UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

PROJECT TENDER

PROJECT

ARCANE ARCADE

CLIENT(S)

TONY VD LINDEN

TEAM: TERABITES

TEAM MEMBERS

Christiaan Nel

Dzilafho Mulugisi

Eltom Tom

Gershom Maluleke

DEPARTMENT OF COMPUTER SCIENCE, UNIVERSITY OF PRETORIA

May 2, 2016

Group Background

- Our team is made up of individuals that are all studying towards different computer degrees. We bring a unique perspective as we are able to give individual ideas on how to solve a problem, and at the same time incorporate other members ideas to form an ideal solution to any problem. Our group understands each other and each person brings something different to the team.

- As individuals we are strong in specific situations, together we are stronger in every situation that will come our way. For this project we have discussed that instead of using a divide and conquer method, we will unite in completing each phase of this project as quickly as possible. This allows us to ensure that we do not forget to implement a point that might have been overlooked as this often occurs when a member works alone. It also guarantees that once a phase is completed we do not move backwards only forward.

- We are all excited and prepared to work hard and well on this project and we believe that you will be satisfied with the outcome. We are more than prepared to research and learn about the fields we currently lack. We would like to do this project because it is a unique and interesting project that would allow us to expand our skill set and challenge us in a way that has not been done before.

Team Members

Name: Christiaan Nel

Email: u14029368@tuks.co.za

Phone: 0728359073

Field: BSc IT

Interests

- Solving problems through programming
- Gaming

Technical skills

- Programming: C, C++, C#, Java
- Web development: JavaScript, PHP, SQL, HTML, CSS
- Good at mathematics

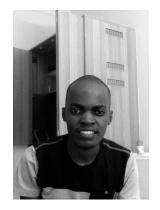## Past experience which might be relevant for the project

- COS 301 Mini project which gave me some experience in how version control systems and automated build systems work, as well as how different teams working on different components can collaborate to work on a single project.

Non-technical strengths

- Fast learner
- I can work hard on solving a problem

What makes you want to do the project

- It's an interesting idea
- It looks fun

Name: Dzilafho Mulugisi

Email: u13071603@tuks.co.za

Phone: 0798056530

Field: BSc Computer Science

INTERESTS

- Automotive Journalism

- Web Technology

- Building Computers

- Self learning

- Socializing

TECHNICAL SKILLS

- Fixing Computers

- Java, C++, C, Intel Assembly and Web Programming

- Fault Detection

- Operating Systems

- Databases

Past experience which might be relevant for the project

- The UP Department of Computer Science recently prepared us for effective team work. I worked in a mini project were in we had to deal with various constrains in groups. The challenges included differences in level of knowledge, interest, personalities and different types of pressures including time amongst others. From this I learnt how to work when under pressure and stepping out of my comfort zone and work with people whom I did not know.

- I have attended numerous workshops by Studietrust in which we were exposed to challenges and had to work in groups to resolve the provided problems. In order to solve the problems we had to combine the best of each group member. I can now effectively work well in groups even when the personalities of the group members are opposites.

Non-technical strengths

- Team Work

- Quick learning

- Leadership and Planning

- Effective listening and discussion

- Future Visualization

What makes you want to do the project

- As a young adult I am soon to be exposed to the world of properties. I will have to find a place of my own soon when I begin working and have to be fully responsible for myself. In order to effectively spend and manage money I need to know about risks and returns of property investment.

- The project is very interesting because property investment is something I have no experience with but I am very interested in. The project arouses my curiosity and I find it intriguing to learn about it.

