeated the Russian Hackers", and that is before we even start on the big boy web penetration testing tools.

30 Spreadsheet absolute basics

Various spreadsheet programs available, however if you need a solid example of the concept then Libreoffice's calc is a good one

<https://www.libreoffice.org/>

The data may be out there but it may all be in text form, or if it is in numerical form then it is unlikely to be in a form where you can get a computer to immediately draw useful results from it. Fortunately computers are all about repetitive tasks.

What to put here to not sound patronising is a hard one. That said some will benefit from the basics here so that is where things will be started.

Spreadsheets are programs that take a table and allow you to fill the cells in with numbers, words, commands and more besides. They will have columns (typically denoted by letters) and rows (typically denoted by numbers).

They afford any number of commands to handle mathematical operations, text handling, financial operations, sort data, and much more besides. Naturally they can pull data from other cells and do operations with that. Most will also generate graphs and charts with this information which can be helpful if sharing trends you have found.

<https://documentation.libreoffice.org/en/english-documentation/calc/>

basic commands

In addition to maths (+, -, * for multiply, and / for divide) you have various things

=sum()

In the brackets you can select a group of cells to calculate the combined total of.

Rather useful if calculating total sales/profits/occurrences, possibly to then remove given regions.

Fill operator

There is usually a little dot in the bottom right side of a cell on the spreadsheet. Highlight one or more cells and it will try to fill however many more you drag them to with the pattern showcased within them. Different takes on the spreadsheet concept might behave differently here but if you fill in a few iterations of the pattern by hand then most will figure out what you wish to do.

Word manipulation

Everything from trimming extra space, removing so many characters from the end of a word/start of a word, splitting inputted data up when a given character (comma, space, one you pick) or a given length is reached and more besides can be done with this.

A final word on spreadsheets

There may come a time where you need a proper database, indeed many quite smart people would say it is when you scroll off the screen in a spreadsheet but you can probably ignore that for a little bit.

Elsewhere is some discussion of things like <https://towardsdatascience.com/predicting-hit-video-games-with-ml-1341bd9b86b0>

While that is a fascinating study done by someone that knows what they are doing it would be easy enough to combine estimated sales data/player data, scores from one of the meta analysis sites (or your own) and plot a chart accordingly, or narrow it down to games/developers/publishers you are more interested in, add additional lines for things like console sales, stock prices for game companies responsible for it (or their main competitors), do addition things like account for inflation or total sales of consoles. Such things are seldom performed at present in almost any journalism space, never mind games.

31 Advanced text manipulation

There comes a time in just about every computer user's life where they just have to knuckle down and "munge" data such that it is in a format that works

for them. This is not to say you should stop seeking to have technology make your life easier though.

31.1 Column mode in notepad++

<https://notepad-plus-plus.org/>

<https://npp-user-manual.org/docs/editing/>

The simple ability to select a whole column of text and manipulate it all at once is incredibly useful, something the vast majority of people that upon learning the humble (free) notepad++ editor can perform will immediately flash back to past events where they could have done with such a thing.

31.2 Regular expressions

Many times it has been observed people have a simple to word request (I want every number in this document) but lack the means to tell a computer to do it. Programmers often have similar requirements and thus have a solution. It is called regular expressions. Learn them and you can make life a whole lot easier.

<https://npp-user-manual.org/docs/searching/#regular-expressions>

<http://blog.hakzone.info/posts-and-articles/editors/understanding-regex-with-notepad/comment-page-1/>

31.3 Using grep, awk and sed

Linux/unix have three main tools considered a staple for manipulating text files. They will allow you to extract text from a file, manipulate said text and replace said text if you so desire. If you have a lot of data you need to filter down into a more manageable format (say a giant list of domains you want to check your list of watched franchises/terms for and return the results for, possibly also a script to do a whois on all of them for you) then this is how you should probably do it. It is a concept used by system operators the world over to, and often part of a test of skills in said same. At first it is often hard, tedious and prone to errors and more spent looking up how to do it. Push through that and when you are faced with a real challenge (10000 results is often just a promising start for some things you might be combing through) you will be able to handle it.

grep is a staple of Linux/unix operating systems. At its core it is a tool designed to search, and thus not much different to the regular expressions above (indeed for some it is the reference standard for such an endeavour).

<https://www.howtogeek.com/496056/how-to-use-the-grep-command-on-linux/>

awk is the second of the big three tools for text manipulation in the Linux/unix world

<https://www.grymoire.com/Unix/Awk.html>

sed

This tool aims to replace.

<https://www.grymoire.com/Unix/Sed.html>

They will be available on most Linux installs, or trivially installed on them.

