Many CSE students seem to dream about working in the games industry so it seems worthwhile to investigate the job satisfaction in that sector. We will focus on game developers and game testers. While there are other job opportunities in this sector such as in marketing for games and hardware development for games consoles, these are not directly related to games and are not really the focus of the "fun factor" that draws people into the industry. Games consoles are usually outsourced to general electronics manufacturers (for example, Nintendo hired Sony to adapt their CD-ROM technology used for audio devices to work instead with games for their Super Nintendo - this was the birth of the Sony ?PlayStation). Games marketing is also somewhat unusual - typically games companies try to license Hollywood properties so that they can take advantage of the existing marketing campaigns the studios are running.

Most of us have experienced the horrible pressure of cranking out deliverables at the last minute (be they projects, applications, essays, course outlines...), and we typically survive these incidents by reassuring ourselves that they don't have to happen very often. We approach their highly-stressful completion from an enlightened, amortized perspective. One of the loudest complaints about the game industry revolves around the degree to which this idea of constant "crunch time" is endemic to working in the industry.

For example, Electronic Arts is of the largest game publishing and development houses in the world. CNN recently described them as "for gamers, the golden trophy of jobs". And yet, in the past few years they have been sued for $15 million dollars - twice - by game developers and artists over complaints concerning how the company paid (or didn't pay) employees for working long overtime shifts. One developer writes that his colleagues are actually scared to hire staff that have been through the Electronic Arts machine: "they uniformly held the opinion that they did not like to risk hiring former employees of Electronic Arts. They all felt that these folks were "damaged goods" and the risk of taking on their rehabilitation was too great… their experience was that as high as 80% for these folks were too screwed up to make good employees"

The IGDA claims that overtime, in general, is uncompensated 46% of the time - and if it is compensated, it is usually with vacation time rather than with any kind of nice cash bonus. Alarmingly, "nearly all game developers in the U.S. are under 'exempt' status, meaning that their overtime is uncompensated." One developer claims that some companies would hire staff with no intention of ever paying them, even for normal working hours, let alone overtime: "the company would frequently take on new employees, then let them work without pay during a "probationary period" that lasted weeks, or sometimes months. More than one person was allowed to work until they dared ask when they were to start getting paid, whereupon they were quietly let go."

While long hours are common all across the industry, in the case of Electronic Arts, a wife of one developer was so upset that she started blogging about the horrific conditions her husband was working under: "the current mandatory hours are 9am to 10pm -- seven days a week -- with the occasional Saturday evening off for good behaviour (at 6:30pm)... there is a reason why there are two days in a weekend -- bad things happen to one's physical, emotional, and mental health if these days are cut short. The team is rapidly beginning to introduce as many flaws as they are removing."

Even though the developer was going through hell, in a sense they were very lucky to have such a supportive wife. Other developers are not so lucky - one wrote that "my last 3

girlfriends have blamed the game industry as the reason our relationship didn't work out"; a games tester wrote that "I lost my girlfriend of 7 years because I worked a Christmas and that was the straw that broke the camel's back."

Some of this is to do with the fact that there are no women in the industry - the IGDA ran a recent quality of life survey and women accounted for less than 10% of respondents; 76% of developers had no children. Instead it seems mainly populated by a lot of young, typically antisocial men who initially seem to have no problems putting themselves under high amounts of pressure - even relishing in it. They are living their dream of making games, after all, and have no time to worry about relationships, family, children, and a balanced, healthy life - things which women seem much more concerned about.

Often, they are right out of college, and just the idea of being paid to do any sort of work is exciting, no matter how time consuming it is. One developer writes: "I look at crunch as the nature of the business. If you have a deadline, you have to meet it, you don't have a choice. Besides, the worst work schedule I have ever had was while I was at an art college earning my degree. I have never in my life put in so many hours. I pretty much worked from 8am to 3 or 4 in the morning with very little sleep for ten weeks at a time, three quarters a year, for two years. I, and many other students, were up for anywhere from three days to a week with very little or no sleep during finals. Crunch is a pleasure compared to art school!"

