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## ► Ricardo Rodrigues

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### Introduction

Hello, my name is Ricardo Rodrigues and I finished my Master's in Computer Science, in the University of Madeira (January 2010) - where I also done my Bachelor's in Computer Science.

My fields of interest have to do with human-computer interaction and where we can use freely our imagination. Work on software engineering and do research on Human-Computer Interaction. Some of my professional interests are in software engineering, formal methods for software development, social networks, human-computer interaction, usability, web designing, 3D modelling and digital animation.

Other field of interest is about my Master Thesis work. My thesis was supervised by Nestor Cataño. The thesis is about a JML-Based Formal Development of a Java Card Application for Managing Medical Appointments where it shows how JML based formal methods can be used to formally develop a Java application. This strategy presented by a colleague mine João Pestana, to transform informal functional requirements into formal specification was used to correctly develop the software application. A script prototype was development too support his strategy from the informal functional requirements until JML specification. Started working on this thesis in January 2009 and the conclusion date was January 2010.

I can characterize me for my persistence, looking for new challenges. Never left a project undone, and always love to learn. I like to work in a team, although working alone isn't no problem for me.

I have a strong relation with people and no problem making new acquaintances. I love to do sports, specially basketball that I practice since my 12 years-old.

### Education

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#### **M.Sc. Computer Science [2007- January of 2010]**

University of Madeira, Portugal

Final grade: 15

Overall skills:

- Design, model, develop, operate and maintain computer applications, information systems, computer architectures and data networks; Dealing with complexity and abstraction, being able to adapt easily to constant technological changes in this area.

## **B.Sc. Computer Science [2005-2007]**

University of Madeira, Portugal

### Overall skills:

- Skills to apply the knowledge and understanding capacity to solve problems through a professional approach to engineering; capacity to collect, select and interpret relevant information to support solutions and recommendations to make judgments about an issue, including the social, scientific and ethical aspects;
- Know and understand that Engineering is a vast area of knowledge, interdisciplinary and dynamic; main principles, models and paradigms of computer science; the ethical and professional responsibilities associated with the profession of software engineer in a global context and social;
- Apply, design and develop software-based systems of varying complexity in various languages, environments, platforms and programming paradigms; computer applications and information systems in its various components, including architecture, implementation, usability, quality, maintenance and documentation;
- Make judgments and propose solutions to concrete problems in the design, operation and maintenance of computer systems;
- Communicate orally and in writing the requirements and specifications of systems based on software for a specialized public and non-specialist;

### **Smart Card Medical appointment application,** (Experimental System) (2010)

This project has as objective the development of a Java Card application with the support of formal specification in JML, which is used to correctly development an application. The application is to be held in a Smart Card with the purpose of managing the medical history as well as the medical appointments of the card holder. This project is integrated in the master thesis work and it is being developed by me.

### **Multimedia application for Cultural Heritage,** (Multimedia Application) (2009)

For this project, my team and I developed a multimedia application for the promotion and dissemination of the cultural heritage (of historical sites, museums, archaeological parks and investigation). For this project we have applied our knowledge about synchronization of different medias (animation, videos, sound, text, images). We worked with SMIL language for describing the media document, and Flash for the introduction animation movie. This project was developed for the Multimedia Systems course.

### **A social network for photo galleries,** (Website) (2008)

In this project our challenge was to apply the Model View Controller architectural pattern, where we used PHP to program the controller, SQL to manage the database, HTML for presentation and CSS for the styles. This work is about a photo gallery where people can comment photos in the gallery and rate them, each person can upload images and create albums to organize them.

### **User Interface design of a Video Conference System,** (conceptual interface design) (2008)

In this project we created a simple interface, easy to use for a first time user, using the techniques of usability learned in Human Centred Software Engineering. The process of designing such an interface resulted in the creation of an activity model, a user profile map, task cases, a conceptual architecture, a detailed system architecture, abstract prototypes, detailed visual design, and a hi-fi prototype.

**Social Network for the alumni Mathematics and Engineering Department at the University of Madeira,** (Website) (2008)

For this project we followed the process of requirements, design and implementation where we used the design patterns Model View Controller and Iterator. This application was created as way to alumni people keep connected with the university. Our team was organized into smaller ones to make the requirements specifications/design and implementation/verification.

**Prototype of an Interface usability checker,** (Prototype) (2007)

This project was about developing a user interface, using the principles of usability. This functional interface prototype is for an application used to evaluate the usability of interface screenshots mark usability errors on them. The objective of this project was to develop an interface prototype that somewhat was functional, simple and efficient to use by applying usability principles. This project was developed for the Human-Computer Interaction course.

## Computer Skills

- Web designing/Database languages: HTML, PHP, SQL, ActionScript and JavaScript
- Programming: Java/Java Card, C/C++, Scheme
- Formal Specification: JML (Java Modelling Language)
- Software Modelling language: UML (Unified Modelling Language)

## Experience

### School

2002 - Accepted in Software and Computer Engineering (LEIC - TagusPark) - *Instituto Superior Técnico, Portugal*

2002 - Finished High School at *Escola Básica e Secundária Gonçalves Zarco*

2001 - Gained the regional access to the National Physics Olympics, being one of the 3 selected.

1998- Gained the regional access to the National Physics Olympics, I and my group were selected. Finished at 3<sup>rd</sup> in National (Group of 3 elements).

### Sports

Currently - Playing in *União da Madeira*

2004-2008 - Played basketball for *Clube Amigos do Basquete*

2002-2004 - Played for *Clube Atlético de Queluz*, National Champion in 2003

1996-2002 - Played for basketball for *Clube Amigos do Basquete (CAB Madeira)*, team captain since 1998 until 2002

Helped on organization of basketball tournaments, inclusive as a tour guide of national and international teams.

### Membership

2008 - Member of Couch Surfing

### Interests

- Beach (scuba diving and swimming)
- Nature and animals
- Movies and Series
- Music

- Travelling
- Family and Friends
- Sports (specially football and basketball)
- New technology and science subjects
- Photography