

DELIVERABLE 11 ITEM 8: RAFAEL FRESNO ARANDA

Since we are very close to the end of the school year, and, therefore, a bit closer to the end of our degree, it is important that we start thinking about the things that we want to do when it is over. Ideally, we could already have an idea of what we want for our future from the very first year of the degree. However, many of us have discovered new technologies and new companies throughout the years, and this, in many cases, has changed our minds. But now we are in the second-to-last year, and our minds should be already made.

When I started enjoying computers, back when I was younger, I always thought about the big companies. I always wondered about the life of their developers. The companies that I admire the most are Microsoft and Google. I really love most of their products, and, while it is true that I sometimes get really frustrated with some of their decisions, I feel like I could not live without some of their products. To be completely honest, I think that joining any of these companies is extremely difficult, but, if by any chance I got to work for any of the two, I would be extremely happy for the rest of my life.

Regarding the technologies that these companies use, I think that I can take a guess. Working for Google would probably mean working for Android, and I know that apps in Android are programmed in Java. Thanks to the different subjects that we have studied in the degree so far, we have a fair knowledge of Java right now. However, one major problem is that back in our first year we started studying Java 7, and near the end we learned some of the basics of the new features that were available in Java 8. Since then, we have not “upgraded” our knowledge beyond these versions, but right now Java 10 is already out, and a beta version of the next release is available. So, even if we know a fair amount of this language, there is still a lot more to learn, from previous versions and new ones. On the other hand, Google also has a lot of different web applications, from the searcher itself to YouTube or Drive. To be honest, I do not know which languages they use for these websites, but, in any case, learning them should be interesting.

Microsoft, on the other hand, feels like a really big company with really big projects. I am not implying that Google is smaller or less important than Microsoft, in fact, there are possibly more Android users than Windows users. However, from my point of view, I see a desktop and laptop operating system as something much bigger than a mobile one. And, for me, Windows is the operating system that better suits my needs. I have tried a lot of different Linux distributions, and, even though it is true that some of them (with an appropriate desktop environment) are much lighter than Windows and perform better in older hardware, I have been unable to find any distribution or desktop environment that feels as polished, intuitive and easy to use as Windows, and this is the main reason why I admire this company. Apart from the operating system, Microsoft also develops a large number of other software, and even some hardware, like the Surface line of products. In terms of programming languages, my best guess would be that they use C, C++ and, of course, their proprietary C#. I have sometimes tried to learn some C# on my own, but I have never found enough time to do it. We also learned some C in our first year, but not much, and, since we have not practiced much after then, I do not remember how to use many of its core features. Regarding C++, I have not seen much more than a simple “Hello world” program.

It is worth noting that I am actually working in a research group inside the university. There, I have learned (and I am still learning) a lot of new things, including technologies and languages that are just barely mentioned during the degree. The main language used in the group is

JavaScript, together with the runtime environment Node.js. In our second year of the degree we learned some basic JavaScript, but not much, just some simple methods to make a website slightly better. But with Node.js, a full web server is programmed using JavaScript, which, in my opinion, is very interesting, and also shocking. We were used to write small functions in the degree, but now, with some external modules and a little bit of code, we can create amazing automated scripts that not only launch a server, but also creates a new release in GitHub or deploys an application in Docker. Another technology that felt strange at the beginning is the database software. We were used to relational models and SQL databases, but in the group we switched to MongoDB, which is a NoSQL database that uses JSON-like files to store the data. After learning these technologies and starting to like them, I realized that I was really enjoying my job, and this made me think of staying in the group to continue studying, and eventually joining them as a researcher and maybe as a teacher.

Apart from the options already discussed, I would not really mind working in any other company or group, as long as I feel happy and useful, and that I am learning new things. This is one of the aspects that I really like about software. There is also something new to learn, and, even if by chance you learn every existing technology and language, a new version will come out and new features will be available. When that happens, the only option is to keep learning, because there is the possibility that one of the new features becomes really useful and widely used, and a developer that can master this feature might be more wanted than one that masters every other feature but that.

Regarding the necessary steps that are necessary to join these companies, they would be slightly different in the case of one of the big companies and the research group. If we consider the big companies, I think that the most important step would be learning the technologies that they use. Then, after getting enough knowledge, the next step should be developing some programs and uploading them to some public platforms like GitHub, so that hopefully some important people from the companies could see if what I have done is interesting and if it shows the necessary skills needed to work with them. In the case of the research group, the best thing to do would be giving my best, trying to be as efficient as I can and always meeting their expectations and even exceed them. This way, I could prove that I am worth it and that I can be trusted.