~~Activity Report~~
Roff Summer Internship

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(Activity report)

Abstract—During the summer of 2013, I participated in a summer internship, in the IT consulting company Roff where not only did I learn to work with a new tool, the Outsystems platform, but was also allowed to develop my own project, inside the company and to get familiarized with software maintenance related activities. Learning a new tool was not the greatest advantage of this activity, but the fact that I was able to understand how a big company works.

Index Terms—Roff, activities, summer internship, first job,

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1 INTRODUCTION

IN the summer of 2013, I participated in a summer internship, that took place from July to August, in the IT consulting oriented company, Roff.

This activity took place right after I had finished my degree in Computer Science. I find important to mention this because, as I got closer to finishing my degree, I could not shake the feeling that I was still not ready to undertake a professional carrer. Apart from the vast knowledge I had acquired, in my opinion I still did not own enough experience to apply them, at a professional level. So I had hopes that by undertaking this activity I would be able to not only test my capabilities, but also to prepare myself to initiate a future professional carrer.

Throughout this report I will be describing the activities that took place, not only during that period, but also before. As such I will start by describing the preparatory activities that led to beginning of the internship. Then I will describe the actual work, that took place in the months of July and August.

Since this was my first job in the computer science area, I did not really knew what to expect. Regardless of that, I wanted to prove myself and my capabilities, performing all that was required of me, with quality and efficiency.

2 PREPARATORY ACTIVITIES

This activity actually begun before I got into Roff, for the summer internship, it actually began some months before, during *SET – Semana de Empresarial e Tecnológica*, when I began to realize there were many interesting companies providing summer internships, as a platform not only for recruitment but also for formation.

As such, I began writing my *curriculum vitae*, an activity that had long been due and began applying for some of the companies that were present at the event.

By the time the summer had begun, I still had no responses from the companies I had applied to.

The opportunity finally arrived when a cousin of mine informed me that an IT company, which she had been working closely with, could provide me such an opportunity and so I applied.

Not long after I had applied, I got an interview. Since this was my actual first interview, I deemed necessary to enlighten myself, regarding the recruitment process, such as interview etiquette and important questions.

The interview took place on the morning of the 19th of June, with Henrique Capela, who would later become my coordinator. Henrique

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(0.8) Very Good												
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took this as an opportunity to explain me I would be working with Outsystems, which is a platform used to develop and deliver enterprise web and mobile apps, in a team of 6 and also to introduce me to the company and its core values. The interview was a success and I was accepted into their program.

3   SUMMER INTERNSHIP ACTIVITIES

The actual work begun on the first of July, ending on the 31st of August. During that time, I worked under a regular working hours shift, of 8 hours per day, amounting to a total average of 320 hours of work. My working schedule, as well as for all the other collaborators, was a flexible schedule, where I could come into work from 8a.m. to 11a.m., but I would usually work from 9am until 6pm.

During that period I performed two fundamentally distinct activities, where during the first month I had to get acquainted to the Outsystems platform and during the second month I had to perform maintenance to an existing application, that had been ditched and was currently not working under the current version of the Outsystems platform.

3.1   Introduction to Outsystems

3.1.1   Outsystems Training

On my first day of work, I got personally introduced to the team and also to some of the other departments of the company, such as human resources, accounting, marketing and legal. After the introductions I was given my first task, which was to get acquainted to the Outsystems platform, whose objective was not only to introduce me to the platform, but also to prepare me for next task, which would be the development of a custom Outsystems application, to be specified by Henrique.

This was supposed to be a two week task, where I would follow some of the tutorials provided by the Outsystems company. The platform actually provided a very complete learning solution, entitled *Outsystems Academy*, with several video tutorials, examples and exercises. And with the help of Filipe, one of the

younger members of the team, I went through all the material in the first week and was ready to start the development of the application.

3.1.2   Carpooling Application Development

Due to the amount of work during the second week, Henrique was not able to give me a specification of the application I had to develop, so I decided to take the initiative and, after talking to him I decided to go through with a carpooling based application, with the objective of providing a platform for ridesharing and carpooling and whose requirements were based on a previous project I had developed.

