

Project: Power Cloud

Client: Hanrich Potgieter
Team: Quadcore Productions

Themba Mbhele 14007950

Moses Mayimela 14019702

Hlengekile Jita 14077893

Mpho Baloyi 14133670

Department of Computer Science, University of Pretoria

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1 The Team

1.1 Mpho Baloyi



1.1.1 Interests

- Keeping abreast with new technologies
- Learning and using new technologies to solve problems
- Reading up and doing research on new and old concepts in computer science
- Solving riddles and puzzles
- Helping people through ICT

1.1.2 Technical Skills

- Solid programming skills in java,c++ and python
- Fair amount of knowlegde in assembly programming
- Web development with HTML,JAVASCRIPT,JQUERY,CSS,PHP,AJAX,ANGULARJS

- Interaction Design
- Database design with MySQL
- Understanding of process development
- Unit testing, mocking and dependency Injection

1.1.3 Non-Technical Strengths

- Excellent Communication skills
- Patient
- Creative approach to problem solving
- Pay attention to detail
- Excellent planning skills
- Ability to grasp concepts quickly
- Willness to learn new things
- Ability to interpret and follow technical plans
- Ability to collaborate and work efficiently with other people
- Ability to work under pressure

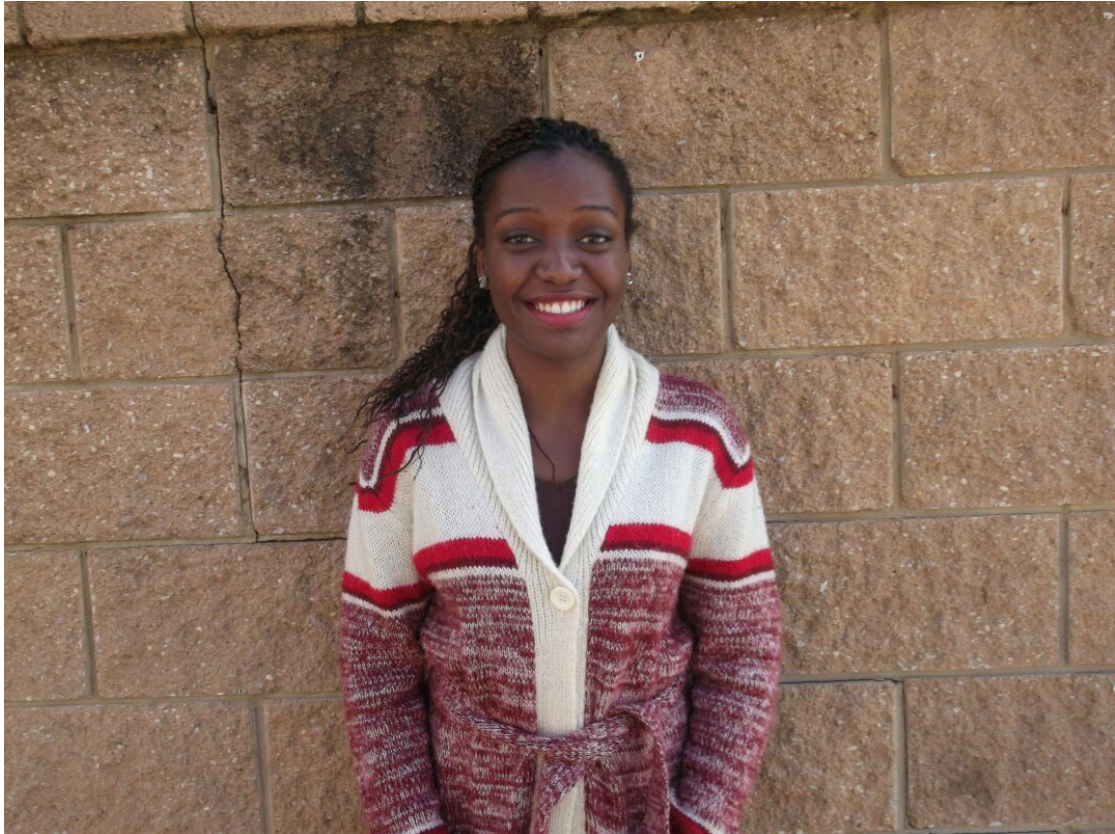
1.1.4 Relevant Past Experiences

Work in the mini-project of the university of Pretoria taught me impoortant skills in software engineering such as unit testing, dependency injection, mocking and working with different technologies. I believe that these skills will be valuable to the development of this project as they apply in every area of software development.

