Professional Internship at Codacy

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(Activity report)

Abstract—Through this report we intent to describe the activities occurred during the professional internship at Codacy. As software engineers we were faced with challenges related with integration on a team guided by agile methodologies and a context of entrepreneurship. Simultaneously, we were attending classes at Instituto Superior Técnico.
This internship required traditional software engineering activities like programming, planning, but also other more business related activities like costumer management, recruiting and user testing.

Index Terms—activities, internship, startup, software engineering.

1 Introduction

Not a good start!

Like we do every semester, we can choose an activity to develop simultaneously to our academic path. Since this is our last year, we've decided to be bolder in choosing the activity. That's why we presented as a self-proposed activity a professional internship at a startup called Codacy. The internship was supposed to be similar to a part-time job working as a software engineer. Soon we've discovered that it would be much more than that.

We have

2 Planning Meetings

Acronym! What?

At Codacy we started by using Scrum, but its characteristics were causing the team to not follow it, mainly because of the overhead of maintaining the task but also because of the sprints that would limit our release possibilities. To solve this, the Chief Technology Officer (CTO) decided to start using Kanban, since it is a less rigid methodology and that would allow us to do more frequent releases. With this methodology we usually had two types of meetings, planning and release.

2.1 Planning

At the beginning of each sprint, the team would have a planning meeting in which the next priorities and the new tasks were defined. In this meeting we would at first check all the problems on the product and find a way to solve them. Then the business team would present what were the next objectives and we would start creating the tasks in the backlog. After this the tasks would be prioritized and the CTO would approve some of them so we could start working.

2.2 Release

At the end of each sprint the development team would have a meeting to analyse the sprint and prepare the release. In this meeting all the new features were reviewed and we would test them in the application. After all was cleared we would merge all the changes in the main code base and a release was done.

3 Functionality Development

Being Codacy a software product still in development phase most of our tasks were implementing new functionality. During development, we used languages such as HTML, CSS

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(1.0) Excelent	ACTIVITY					DOCUMENT						
(0.8) Very Good	Objectives x2	Options x1	Execution x4	S+C x1	SCORE	Structure x0.25	Ortogr. x0.25	Gramm. x0,.25	Format x0.25	Title x0.5	Filename x0.5	SCORE
(0.6) Good												
(0.4) Fair	1.6	1	3.2	0.7	6.5	0.25	0.2	0.18	0.25	0.5	0.5	1.88
(0.2) Weak												

or Javascript [1] to interface, already known to both, and for the rest we learn and we used Scala [2], all on Play! Framework [3]. In order for the development not to become boring within Codacy, we always had the opportunity to choose in which part to work and we always had the chance to do all the kinds of tasks like just fix bugs or even implement functionality that passed in all the layers of the application. Within all tasks that we did, we were able to make improvements to optimize the detection bugs by adding new tools to the platform backend or improve the presentation of the results and even others who helped to optimize internal processes. We added too, various administrative functions to make the management of the platform easier.

4 User Testing

One the one hand, performing usability testing at an early stage startup is hard and expensive. On the other hand, it's nice to both the business side as well as the people using it. A good user interface has high conversion rates and is easy to use. User interfaces can make or break startups, for instance, StackDriver - a system for managing Amazon server infrastructure - was recently bought for millions of dollars just by having a friendlier user interface, despite offering exactly the same features as Amazon did.

In Codacy, we went through the process of redesigning the product's interface. Late in the implementation cycle, we invited some of our users to take part in an usability test. The user group consisted of 10 users and we submitted each one of the to a set of 5 critical tasks. We set the tests like we learned in the Interface Pessoa-Máquina course: wrote a script with all the tasks and objectives for those tasks; set metrics to be measured and what value of the metrics would be considered acceptable. Conducting a test was a three people operation: one reading the script, another one writing feedback and yet another one capturing metrics. Based on the results we were able to polish the user experience and use the given feedback to reimplement a feature in a more valuable way for our users.

5 Writing Blog Posts

For a startup a blog is a vital way of reaching to a broader audience by influencing people in the industry, marketing its services and by simply being a platform of dialog with peers. A blog helps to build the brand, it provides transparency, authenticity and ultimately trust.

Codacy uses its' blog to attract developers through a series called "Code Reading Wednesdays". Every Wednesday, a team member had to publish a blog post about a problem he solved that might be useful for the community. The assignment was rotational, so during our stay, we have written a couple of them. The blog posts: Effortless User Data Encryption in Play2, Optimising code in Scala, Typed actors with routing and Understanding Database Isolation Levels; cover topics of Security, Applied Logic, Distributed Systems and Databases, respectively. Two of these we're picked up and made it to larger audiences: the first was featured in a response on StackOverflow, a widely know question and answer website for programmers; the second was featured in the mostly influential blog for the Scala programming language "ThisWeekIn#Scala", which is followed by almost every Scala developer.

6 London Business Trip

During the internship we had the opportunity to join the Chief Executive Officer (CEO) on a one-week business trip to London. The trip was meant to show us Seedcamp, have some meetings with possible future investors and to test our capabilities to work remotely.

The week started with a little stroll by London to find the hotel. After a good lunch, we departed to our temporary work place: Seedcamp. Seedcamp is an incubator that provides initial investment to european startups, and is in fact one of Codacy's investors. In there we met a lot of other startups like BRANDiD, Saberr and SimpleTax. We had some meetings with them and we could share a lot ideas and experiences. We even had the chance to meet the people behind the Seedcamp team: Carlos Eduardo Espinal and Hilary Szymujko.

The majority of the time we've spent in London we were working on the application

since there is always tasks to do and time never stops.