Their one mission is to make the greatest game ever. The industry is still stuck in the all-or-nothing days where you both succeed and make a fortune or you fail and your company disappears. The IGDA estimates that "fewer than 5% of development projects actually break even once they reach the marketplace", and breaking even is arguably something that becomes harder and harder with every day - as consumers come to expect more from games, driving their budgets up. The pressure to create one of the games that succeeds must be amazing - you are not just creating it for yourself, but so that the company can survive, so that you can support all your friends whose game is doomed to be a commercial failure. "In 1999, fewer than 3% of PC games available on the market, and about 12% of console titles, sold more than 100,000 copies – a figure that is itself often far below the breakeven point" [Laramée00]. On the other hand, one might argue that breaking even should become easier - as experience builds, it should be easier to plan and develop new games, to learn from previous mistakes, to be as strategic as possible in aiming for commercial success. One problem with this is that experience is leaving the industry faster than it can be accrued - huge numbers of senior developers seem to burn out after years working in crunch cycles and leave the industry altogether, taking their experience with them. The IGDA conducted a survey of 1000 developers and over 50% said they expected to have left the industry within 10 years, nearly 35% within only 5 years.

Even if the developers don't burn out and actually want to stay in the industry, financial circumstances may often be beyond their control. For example, one strategy that smaller development houses take is to sell themselves (as well as any intellectual property they may have developed) to a publisher, in exchange for securing consistent, regular funding. This may make fiscal sense as long as the publishers are stable, solid corporations who are unlikely to go bankrupt and the developer is confident they can continue to make good games; but they have no control over the other developers who the publisher may be funding, which may be chewing up capital at unsustainable rates. This is the case with Looking Glass Studios, who had a consistent record of producing critically acclaimed games which were all modest financial successes. They were bought by a publisher - Eidos Interactive - who were

in the middle of reaping massive financial rewards from their Tomb Raider franchise and went on what one might call a spending frenzy, buying development studios and funding huge budgets for games in a hope to create another franchise as powerful as Tomb Raider.

What happened instead was that Eidos Interactive met John Romero and over five years spent at least $44.8 million dollars funding his start-up game development studio ION Storm. Romero was fresh off of working on "Doom" and "Quake" at id Software - both huge hits, Doom in particular sold over 4 million copies in the days when selling even a few hundred thousand copies was considered astounding. Romero thus had an amazing track record, so Eidos were quick to throw money at him. Over the next few years money would be wasted in the most ridiculous ways. Romero gave everyone $700 office chairs, and renovated the penthouse levels of Chase Tower in Texas to have "terrazzo flooring, a THX theatre, and a grid of 12 TV monitors to watch everyone deathmatch". ION Storm produced four titles; three were commercial failures and one, Deus Ex, was a modest commercial success but Eidos considered it 'too little, too late'.

During the last few years of (and owing in part to) ION Storm, Eidos was going through a financial crisis - which to this day they have never really recovered from. In an effort to cut spending they closed down many smaller development studios, such as Looking Glass Studios. Every piece of software that company released had received amazing reviews from the gaming press, but they were all considered "cult classics", returning only modest profits - so the decision to close them and cut spending must have been an easy one for Eidos. To this day many fans blame John Romero and ION Storm for the closure of Looking Glass Studios; and in a way Looking Glass must have felt very powerless, they had no way to stop Romero from going on his extravagant spending sprees, hurrying Eidos on their financial collapse.

The quality of life at ION Storm during this time was obviously very high - but came at a great cost to smaller studios like Looking Glass. This tale would now serve as additional pressure on developers who, even if they have decided to sell out their company and IP to a publisher, now have to be weary of every other development house the publisher is controlling and work out the risk associated with sharing a publisher with them. I imagine this would frighten many of the development studios owned by Rockstar Games; any minute now the subsidiary responsible for Grand Theft Auto may be sued over its content (which has been blamed for encouraging all sorts of crimes, from car hijacking to rape) - which could easily send the company as a whole into bankruptcy.