By the end of the third day of development and due to the characteristics of the platform, I had already implemented all of the base requirements of the application, but since I had free reign over the application and a two week due, I decided to improve it as best as I could. So during the next two weeks, I worked on improving the application, introducing google maps for route specification, ranking mechanisms and other mechanisms, all with the help and guidance of Filipe.

By the time the two weeks were over my application had by far exceeded the initial requirements and so I decided to present it to Henrique. Since I still had one week until the end of the first month and because the application still had room for improvement, especially at a user interface level, Henrique gave me the task to improve those fields until the end of the month. I took that time to get acquainted of some technologies that I was not very proficient at, such as HTML, CSS and Javascript, more specifically Jquery.

The last week of July and the first of August actually overlapped with Henrique's holidays, so I had to wait until he came back to present him to the final version of the application. I'm proud to say the application had great feedback from Henrique, who was surprised with all that was accomplished during that time. I had hopes that the application could be integrated with the existing Roff's internal applications,

but due to the characteristics of the Outsystems platform, a new application would incur in additional costs to the company, so in the end the application was not implemented in the company.

3.2 Application Maintenance

The beginning of August was a bit slower, since most of the team members were still on vacation and the rest had their hands full, filling in for them.

It was only by the second week of August that I was assigned to the maintenance of an existing, but currently not working, Outsystem's document management application, that even though it was not being used, still had potential to be an interesting product.

My task during that time, was to understand the application and it's dependencies and also to develop a technical manual, so that when my internship came to an end it would be possible to take advantage of my achievements and continue working on the application.

This was the first software maintenance task I had ever undertook and it was not until I began studying the application I realized how complex it actually was. The application depended on several other applications, mainly a resources management application and a state machine definition application.

I decided to start with the resources management application, since in a software architectural point of view, this was the lowest level module and allowed the specification of the people who were allowed to perform certain roles, over the document management application. Even though there was no documentation, this was a straightforward application and it's analysis was quite simple and by the end of the second week of August it was working correctly.

The biggest hurdle in this activity was the second application, the state machine definition one, because neither this application nor the document management one, were remotely documented. The lack of documentation became a great hurdle, mainly because the document management application assumed the existence of a state machine, that specified the correct flow of the document management process and the only information regarding the structure of the state machine was hidden in the software.

By analysing the software and reverse engineering the application, I was able to deduce most of the required states, the hardest part was actually deducing the action flow between states, which was accomplished, mostly by trial and error.

It took me the whole three weeks left of work to get the state machine working correctly and even so I would say the state machine I defined only matched about 80% of the required one.

During this time, I had been taking notes regarding the whole process, so in the end it would be easier to write the technical manual. This was a good approach, as it only took me the last three days of work to write the manual, which was actually quite an extensive one, amounting to about a total of 80 pages, describing not only the document management application, but also it's dependencies and the requirements to making them work as a whole.

4 CONCLUSION

The two months came to an end in an instant and I was able to complete all that was required of me, which in my opinion was a great success. But by far, the greatest success measure, was being offered, by Henrique, a permanent position at the company, which at the time I had to refuse, since my priority was to complete my Master's Degree. Given that I was able to complete successfully all my assignments and taking into account Henrique's high appraisal of my work, I think the whole activity was a success.

In terms of technologies, even though I learned many new ones, I think this was not the biggest benefit associated with this activity. In my opinion the greatest benefit was the chance to get to know the meanders of a company, not only the positive but also the negative points.

After this activity, I would say many of my doubts were lifted off and that now I feel

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that I'm prepared to start a professional career, confident of my capabilities.

APPENDIX
STATEMENTS OF EXECUTION

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C E R T I F I C A D O   D E   T R A B A L H O

Para os devidos efeitos, declaramos que **Rodrigo José Madeira Lourenço**, contribuinte fiscal nº 241863236, foi colaborador(a) desta empresa no período compreendido entre o dia 1 de Julho de 2013 e o dia 31 de Agosto de 2013, desempenhando, à data de saída, as funções de Programação OutSystems, no nosso escritório de Lisboa e em todos os clientes que a ROFF mantém em carteira.

Lisboa, 19 de Maio de 2014

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