



UNIVERSITEIT VAN PRETORIA  
UNIVERSITY OF PRETORIA  
YUNIBESITHI YA PRETORIA

## PROJECT TENDER

# Project: Group chat for Linphone

CLIENT: KOBUS COETZEE

## Team: Creativate

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Here's a link to GitHub.

<https://github.com/SpheMalo/COS-301-Main-Project.git>

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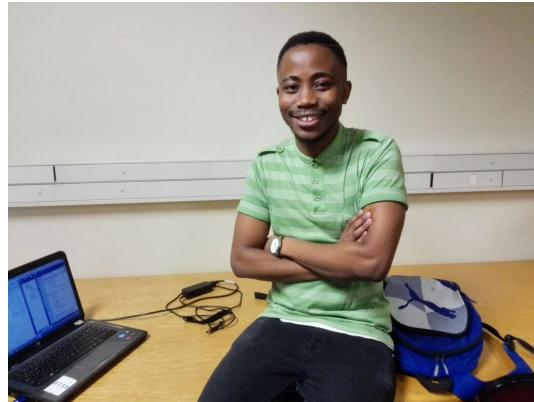
## 1 The Team



# Introducing Creativate

*Where Creativity meets Innovation*

## 1.1 Jimmy Peleha



### 1.1.1 Interests:

- Chess
- Programming
- Travelling
- Gaming
- Socialising
- Programming Olympiads

### 1.1.2 Technical Skills:

- C++
- Java
- Python
- C#
- MySQL
- npm and Node.js
- PHP
- HTML, CSS
- XML
- Bootstrap
- Javascript
- Hardware Maintenance

### **1.1.3 Relevant Past Experience:**

I am a two-time finalist in The Standard Bank IT Challenge. One of which my team placed third representing the University of Pretoria. This makes me confident that I can handle problems, especially in a team, whether I am under pressure or not. Synchronization and punctuality are key.

### **1.1.4 Non-Technical Strengths:**

- Very approachable and charismatic
- Workplace experience
- Diligent
- Problem identification and solution finding
- Forward and straight to the point
- Honest

### **1.1.5 Why I chose this project:**

Apart from the excitement of developing a key part of an actual instant messenger, this project broadens the horizon of the existing IM. Adding features and modifying the user interface makes me feel like part of the family that created it. The waterfall approach also aids in the ongoing research of the project.

## 1.2 Sphelele Malo



### 1.2.1 Interests:

- Sports
- Security, networking and mobile development
- Gaming
- Listening to and the creation of music
- Reading

### 1.2.2 Technical Skills:

- Programming (Web development, C/C++, Java)
- Computer and electronics
- Complex problem solving
- Experienced with emerging technologies

### 1.2.3 Relevant Past Experience:

2 week Internship at MWR Infosecurity - Web application penetration testing and lectures on mobile app security

### 1.2.4 Non-Technical Strengths:

- Teamwork
- Communication skills
- Cultural fit
- Responsibility and initiative

### **1.2.5 Why I chose this project:**

As I listed above I have an interest in mobile app development as well as software security. This project would allow me to merge these two interests and both grow in experience and apply what I already know. I haven't been exposed to alot of mobile app development but I am a fast learner and am willing to fully commit to the success of this project.

### **1.3 Armand Pieterse**



#### **1.3.1 Interests:**

- Computer gaming.
- Programming/Software development
- Mixed Martial Arts
- Electronic Technology

#### **1.3.2 Technical Skills:**

- C++
- Java
- C#
- MySQL
- SQLServer
- MongoDB
- PHP
- HTML,CSS
- XML
- Javascript and JQuery
- Visual Basic

#### **1.3.3 Relevant Past Experience:**

I have experience in Java and C, also I have done a mobile website/app for a 3rd year multimedia project.

#### **1.3.4 Non-Technical Strengths:**

- Hard Worker.
- Friendly and easy to work with.
- Perseverance
- Work well in a team and alone.
- Self-motivated.
- Motivating others.