Most companies can't afford $700 chairs or personal offices for employees. Instead it seems typical for developers to be shoved together in "open plan" environments which are probably just as hard to work in as in our computer labs at CSE i.e. nearly impossible as they are full of the noise of people playing games. One developer writes: "Many companies are set up like giant playpens or frat houses. People think companies do this to keep employees happy, but really all the toys and games are just a distraction, and the real motive behind this is to make employees comfortable so they don't mind basically living at the office.". Another speaks of the battlefield moving out of the computer game and into the office: "there's nothing more annoying than having some jackass shoot you with a NERF gun when you are trying to solve a difficult problem or otherwise in the middle of being productive".

Incidentally, NERF battles seem commonplace in the industry - Geoff Keighley speaks about a NERF battle breaking out in the final hours of the development of Quake 3 Arena: "November 20, 1999. Graeme Devine quickly jumps out from behind his door, gets Cloud

square in his sights, and pulls the trigger on his newly acquired NERF wildfire gun, loaded with dozens of orange plastic bullets. Cloud, surprised by Devine's bellicose nature, quickly retreats into his office. Devine knows his actions will meet with retaliation. You get a sense he's played this game before; id isn't the kind of company where the white flag is oft raised... before long, all the office doors in the main hallway open and employees brandish their newly acquired NERF weapons. NERF projectiles fly through the corridors of id, with employees ducking behind furniture, running into offices, and quickly trying to reload weapons. It's clear the team was ready to let off some steam; everyone has practically lived at the office since the start of November. Before long, the NERF-gun war subsides. "In the old days," explains John Cash, "we'd lose whole days to things like this or a game of Foosball. Now we're a bit more disciplined.""

John Romero is a good example of one of the other systemic problems with the industry - the tendency to promote people from within. The life of the average game developer may be hard, but the life of the average game tester appears to be even worse. On the surface it sounds like a dream job. Sit around and play games all day. You don't even have to create anything, to solve any technical problems - just play games. But the reality is that testers end up playing *the same* game, 18 hours a day for sometimes years at a time. Recently there is a tendency towards nonlinearity in games, with plots that have branching storylines - testers have to verify each branch permutation, each time the game is changed.

Testers are paid to catch bugs - yet they describe being treated "like bugs" themselves. One tester describing their life towards the end of a development cycle as: "it gets the point where in the end you're working like 100 hours a week sometimes. Sleeping in back of your desk or underneath your desk... it's dark all the time--you never know what time it is. If you need to write something you flip an a little reading light and write it. It's very hard staring at the screen for hours and hours and hours... generally it's very isolating. You work alone most of the time. It's hard." Another tester wrote that "finding bugs is unmistakably work, very dull and repetitive work... it has destroyed the "passion" I had for gaming." So why bother? Some people see testing as a way to get their foot in the door, and hope to be eventually promoted in to some sort of developer role. One famous example of this is Stevie Case, who began as a tester for Daikatana and eventually became a level designer (and John Romero's infamous mistress). Moreover, often developers are promoted to higher managerial and producer roles, suddenly moving from being in charge of the AI programming for a game to being in charge of managing 50 people for its sequel.

This was the case with Harvey Smith, who went from a designer on Deus Ex 1 to a Senior Producer on Deus Ex 2, in charge of managing the entire project. The logic behind this is questionable. Just because someone is good in a level design or programming role does not mean they should be left to manage an entire development team. These kinds of promotions seem more common in the games industry than other more established industries, partly because of the high turnover rate of staff, especially senior staff leaving who would perhaps be the most useful as managers but are nowhere to be found.

