



UNIVERSITEIT VAN PRETORIA UNIVERSITY OF PRETORIA YUNIBESITHI YA PRETORIA

PROJECT TENDER

Project: autoPerform

Client: Magna BC

Team: IMPAKD

TEAM MEMBERS

Diana Obo

Kudzai Muranga

Priscilla Madigoe

Sandile Khumalo

DEPARTMENT OF COMPUTER SCIENCE, UNIVERSITY OF PRETORIA

DATE: 2 MAY 2016



1 Meet the Team Members

Priscilla Madigoe



• Interests

My interests include Computer Programming, Electronics, Computer Graphics, Robotics, travelling, photography, Anime, music, sports and reading novels.

• Technical Skills

- Computer Programming with sound knowledge of Java, C/C++, MatLab, Assembler, WebGL and Web-related programming languages.
- Complex Problem-Solving using scientific and mathematical principles.
- System Analysis to determine how a computer software should behave in set conditions.
- Quality Control Analysis to evaluate the performance and quality of computer software.

• Past Experience

The Software Engineering module had a preparatory project called the Mini Project that was created to give students a real-world experience of software development. I took part in the project and I have learnt the process of software development, team work and different technologies used to develop computer software.

• Non-Technical Skills

My non-technical skills include critical thinking, reading comprehension, writing, effective listening, social perceptiveness and active learning.

- **Reason for Interest in the Project**

This project will give me an opportunity to use my knowledge gained in the Artificial Intelligence course to create intelligent algorithms for data collection, analysis and processing.

Diana Obo



• Interests

My interests are travelling, game development, Web development and Anime. I also enjoy learning about new technologies and watching a lot of discovery channels and documentaries.

• Technical Skills

- I have sound knowledge of Java, C++, HTML, CSS, Javascript, C# and MatLab
- Mobile development (Android Studio)
- 3DS MAX.
- Ember.js and Handlebar.js

• Past Experience

- I participated in this year's Standard Bank IT Challenge.
- I did an internship at a small company named Lepsta where I did Web development.

• Non-Technical Skills

- Willingness to learn
- Team player
- Organised
- Diligent
- Reliable

• Reason for Interest in the Project

I feel this project will challenge me as a programmer and enable me to use all my knowledge that I have acquired as a computer programming student at The University of Pretoria and gain new programming skills.

Kudzai Muranga



- **Interests**

I am an avid reader. I love fantasy novels the most. I like to keep myself up to date with the current affairs of the world. I am also interested in learning anything new that concerns science, technology and business.

- **Technical Skills**

- I have sound knowledge of Java, C++, HTML, CSS, Javascript, C# and mobile development
- Artificial Intelligence experience
- Business Management knowledge
- Project Management

- **Past Experience**

- I have participated in the Standard Bank IT Challenge.
- Invited to the Hello Group Open Day where I participated in a coding challenge using Java.

- **Non-Technical Skills**

- I am interested and open to learning new things
- Disciplined
- Organised
- Critical Thinking

- **Reason for Interest in the Project**

I am interested in this project because I feel that it would allow me to use my programming abilities extensively and teach me new and exciting skills.

Sandile Khumalo



- **Interests**

My interest are coding, reading on new and exciting technologies and watching and reading about football. I also enjoy weightlifting.

- **Technical Skills**

- I am comfortable and have experience coding in these languages; C++, Java, C#, PHP, HTML, JavaScript and Bash. I also have done 64 bit assembler language and I have experience in MINIX.

- **Past Experience**

I have done a project in my software development class that is similar. It incorporates most of the technologies and frameworks used in the work place when developing big projects.

- **Non-Technical Skills**

I am a hard working student. I am dedicated and I believe if there is a will, the is a way. This is especially true as a developer because most of the solutions are there and someone has done it before. It's a matter of good research and good understanding of the task at hand. I am willing to learn from every experience.

- **Reason for Interest in the Project**

I like the technical part of this project. I'm looking forward to connecting different systems, especially where it incoparates everyday activities like swiping at the gates. I think this is a really good skill to have.

2 Project Execution

• Development Methodology

For this project, the following development methodology will be used:

- Name:

Scrum

- What is Scrum?

Scrum is a lightweight management framework with broad applicability for managing & controlling iterative & incremental projects of all types (Takeuchi & Nonaka, 1999).

- Why did we choose to use it?

Because of all the potential additions that might occur at the different stages of development for this project, we have decided that Scrum is the best suited development methodology to use.

• Keeping Magna BC Informed

To keep the Magna BC informed about the project, we are going to use the following technologies and strategies:

- During the client meetings where we are going to discuss all aspects of the project.
- Send email to set up appointments.
- Use an application called Slack for general queries and updates.

• Ideas to Solve Technical Problems for autoPerform

1. The data from all information sources should be sent to at the server in order to have it processed uniformly at a single point.
2. The higher level performance areas can be specified as units of time. For example they could measure a workers performance over a month, year or longer.

- **Possible Technologies to be Used**

We are planning on using the following technologies for the project:

- Version Control: Git
- Unit Testing: JUnit Framework
- We will use Maven for dependency management, plugin framework and support for modularization for projects.

- Front-end (Xamarin):

We will use the REST model to send data to and from the mobile application. The specific REST API framework we will use is GgaREST. It is free and easy to use. Xamarin allows us to create both Android and IOS applications using the same C code. itemize

- **What Magna BC will Receive**

Aside from the required deliverables, we will also provide an Android and IOS application for the project.