7 Conclusion

Through these months we've developed valuable software engineering skills. Skills that are beyond the scope of what we can learn in our course. Whether it was the more management oriented activities, which we were completely oblivious to, or the technical, which ranged from infrastructure, programming and team planning.

In our opinion, such an internship is an important experience, as working with other Software Engineers is a very different challenge than working on an IST project group. By hearing to their experienced opinions and advices we were able to learn a lot and be a part of a rewarding project.

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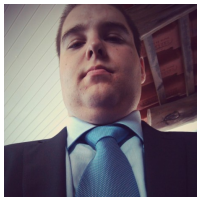
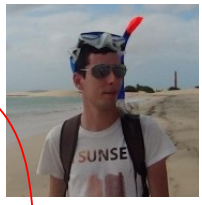
[2] Odersky, M. *Programming in Scala*, Artima, 2010
[3] Petrella, A. *Learning Play! Framework 2*, Packt, 2013



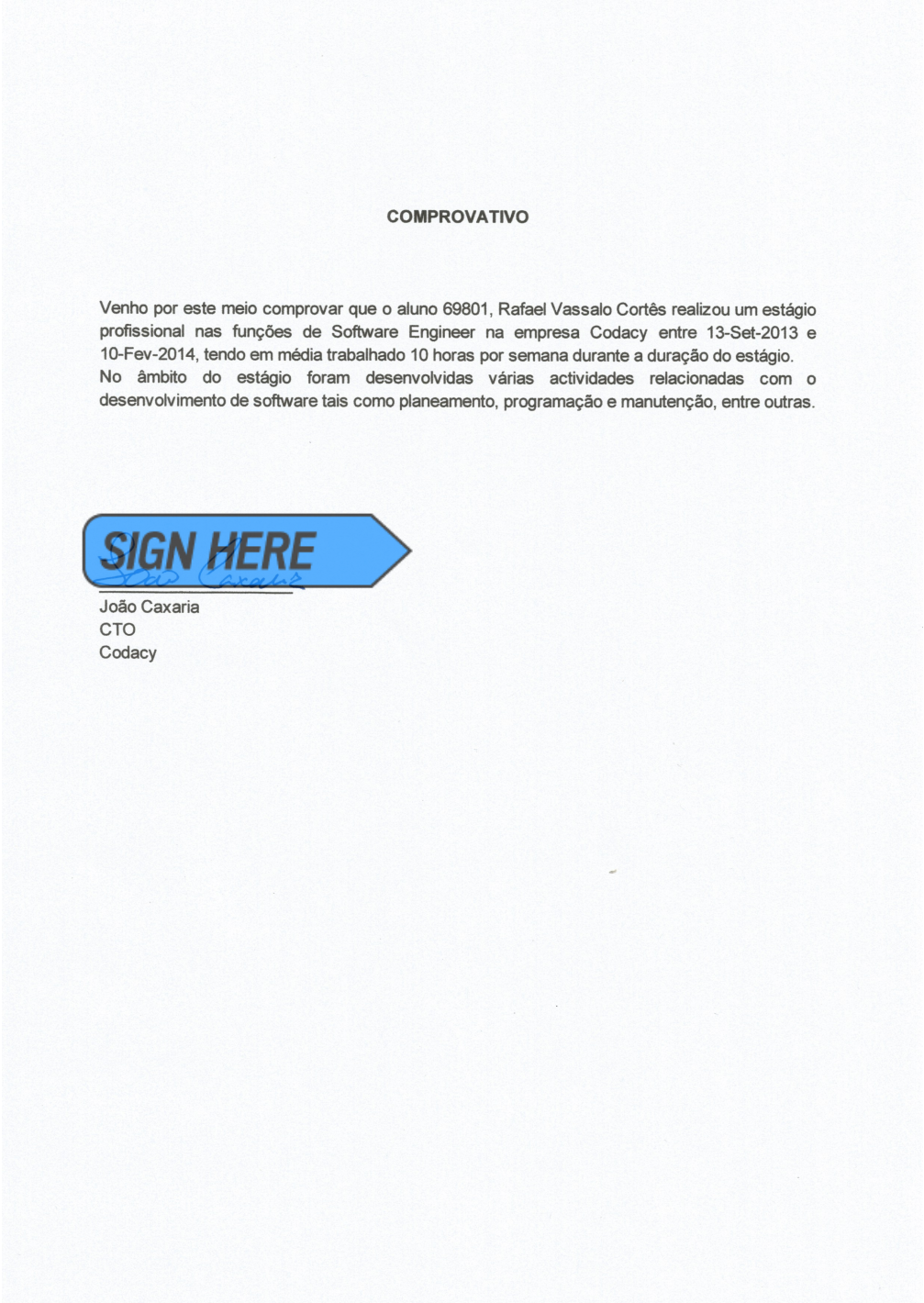
Rodrigo Fernandes Here I am, pursuing my Information Systems and Computer Engineering course at Instituto Superior Técnico (IST) and working as a Software Engineer at Codacy.



Rafael Cortês My name is Rafael Cortês. I live in Lisboa, Portugal. I'm in the first year of my Degree (MSc) in Information Systems and Computer Engineering at Instituto Superior Técnico.

Neste tipo de documento (Técnico) a Conclusão deve começar com um Resumo do assunto abordado e depois deve valer os resultados

APPENDIX
STATEMENTS OF EXECUTION



COMPROVATIVO

Venho por este meio comprovar que o aluno 69801, Rafael Vassalo Cortês realizou um estágio profissional nas funções de Software Engineer na empresa Codacy entre 13-Set-2013 e 10-Fev-2014, tendo em média trabalhado 10 horas por semana durante a duração do estágio.
No âmbito do estágio foram desenvolvidas várias actividades relacionadas com o desenvolvimento de software tais como planeamento, programação e manutenção, entre outras.

João Caxaria
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