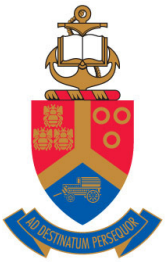

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Project Tender

Project:
Biometric Access System (COSBAS)

Client: Department of Computer Science

Team: <undecidables>

Elzahn Botha *13033922*
Jason Richard Evans *13032608*
Renette Ros *13007557*
Szymon Ziolkowski *12007367*
Tienie Pritchard *12056741*
Vivian Venter *13238435*

Department of Computer Science, University of Pretoria

Date: April 29, 2015

Contents

1 The Team

1.1 Elzahn Botha

1.1.1 Interests

- Video Games
- Game development
- Programming
- Anime

1.1.2 Technical Skills

- I have already been exposed to Java and been working with it for about a year now

1.1.3 Past Experience

- I have experience in writing programs and systems in Java

1.1.4 Non-Technical Strengths

- Hard and dedicated worker
- Always ready to learn new technologies and languages
- Functions best under pressure

1.1.5 Why I want to do this project

This project seemed like it would be a rather interesting project to do as well as the fact that it would be great exposure to a whole new side of IT that I have not yet had the privilege of delving into. I believe that by doing this project I will get valuable exposure that can later help in other projects that I might attempt. This project also seems like it would be a good challenge since I am more comfortable with smaller projects and systems and by doing a larger project such as this it will help me broaden my range of capabilities. Lastly due to the size of the project and the strict time line the pressure will be greatly increased helping me to work at my best without losing interest with the project.

1.2 Jason Richard Evans

1.2.1 Interests

stuff

1.2.2 Technical Skills

stuff

1.2.3 Past Experience

stuff

1.2.4 Non-Technical Strengths

stuff

1.2.5 Why I want to do this project

stuff

1.3 Renette Ros

1.3.1 Interests

stuff

1.3.2 Technical Skills

stuff

1.3.3 Past Experience

stuff

1.3.4 Non-Technical Strengths

stuff

1.3.5 Why I want to do this project

stuff

1.4 Szymon Ziolkowski

1.4.1 Interests

stuff

1.4.2 Technical Skills

stuff

1.4.3 Past Experience

stuff

1.4.4 Non-Technical Strengths

stuff

1.4.5 Why I want to do this project

stuff
    stuff
stuff
stuff

1.5 Vivian Laura-Lee Venter

1.5.1 Interests

- Computer Games
    - First Person Shooter
    - Sport/Soccer
    - Strategic
- Music
- Watching Rugby And Football
- Movies:
    - Romantic
    - Thriller and Horror
    - Comedy
- Programming

1.5.2 Technical Skills

stuff

1.5.3 Past Experience

- None specific to this project

1.5.4 Non-Technical Strengths

- Hard-Worker
- Dedicated to my studies and work
- Leader when I need to be

1.5.5 Why I want to do this project

This project is something I have never done before. I am extermely interested in the biometrics ascpect of this project. I wanted to do a project where I could learn new, interesting and relevant things. Altought this project will be a huge challenge I am willing to dedicate myself and work hard to succeed.

2 Project Execution

2.1 Development Methodology

Our team will be using the **agile software development methodology**. The agile manifesto states that we find value in the following four points:

- **Individuals and interactions** over processes and tools.
- **Working software** over comprehensive documentation.
- **Customer collaboration** over contract negotiation.
- **Responding to change** over following a plan.

Although we find value in the items on the right, we value the items on the left, emphesised in bold, even more.
In agile development, the testing phase, which is usually separate from development in other methodologies such as Waterfall, runs concurrently with development. This increases the *quality* of the product and means that at any point in the development phase there will be a *working model* available with new features and functionality being added only after they pass vigorous testing.
The agile methodology has a proven low project schedule risk and the ability to respond to change, from the client or development team, quickly.

2.2 Informing the Client

Our team will have an active, regularly updated, wiki site and the gitHub Issues and Milestones to inform the client on the status of the product, features integrated into the working model and any other information deemed important by the team. We will also ensure to attend an annual two-weekly meeting with the client to give feedback on the product as well as getting new suggestions from the client on possible changes and improvements.

2.3 Initail Ideas on Solving Some Technical Challenges

With this project we will be focusing on facial recognition as an authentication service, although we will be developing the product in a highly pluggable manner such that other features like fingerprint scanning will also be supported. The use of third-party APIs will be used for extracting valuable information from images to enable facial recognition.

Multiple quotes for hardware needed will be gathered, primarily from UP vendors, to get the most cost-effective and high quality hardware for the system. A proposed budget and cost of project will be given to the client for approval after all quotes have been scrutinised.

2.4 Technologies We Aim To Use

A java based server will be used in conjunction with the OpenCV library interface. This decision was made based on the availability of third-party APIs and the ability to attach security certificates. A highly responsive web-base client-side javascript application will also be used as it is not OS dependant, looks and feels like an independent application and can work on both mobile and desktop environments. For calendar functionality mentioned in the functional requirements, we aim to use the Google Calendar API for a more mainstream and accessible system.

To capture images to process for authentication purposes, we aim to use a small lightweight camera that is linked to a Raspberry Pi computer (or similar computer product). This will simply capture the image and send the information to the server for facial recognition and authentication.

2.5 What Will The Client Receive

On completion of the development cycle the client will reveice the following:

- The complete source code.
- The complete installation scripts.
- An in-depth user manual.
- An in-depth installation manual.
- A small working prototype system to showcase the system.
- All hardware purchased by the client for the system.