On the other hand, some developers complain that their managers have *no* technical training, and thus have a tendency to make unreasonable demands in their project schedules. Scheduling is a huge problem for videogames for a variety of reasons. Firstly, games tend to "borrow" ideas from each other in the middle of development - if another game is doing something revolutionary, it will be stolen by many other games who hope to bring the idea to market first. However - and this is a case of karma police to the rescue - actually trying to

integrate these new ideas or technologies into existing projects can often wreck havoc with a schedule - this has been the case with 3D Realm's Duke Nukem Forever, which has been in development for over 10 years now and has gone through at least four engine overhauls (from the original Quake engine, to Quake 2, to Unreal, to Unreal 2... possibly using Unreal 3 now) in order to take advantage of the latest technology.

Every one of these engine switches has set the game back years, to the point where they don't even bother to set a schedule anymore - the game is instead set to come out "when it's done". 3D Realms is lucky that they have enough resources to do that - most companies have schedules that they *must* keep (typically, a Q4/Christmas holidays release so that parents will buy the games as Christmas presents.)

This is one of the reasons behind the endless overtime and crunch hours that developers have to put in - they have no ability to change the day when Jesus Christ was born. On top of that, the initial schedule is often optimistic in order to secure publisher funding. The idea of "flexibility of working hours" seems nonexistent with these circumstances - either you work however many hours are necessary in order to ship the game in time, or you lose your job. One developer was lucky, and didn't lose his job after missing overtime development... instead he was just ostracised by his peers: "my lack of participation in one particularly gruelling crunch due to having a newborn, led to a hit on my performance review. Although I accomplished all of my tasks (and more) early or on time at a high standard of quality, I was knocked for "missing important team-bonding opportunities" , after trying hard not to laugh in disbelief, I told my supervisor that I preferred important family bonding opportunities"

Another problem with schedules is that they often rely on external contractors - games are a mix of sound, music, art, animation, technology, design - all of which can be outsourced to other companies that may be unable to meet their own schedules. A recent case of this is with the Unreal 3 engine, which Epic Megagames have attempted to license to as many companies as possible - before it was done, mainly based on the strength of their previous two Unreal engines.

Unfortunately, porting this technology from PC hardware to work on the newest generation of consoles has been an arduous task for them and companies which licensed the (unfinished) technology for their own games have found themselves having to wait for Epic to get their act together and get the engine into a stable state before they can ship their games. One company that licensed the technology, Silicon Knights, has gone so far as to sue Epic in court over this, demanding that their licensing fees be returned and Epic pay millions of dollars in damages.

The inflexibility of schedules seems like a likely reason that studios might favour developing endless sequels - besides the obvious advantage of having an already established brand name, working out a development schedule for a sequel seems like it would be a significantly easier task than for the original game. Many sequels are essentially the same game as the original just with new levels, new weapons, and new enemies... the time needed to create this sort of content would already have been worked out in the final schedule for the original game, so developers should feel fairly confident in knowing how long the sequel would take to make.

In fact, the development time should be even shorter, as they might reuse the graphics engine of the original game and some of the weapons and character designs. The most common examples of this would be with sports games - every year a new version of what is essentially the same sports game comes out, for Basketball, Football, Soccer... this would be one of the

safest bets a developer could make. On the other hand, this sort of development essentially destroys the idea of innovation and creativity in the industry, and would not at all make developers feel like they were contributing to something worthwhile or interesting with their lives.

When developers do try to do interesting projects they often find themselves in hairy situations. This happened recently with [?](#)DoubleFine studios - they developed an original adventure game for the Xbox called Psychonauts and originally had Microsoft as their publisher. However, after some management changes at Microsoft they were dropped from the label and had to find a new publisher, putting the project in turmoil. This was because the game was deemed to be too arty... too complicated for mass market success. As publishers become more and more anxious about securing profits, game development seems to be becoming less and less adventurous and more geared towards sequels, or games based off of movie franchises. Both of these seem like they could be quite soul destroying types of projects for a developer to work on.

