

Market Report

COMP340 Market Report Report

1507516

March 23, 2018

1. Career Goals

When I finish university I will plan to try and find a games studio to work for, whether that be indie or AAA. If that fails, I may start looking for an IT tech job just to get some work experience, as they seem to be more common. I would preferably like to find a studio that makes games using C++ as that is my preferred language, however I am flexible for others that use scripting languages etc. When it comes to what programming roles I wish to pursue after university, I am interested in procedural generation and AI, however I am open to doing generalist programming roles aswell.

1.1. Current and Future Professional Practice

From my first job in the industry it would be preferable that there is a way for me to advance my skills and programming knowledge in a variety of areas, as well as learn more industry standard technologies, that will allow me to advance my career in the games industry. However in the short term after university, I will be heading back home to live with my parents, and from there I will be searching for industry jobs.

I will also be trying to find a place to live with my girlfriend, and as she has graduated in games art, we will also try and make some small games together in our free time.

1.2. Aspirations

There are a few games companies that I have been following development of closely, and ultimately would love to work for, so I will be sending my job applications to them first, if they have openings. But goal for later on in life is to have my own Indie games studio with a few of my friends who are currently in the games industry. However if for whatever reason that isn't possible I would like to work for a small Indie team.

2. The job market

This report will review requirements for three different jobs in companies I would like to apply for. From these requirements I will summarize what I have done, or what I will do to meet the goals.

2.1. Frontier Developments Job Advert

Graduate Programmer, Frontier Developments, Cambridge [1]. I found that Frontier was hiring from indeed, so I went to their website and found the graduate job roles that I would like to apply for. From the advice I got from Ben Dixon, I decided to look at their I figure that they would likely look at the applications that come through from their website rather than applications that come from indeed or other job recruitment sites.

Key Requirements

- Good degree in relevant subject.
- Requires a strong command of C++
- Enjoyment of collaborative team work

- Have a wide familiarity with game development APIs, tools and hardware concerns
- Good working knowledge of Lua

These requirements are ones both the engine and generalist programmer roles have in common.

Desired Skills Frontier uses their own game engine, developed in C++, which is the programming language of my choice. They offer a range of specializations for graduates to apply for, however the role I am interested in is either Engine or Generalist programmer.

Strategy

If I manage to get this job, I will be able to expand my C++ skills as well as learn industry standard technologies and learn the best programming practices first hand, furthermore as this is a graduate position, they will hopefully help me with any areas that I am not completely comfortable with. This will hopefully widen my programming skill set to be able to start my own games studio, or join a small indie studio in the future.

Frontier also has a page dedicated to programmer guidance, which helps outline what they would like from applicants [2].

Some key points from that page are:

- CV should be a doc or pdf and clearly show your education and grades attained.
- Use work samples to show us what sets you apart from other applicants, and show personal projects, as work from uni courses tend to be similar.
- Game jams typically don't give you much time to work with, so also include some bigger projects if possible. Also if any work was done in a group, explain what your role was.
- If you have developed games or demos then the easiest way for us to review these

is a highlights video hosted online, with voice-over if you want to explain what we're looking at. Screenshots with text is also fine.

- Show sample source code via public source control.

From these points there are a few things that I have already done to my website and to highlight my big projects, especially the projects that I worked on by myself. Furthermore throughout my time at uni, I have checked almost every bit of work I have done into source control, so almost all the code I have done is made available. However from this advice, I have not created a YouTube channel that contains all the game related work I have done, this is some future work I will start doing after my uni modules have been finished and I can upload the final games to YouTube at the end of the semester.

2.2. Codemasters Job Advert

Graduate Programmer at Codemasters - Cheshire, UK [3]

Key Requirements

- Fluent in C++
- Good applied math skills
- Optimisation and debugging skills
- Ability to work with a team of mixed disciplines

Desired Skills I am confident that I have most of the skills required for this job, such as knowledge of other programming languages as well as experience with graphics technologies on PC and console. Experience with Maya, Networking, Build Systems, CI, Analytics, PowerShell. From that list, I have not touched Maya, but I have a good understanding of 3DS Max, which will hopefully fill in the gap.