For Windows based operating systems you might have to install them individually or with tools like <https://www.cygwin.com/> or <http://gnuwin32.sourceforge.net/packages.html>

For grep then

<http://astrogrep.sourceforge.net/>

awk has a variety of options in
<http://gnuwin32.sourceforge.net/packages.html>
sed
<http://gnuwin32.sourceforge.net/packages/minised.htm>

32 Archive.org's wayback machine and caching services

<https://web.archive.org/>

An invaluable tool for both historical analysis, and if you failed to save a website and its content has since changed for a developing story (though for more recent changes you might try things like Google's cache). It is a website crawler that has crawled websites and archives them going back many years at this point, and allows you to select any of those times it has a copy.

<https://archive.org/details/twitterarchive> also features much from twitter.

33 Website analytics and web metrics

Not usually of the most interest for new games but can be of interest in vetting sources if they are sites you have not heard of, or are tracking the rise or fall of another site.

The internet by its nature is decentralised which makes accurately tracking things a tricky prospect.

There are however services that will attempt to measure things. Such services are also useful to businesses, marketing teams, search engine optimisation people and analysts of all forms so your number of searches, or results provides might be limited here.

Alexa, once a browser toolbar but nowadays owned by Amazon, will collate traffic data it has and do various things with it, be it lists in general, rankings compared to similar sites. That said it is fairly locked down these days.

<https://www.alexa.com/topsites>
moz.com

Another such service, its free options are also limited

<https://moz.com/domain-analysis#index>

Similarweb offers some options here too

<https://www.similarweb.com/top-websites>

Socialblade was mentioned earlier but is useful here as well.

While the internet is decentralised there are popular hubs, today many of those are social media websites wherein those following you, amount of people viewing your content and more besides are treated as data worth sharing.

<https://socialblade.com> is a service that will allow you to see details, including with respect to time so you can see how things have played out for the channel/user in question.

Google trends

<https://trends.google.com/trends/>

A useful little tool Google provides that maps its search terms (it by far being the dominant internet search engine for most of the world) with respect

to time, and might allow further breakdown by country. Can also map it with multiple inputs to see if one thing took off while another languished.

Can be useful to see what changes with respect to time a game might have got if doing a retrospective.

Can also be useful to track changes in uses of terms. For instance it was once noticed the term warez (a slang term but once dominant one for pirated software) was risking becoming unknown to certain age ranges, with the trends tool indeed painting part of the resulting picture there (other parts being searching popular sites likely to see it, or otherwise being counted in the relevant circles, often only returning it in quotes from older people, or in terms of use that had not been updated in some years).

34 News alerts

There are many services that will allow you to note a list of terms with them and provide either a feed, weekly summary or more directed alert with them.

These can range from simple RSS feeds that many websites provide through to more actively managed and curated lists. Social media in its various forms is also largely enamoured with the concept of subscribers and followers, though there they often employ partial feeds (sometimes sub 20% with advertisers paying to increase these rates) as a means of both reducing overload, reducing those the user may no longer have any interest in and potentially even censorship of parties they don't much care for. To that end don't rely strictly upon them, indeed bookmarks might be a better choice for those.

RSS basics

<https://www.digitaltrends.com/computing/what-is-an-rss-feed/>

<https://feeder.co/knowledge-base/rss-content/popular-rss-feeds/>

Active alerts

Search engines tend to offer these sorts of services but there are many others active in the space with various perks and things they hope make them better.

<https://www.google.com/alerts>

<https://www.bing.com/webmaster/help/how-to-set-email-alert-preferences-c73a478c>

https://policies.yahoo.com/us/en/yahoo/privacy/products/alerts/index.htm/RK=2/RS=1.0j_YV7BSLP

<https://www.talkwalker.com/alerts>

You can also create your own feeds after a fashion if more traditional methods are not supported. Setting your computer to run a wget command (more on such things shortly) for a page being the most basic example, with it also serving to build up an archive if you want it to.

Most of these can be accomplished by a simple search or use of bookmarks, and some may still have to, but an automatic condensed list arriving on your screen/email is an option some enjoy.

35 Web robots, crawlers and spiders

Occasionally you may feel the need to archive an entire website. This has been possible for a number of years, indeed it is what most search engines do since Google first proved the concept.

A frequently observed trend is for things people say on various sites to be deleted, made private or otherwise take what was public and make it unavailable.

As such you may wish to archive content from individuals in a more automated way.

Do note that crawling someone's entire website may be against their terms of service, and generally can consume a lot of bandwidth for them, so be aware of that. They may also be less useful for social media sites (if nothing else how many of these are geared far more towards dedicated applications?) where more specialist tools may be required, or work far better.

The simplest start will be a simple webpage grabbing tool.

wget is a unix tool (though ports exist for almost everything) that allows this, and will scale to being a full website downloading tool

<https://www.gnu.org/software/wget/>

<http://gnuwin32.sourceforge.net/packages/wget.htm>

You might combine it with the text analysis and modification tools to yield interesting information where alerts fail you, or in depth analysis is too hard. For instance you can use this to grab several parts of websites, strip out code and miscellaneous text, combine it into one file that you can read at your leisure.

By itself it also has a considerable range of abilities, you can read the manual for it (<https://www.gnu.org/software/wget/manual/>) but the wgetr project will give you some idea of what can be done here.