Recently, some developers have started modelling games after television series - releasing small "episodes" every 3-6 months instead of spending 3 years developing an entire game which has a high chance of failing at market. For some developers like [?](#)TellTale Games (producing Sam & Max episodes) and Valve Software (producing Half Life 2 episodes) this seems to be working well, but for others, such as Ritual with their SiN episodes series, it has not gone very well at all (the series was cancelled after only one episode, which meant that the "story" being told by the game was never completed, to the frustration of many gamers who did buy it.)

Instead of releasing a complicated game in small chunks, another option for avoiding huge development cycles (and, thus huge risk and stress) is to focus on smaller, simpler games. Usually handheld devices such as Nintendo [?](#)GameBoys are 5-6 years behind the technological forefront of the industry, so developers who wish to avoid re-learning everything every time a new high-tech console comes out often jump ship to work on smaller, portable games where they can apply the skills they already know with smaller teams and budgets and less pressure. In fact, John Romero did just that - his first game after the massive failures of ION Storm and Daikatana was a PocketPC game named Hyperspace Delivery Boy, with simple 2d sprite graphics and retro gameplay.

If a company is large enough they also sometimes create departments who don't actually have to release games, just experiment with ideas. This is the case with Nintendo - many of their most interesting products came out of letting small teams experiment with ideas for a while, and while many of the ideas might be failures, they are cheap failures, not 30 million dollar failures. Most importantly, occasionally they would hit upon something genius and turn it into a fully fledged game or controller or console, generating profits without sacrificing creativity.

Another problem with the industry is that there is little long-term market for games - games quickly disappear from store shelves unless they are high sellers, seemingly never to return (unless to bargain bins). This is especially true for console games - once the "lifetime" has been declared over for a console, it is usually near impossible to find old games for it at retail. Instead, gamers turn to sites like eBay and buy used games - but these purchases offer no financial reward to the original developers, who will not see a cent of any second-hand transaction.

Some observers like the IDGA think that many of the problems in the games industry may diminish over time, especially as workers increasingly enter the games industry from other related industries such as film and music where there are higher minimum standards for working conditions which they would be used to. This has already meant that, at least at Ubisoft Montreal, some workers don't have to take part in the endless overtime: "20% did their normal hours, not more, not less. Management knows that not everyone can give 80 hour weeks, as people (especially seniors) are starting to have wives and kids. The trick is to build your team with a good mix of "crazy workers" and normal people. Like everything in life, balance is the key."

Sadly, I think that there will always be people so desperate to work in the industry that they will ignore the working conditions, at least for as long as they can stand it. There seems to be an understanding within the industry that because people love the idea of making games so much, they will put up with all kinds of horrible working conditions and demands asked of them, at least long enough to finish a game or two. A prime example of this is myself. Having written the last 3,500 words, many of which were horrific to read about when researching this essay... I still have no less of a desire to work in the industry. If anything, I want to work in it more than ever.

The IGDA summarised the state of affairs as follows: "Respondents are satisfied with the level of challenge their jobs provide, with 83% saying the job is constantly or usually stimulating or that they are in no hurry to change even though they would be ready for new challenges... however, long crunches, frequent periods of intensive stress, and a hit-driven industry in which high-profile project cancellations and studio closures happen almost on a weekly basis don't support much in the way of mental and physical health, nor a sense of security. As for community, game development itself is a remarkably friendly brotherhood, but the opinion in which the general public holds us all too often ranges from amused contempt ("When are you going to get a real job?") to outright hostility ("This ultra-violent worthless tripe you do should be outlawed, you crazy sociopath!")"

I can't wait!

On the other hand, if you aren't as masochistic as I am, you may find value with this advice from a game developer: "if you are a gamer [you should] find a stable career that pays decently, has decent hours such that you can enjoy playing games (and other things) in your time off. Finding game companies that are well managed, work decent hours is like finding a needle in a haystack. Ultimately, you can ask quality of life questions; but it won't matter. If you ask people what kind of hours they work, they may say normal. It may mean that they have long crunches etc. Some companies will tell you when you interview that they treat people well, and compared to other game companies maybe they do, but it will still be a far cry from being treated well when compared to other industries."

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