I feel this job will be a good fit with the experience I have gathered from this course.

Strategy

For this job, I feel I will need to brush up on my C++ skills, but apart from that I feel most of the desired and required skills I have, which is great because I will hopefully have a less stressful time learning any new technologies.

2.3. Cloud Imperium Games Job Advert

Gameplay Programmer - Manchester, UK [4]

Key Requirements

- Strong C++ programming skills.
- Work well in a cooperative environment.
- Strong multi-threaded programming skills.
- Experience programming game features and systems, especially player-visible game features.

Desired Skills One shipped product, which I do not have. Lua or Python experience, which I need to refresh myself on. UI development, which I have no experience. Client/Server development experience, which I have done a little bit of, but not in C++. Experience in game physics programming and 3D math, which I still am not confident on.

Strategy

This company is currently working on the big title Star Citizen, which is made in the Lumberyard engine, so if I end up applying for this role, I will download and test the Lumberyard engine. And as Lumberyard is specialized for MMO games, I would get used to the client/server architecture of the engine.

3. Comparing the Job Markets Required Skills

From these jobs, these are the key skills I need to improve:

- Keep improving my C++ skills, especially in areas such as;
 - Multi-threading.
 - Graphics programming.
- Re-familiarize myself with scripting languages like python and Lua.
- Improve my applied maths skills, as most programmer jobs mention this.
- Practice my optimisation and debugging skills.

3.1. Comparing the advice from people in the industry

An article on Quora [5] recommends the book “Cracking the Code Interview” [6] for learning how to do coding interviews, so when most of my modules have been handed in, I will start reading code interview books to get experienced with what kind of questions might come up in programmer interviews.

I contacted one of my old friends, who did a computing degree at Southampton uni, and now is working at Jagex as a big data engineer, and has been for over three years. I contacted him asking some questions in regards to how he feels at his new job and what it is like to work in the industry.

One of his comments about how he heard about the job vacancy was he found it on their website, as he said games companies are highly sort after, and like people with a “go do it” attitude. From that I will start looking at game company websites that I would like to work for, rather than looking on job sites trying to find them. From this all of my jobs in this report were found by looking at who I would like to work for, and seeing if they had any job openings.

Another one of his comments stated that he applied for a graduate position, which meant the company put aside time and resources in order for him to patch the gaps in the knowledge he wasn’t taught in university.

From reading a article on Gamasurta [7] I was reminded that I still need to brush up on some of the key programming concepts, for example throughout uni I still haven't implemented a abstract classes and done polymorphism.

4. Conclusion

From reviewing all the jobs, a fluent understanding of C++ is required, thus I will be allocating some time after I have finished my current uni projects to continue my C++ practice, and implement any programming techniques that I have not touched yet.

Appendix A Ben Dixon - Jagex

Job: Big Data Engineer Company: Jagex Game Studio Was there anything that surprised you, either good or bad about working the game industry? Mainly around how much goes into not just building, but maintaining an MMO! In other AAA titles, a lot of time and effort goes into designing and building the game and then after the games release it is vastly reduced. With MMOs, they are constantly improving the engine, adding new content, fixing bugs on a weekly basis. And then on top of this, there are whole chunks of the business that you just dont even think about that are needed to keep the game going. IT teams maintaining and improving the servers and architecture, customer support for handling account queries and moderating to protect players (particularly younger ones), community management to communicate with the players, gather feedback and inform players about updates and changes the list goes on.

What is it like working in a team?