<https://wgetr.com/>

Social media changes, and often becomes very restrictive (<https://torrentfreak.com/instagram-uses-dmca-complaint-to-protect-users-copyrighted-works-200130/>), so for those you will be best served either exploring their API if available and you can do it, seeing what forensic tools are out there (law enforcement may have to get a warrant for some things but there is also nothing stopping them viewing what is available to the public) or seeing what others have built for them. Sometimes it can also be a matter of going manual and pressing next page/forcing the next page to load.

36 Metadata

This is a concept that refers to pieces of data attached to files as they are produced handled, transmitted and more besides. Some of it, particularly parts on hidden metadata, was covered in the section dealing with leaked images.

exif data is probably the most well known of these. It deals with images (mostly JPG) that devices will attach to note what made it, when it was made, settings used in making it and if it is GPS enabled then maybe even where the image was taken.

<http://exif-viewer.com/>

Documents, be they conventional office program or exported as something like PDF, also contain data that may yield names, companies involved, number of changes and more besides.

Websites often embed data too but the extent and variety of options available there make this tricky to say anything simple about, and even a cursory introduction would be longer than this whole guide. Still where most start would be to "view page info" or equivalent of your web browser, and view source to look at comments in the page.

Emails can also have this. Once a gain viewing the source and information provided can yield a lot here.

Audio and video can have some, though it is generally a lot less prevalent than in web, picture and email type things. That is until you get to fingerprinting and forensic techniques wherein identifying what device made it, possibly down to a unique device, as well as what modification has been done, becomes a field of intense interest.

This is something you may need to be aware of for yourself and your sources, and look at when sourcing information, be it something to be leaked or just a name to note as worth following. Many websites will routinely scrub images of known metadata just to avoid these problems.

37 Google books

<https://books.google.co.uk/>

Google has a massive library of scanned and character recognised books. You can search them to see uses of phrases over the decades. Less useful for games than some other fields but have it as a tool in the arsenal.

38 Google groups (usenet text search)

<https://groups.google.com/forum/#!overview>

Once a fairly complete archive of usenet going back decades it is somewhat nerfed compared to what it once was so you might need to seek other services. That said “16+ years of text retention” is what another top ranked usenet provider offers, which is only to about 2004, and that makes things tricky.

Still usenet for those new to it all is known primarily as a download method for files but in the early days (and still technically to this day) it was a discussion setup. First coming online probably in about 1980, though today you will be lucky to find anything before “the great renaming” in 1987, it was one of the main discussion methods for all sorts of people (typically with a more technical leaning for obvious reasons but not exclusive to them) and can provide all sorts of insight.

For instance ever wondered at the origin of the “Ninty” slang name for Nintendo?

[https://groups.google.com/forum/#!search/ninty\\$20nintendo—sort:relevance/misc.invest/T1FJomY_m1](https://groups.google.com/forum/#!search/ninty$20nintendo—sort:relevance/misc.invest/T1FJomY_m1)

“Nintendo is traded as an ADR here in America the symbol is NINTY”

That being the response on the 14th of November 1993.

There might be other origins of the term but that is a good possibility.

39 New websites/domains

Many times a developer will register a domain to go with their new game (or sequel). Every time a new domain is registered it is shared with the world, most of the time new domains also have information on the owner of said domain attached to it (the services providing this info being called “whois”, as in “who is somenewgamename.com”. You can find any number of websites or tools offering such services.). Many top level domains aka tlds, or companies providing registration, will allow you to hide this information for a fee (it going

by the term privacy) so not all will. That said such privacy services are usually more intended for individuals running websites than businesses which you can otherwise look up all the data for. The idea here would be to spot a new domain either associated with a game/franchise being registered to an individual or company associated with the game (anybody can register almost any domain they like, certainly among the big tlds, so be not everything that glistens is gold), or possibly redirecting to a developer/publisher. Much like trademarks then not every domain will become a game, and some will be proactively registered or even registered to throw people off a trail but it is a technique in the arsenal.

Despite the low cost of domains it is increasingly common for developers to forgo this in favour of listing it on their domain, or their publisher's site, or simply carrying on with a single domain for a given franchise.

There are services that provide, for a fee, a list of new domains along with any associated whois data but there are ways around them. There are also ones with just the name for free

<https://whoisds.com/newly-registered-domains>

<https://isc.sans.edu/forums/diary/Tracking+Newly+Registered+Domains/23127/> covers a way you could also narrow them down to a list of things you are interested in, which given daily rates are up around the 100000 (one hundred thousand) mark is no bad thing.

Part VI. Things to add, expand or possibly include?

Things here might have been cut for time, but still represent notable portions of the concept known as gaming. If you want then consider them an exercise for yourself or something to investigate.

- Simple general purpose list of terms for use in alerts, patent searches, person searches?
- Second hand game markets? Both general concepts and notable fayres? Costs with respect to time, availability, patterns and causal links?