Name: Elton Tom

Email: u13325095@tuks.co.za

Phone: 074 902 1879

Field: BSc Computer Science

INTERESTS

- Solving problems

- Web programming

- App development

- Business process management

TECHNICAL SKILLS

- C++ and Java skills

- Mathematical literacy and Solving problems

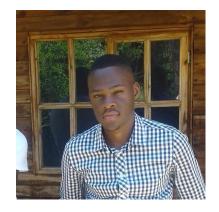- Front-end (HTML, CSS, JavaScript/JQuery) and back-end (PHP, MySql) development skills

Past experience which might be relevant for the project

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Non-technical strengths

- Working under pressure
- Working within a group
- Clear and concise communication
- Intellectual curiosity

What makes you want to do the project

- With the skills that I have acquired throughout my tertiary years, I am confident that this project suits my skill set, but also it is the challenge of this project that I look foward to as it will bring a lot of experience on a personal level. With this being said.

Name: Gershom Maluleke

Email: u13229908@tuks.co.za

Phone: 0846440171

Field: BSc Computer Science

Interests

- Programming(Application, Game and Web development)

- Technology and Gaming

- Travelling, hiking, Soccer, volunteering, Boxing, Cricket

Technical skills

- Languages: C, C++, Java, Python, Delphi, SQL, HTML, JavaScript, PHP, AJAX, JSON, CSS3 Test Driven Development (TDD), Teamwork

- Tools: JBuilder, Dreamweaver, Rational Rose, UltraEdit, BorlandC++Builder, Oracle SQL*Plus

- Operating systems: Windows, Linux, Mac OS X.

- Graphic design: Adobe Photoshop, Adobe Illustrator, Blender, 3DMAX, MAYA

Past experience which might be relevant for the project

- We recently did a Mini Project where I was part of the team that was supposed to implement the backend functionality. I learned a lot of technologies that will be usefull when doing this project, such as testing frameworks like Spring, building tools like Maven. We mostly used Java to implement and annotate entites for the mini project which were then persisted to the database using PostgreSQL, so I believe I know more than enough technologies to be able to finish this project with ease.

Non-technical strengths

- Willingness to research

- Teamwork mentality

- Ability to handle failure

- Ablity to plan

- Problem solving skills

What makes you want to do the project

- I am eager to learn and stay up to date with new innovations and IT related products. I am a confidant, energetic young person, seeking an opportunity to expand my horizons. I dont mind putting in the extra effort and time, until the problem is solved, which also makes work under pressure well.I am able to adapt to different environments, and learn to use new technology, programs, and programming languages well. I prefer to start working earlier than leaving it for last minute; however I can work under pressure as well.I am a hardworking and dedicated student who loves a challenge and works well under pressure.

Project execution

Development methodology

- We plan on following the Waterfall (or Traditional) Methodology. This is a sequential development approach, where each phase in the development process is first finished before moving on to the next phase. We feel that this approach would be ideal for this project as the nature of the project is somewhat linear and the whole team's focus should be applied to a specific problem before proceeding with the next challenge.

Keeping the client informed

- The availability of members of BBD's research and development team means we will be able to regularly contact the client and allows for us to schedule regular meetings like weekly where we can talk about the development steps before actually starting with them and also to contact them when we experience difficulties and need clarification.

- Our Git repository will be accessible to so that you can check at your leisure the progress of the development. Alongside the Git repository we will also make use of the wiki page in GitHub to make the checking up easy as this will act as our diary in the development process. The whole group is also available via Slack to have a group chat with the client if desired.

Initial Ideas

- Use of PostgreSQL for our database

- HTML usage for web access

- Using Maven Builds for consistency and effective testing

- Collaborating via Git as a version control system using a Github repository

- Usage of PHP web for browser and database integration or compiling the HTML pages to be served on the server with C# or Java

- Using some structure such as XML which will contain the keywords and map them to their meanings and then just overlay them on the language's skeleton

TECHNOLOGIES

- HTML and JavaScript for the front end functionality for both the browser and game application as this technology can be wrapped to run on a tablet device.

- For backend functionality we intend to use java or Node.JS

- For data persistence we intend to use PostgreSQL

WHAT THE CLIENT WILL RECEIVE AT THE END OF THE PROJECT

- All source code

- Documentation related to the implementation

- Working implementation

- Unit Testing