Working in teams to build games is generally an awesome experience. Within a games company, or any company for that matter, you will be working with genuinely skilled people (they have been hired for these skills!), often with many years experience in the industry. Its really inspiring for me, to be able to work alongside them. You must

learn to compromise though! When you get really into working on something, be it the art, design, development, your creative side will really get into the flow and you'll start generating all sorts of great ideas about what you could do next or how you could improve the project in some way. The first thing to remember is, they are just ideas and not everyone will agree with you. Everyone's vision of the project can be different and they will all have their own ideas too. Finding alternate solutions or compromises is vital to keeping the team together and delivering it on time. Which brings me to the second thing to remember; that you are working for a company (in my case of 300+ people) where some things may simply be out of your control, no matter how vocal you are. Some things have a reason for being the way they are, be it good or bad, and you may have to either accept it or move on.

How do you feel about the size of your team? Does the work you do feel rewarding?

I work in a very small team of 2 but also closely with our grander department of 15 people and several others across the company. It's great to be able to have some freedom and breadth with what I do; as there is only 2 of us and a large domain of work to cover, I get the chance to conceive, plan and produce entire projects myself. It's a great learning experience for my career and it's really rewarding to come in every day, see the system I made doing its thing and say, I built that! Working with so many other departments across the company is also pretty cool. I get to see and be involved in a lot more of what goes on than a lot of people normally would.

How easy was it to adapt and how helpful were people when you started?

So when I started, there was a lot of domain knowledge, specific to my job, which I just didn't have (mainly because there were no modules on it at Uni). But as I was joining in a graduate role, they were well prepared for this and helped me patch up some of the gaps in my understanding, as well as introducing me to entirely new pieces of software. I wouldn't say it was easy, it got pretty technical at times, but I like a challenge and I

enjoyed it. I would highly recommend going for graduate positions where available as they are likely to have time and money set aside for training you. And yes, everyone was helpful!

What was the interview process like?

My interview started with a tour around the studio! It was amazing to see; for the first time I got a glimpse of what it was like to work in a games company and what my life could be. We did finally get around to a more formal interview, with 2 people, which consisted of a beginning chat about my background and then led into some technical coding and planning tasks, and ending with some discussion on conflict resolution and team working. The feeling throughout was fairly informal though, with a lot of back and forth discussion rather than just question and answer. I think their first question was, So what games have you been playing recently? which led us into a conversation about games we played as kids.

How did you first hear about the job vacancy?

I found it on their website. Jobs at games companies seem to be highly sort after and they are looking for people with a go do it attitude. I think youll rarely find them using agencies for hiring; they are looking for people to come to them.

Do you feel you are given the chance to progress within the company?

Yes, they even have an entire department dedicated to it (Learning & Development)! They provide ample resources, from online training courses to knowledge sharing seminars and funding to go to events that will help you achieve your goals. Along with opportunities for promotion, there is also an internal job vacancy board which jobs will often appear on first to give you the chance to move about/up if you ever feel like your interests are changing or that you may be better suited in another role.

Appendix B Appendix item two

References

- [1] Frontier, “graduate-programmers.” [Online]. Available: https://www.frontier.co.uk/careers/disciplines/programming/graduate-programmers#id_first, 2018.
- [2] Frontier, “graduate-programmer-advice.” [Online]. Available: <https://www.frontier.co.uk/careers/programmer-application-guidance>, 2018.
- [3] Codemasters, “Graduate programmer.” [Online]. Available: <http://www.codemasters.com/careers/job-search/?location=all&role=programming#graduate-programmer-ar067>, 2018.
- [4] C. I. Games, “Gameplay programmer.” [Online]. Available: <https://cloudimperiumgames.com/jobs/379-Gameplay-Programmer>, 2018.
- [5] M. Slone, “How-did-you-actually-become-a-game-programmer.” [Online]. Available: <https://www.quora.com/How-did-you-actually-become-a-game-programmer>, 2018.
- [6] M. Chinmoy, *Cracking the Coding Interview: 189 Programming Questions and Solutions*. Blurb, 2016.
- [7] A. Tito, “So you want to get a job as a programmer?.” [Online]. Available: https://www.gamasutra.com/blogs/AnnaTito/20120410/168247/So_you_want_to_get_a_job_as_a_programmer.php, 2018.