1.1.5 Reasons for wanting to do the project

I want to do this project because it provides me with the opportunity to work with different kinds of technologies and devices and to learn new ways of collecting data.

1.2 Hlengekile Jita



1.2.1 Interests

1.2.2 Technical Skills

- Microsoft Office - Word, Excel, Access, PowerPoint
- Programming - Java, C++, Python, Android
- Database Design - MySQL
- Web Development - XHTML, HTML5, CSS, JavaScript, PHP

1.2.3 Non-Technical Strengths

- Good leader
- Excellent communication skills both verbal and written
- Works well under pressure
- Great at teamwork

- Sociable character that gets along with people
- Organized individual with meticulous planning skills
- Determined

1.2.4 Relevant Past Experiences

1.2.5 Reasons for wanting to do the project

1.3 Moses Mayimela



1.3.1 Interests

- Keeping up to date with the latest technologies e.g Raspberry pi and Intel Edison.
- Reading Tech reviews and comparisons on software and hardware systems such as BLE vs Classic bluetooth.
- Taking part in hackerthons e.g Hack4Water.

1.3.2 Technical Skills

- Programming skills in:
 1. Java.
 2. C for embedded Systems (8 bit and 32 bit) and PC applications.
 3. C++.
 4. C#.
 5. Python.

- knowlegde in assembly programming for embedded (8 bit and 32 bit) and PC applications.
- Web development with:
HTML,CSS, Javascript, NodeJS (Javascript framework),PHP and AJAX
- Database design with MySQL,MSSQL and Postgresql.
- Unit testing,mocking and dependency Injection
- Familiar with GSM/3G Modules AT commands.
- Experience with Linux servers.

1.3.3 Non-Technical Strengths

- I like working with people who love what they do.
- I can lead a team and I also respect a leader.
- I am always willing to learn and expand my horizons.
- I am open minded to people's opinions.

1.3.4 Relevant Past Experiences

- Won, breakthrough developer award for 2015 in the MTN M2M (IoT) competition.
<http://www.mind2machine.co.za>
<https://www.youtube.com/watch?v=HZlryrw1Ois>.
- 2nd place at the Hack4Water Hackathon in April 2016.
<https://twitter.com/hashtag/hack4water>

1.3.5 Reasons for wanting to do the project

This project will provide an opportunity for me to expand my knowledge in programming while providing a fully functional solution for the client. The technologies in this project will also help me learn better software standards. Through this project, I can personally learn how I can make myself better and improve my contribution in a way that matters when working with people.

1.4 Themba Mbhele



1.4.1 Interests

- Gaming
- Artificial Intelligence
- New developments in the Computer Science field
- Basketball

1.4.2 Technical Skills

- Strong programming skills in C++ and Java
- Web Dev - HTML5, CSS, WebGL, JavaScript, PHP

1.4.3 Non-Technical Strengths

- Excellent time management skills
- Dedicated student

- Team player

1.4.4 Reasons for wanting to do the project

I believe that performance analysis is key not only to businesses, but also on a personal level. I want to be a part of this project so that I can learn what are the key performance measures that determine how optimal an individual or team is so that I may know which techniques or tactics should be used to improve efficiency.

2 Project Execution

2.1 Development Methodology

2.2 Communication With Client

To keep the clients informed we are going to use the following means of communication

2.2.1 email

- To inform the client of our progress
- To address any issues or concerns that they client may have
- To acquire information from the client
- To require any resources that the client has to offer for their project,...

2.2.2 Phone calls

This will only be used to address very urgent matters if they arise during the course of the project development however this will only be done with permission from the client and during business hours.

2.2.3 Regular Meetings

These will take place depending on the clients availability and willness. We may discuss the progress of the project,to address any concerns,etc.

2.2.4 GIT

Access to our git repository will be provided to the client,so the client can be able to monitor our progress and have access to the project material.

We are also open to any means of communicatiuon that the client may prefer or suggest.

2.3 Technical Challenges

2.4 Technologies

This section will list the technologies that will be used to implement the system. To implement the back-end of the system, the following technologies will be used:

- NodeJS will be used to implement the server.
- MongoDB will be used to store the data that will be collected.
- C++ will be used to program the hardware

To implement the front-end of the system, the following technologies will be used:

- AngularJS will be used for the web front-end.