#### **1.3.5 Why I chose this project:**

I have some knowledge on mobile development, but would definitely like to extend that knowledge a great deal, also I enjoy working on web- and network-based technology. I'm looking forward to be able to work on something like Linphone, I think it will be a great experience.

## 1.4 Kgomotso Sito



### 1.4.1 Interests:

- Soccer
- Web programming
- Gaming
- Listening to music
- Reading

### 1.4.2 Technical Skills:

- Programming
- Monitoring
- Operations and systems analysis
- Mathematics
- Computer and electronics
- Complex problem solving
- Active listening
- Agile methodology
- Experienced with emerging technologies

#### **1.4.3 Relevant Past Experience:**

2013 Present: vacation work with Interfront, designing customs using agile development, and did ICT support.

Experienced C++, Java, computer security, networking, mobile development (windows) and other emerging technologies studied during my course in the university

#### **1.4.4 Non-Technical Strengths:**

- Curiosity
- Teamwork
- Communication skills
- Cultural fit
- Responsibility and initiative

#### **1.4.5 Why I chose this project:**

I enjoy both mobile development and comfortable with java, combining the two, gives me an opportunity to make use of the skills I have learnt and at the same enjoy the experience. This makes this project ideal, not only for me but also the team. My team also shares this interest and/or view, of which is very important going forward (project development)

## **1.5 Ndivhuwo Nthambeleni**



### **1.5.1 Interests:**

- Playing Bass guitar.
- Mobile development
- Soccer
- Gaming

### **1.5.2 Technical Skills:**

- Programming (C++, Java, C#, PHP (Object Oriented), HTML5, JQUERY, Python and MySQL) 1 to 4 years.
- Programming within the MVC, layered and Micro Kernel architectural patterns.
- Android Mobile Application Development 2 year
- Coding within the python Django and node.js frameworks.
- Tutoring up to 1 year
- Working with Linux
- MS Server
- Advanced computer skills.

### **1.5.3 Relevant Past Experience:**

- I have worked with the programming languages mentioned above for 3 years and I am quiet willing to learn new technologies that I do not have experience in.

#### **1.5.4 Non-Technical Strengths:**

- Great Communication skills (verbal and written)
- Can adapt to new working environments easily.
- Good at identifying patterns that lead to problem solving.

#### **1.5.5 Why I chose this project:**

I chose this project because I am looking forward to learning new technologies and enhancing my programming skills as well as applying the knowledge I have to solve problem space for this project.

## 2 Project Execution

### 2.1 Development Methodology

As specified by the client, we will use the Waterfall development methodology for this project. This entails building the project in different phases, beginning with functional and architectural requirements, moving on to implementation and ending with testing.

### 2.2 Contact Time

Since we're not using agile development (which would require much more contact time with the client), we would need to meet with the client every two weeks or at least at the end of every development phase. These times are of course negotiable with the client.

### 2.3 Initial ideas

We plan to make the system comply to 3 quality requirements, namely **Usability**, **Security** and **scalability**. It is important for the system to be easy to use. We aim to design and implement it using Human-Computer Interaction techniques that will allow users to recall how to use the system after initial use, as opposed to reading instructions on how to use the system.

The cryptography will ensure the security aspect. Since users will be exchanging potentially important/private information in their messages it is crucial that they know their communication is safe.

Finally, the system should be scalable. It is important that the system be able to handle the number of users that use the system, as well as accomodate for growth in numbers.

We feel these 3 requirements are core to this system and are crucial to the success of the project. Therefore we will work tirelessly to ensure these qualities hold for the system.

### 2.4 Technologies to be used

The client has been quite explicit in detailing the technologies required for this project. We would just like to add that we're comfortable using Java and C/++ as well as Eclipse (on either Windows or Linux systems). We'll also continue using any technologies the current system already uses, or (if we feel necessary) recommend changes to the client in due time.

### 2.5 Deliverables

All deliverables will comply with those requested in the client specification, namely:

- Source code and build instructions.
- DO-178 deliverables as specified by the supplied Plan for Software Aspects of Certification (PSAC) and Software Development Plan (SDP).
- A demonstration of developed features.
- A pull request to the Linphone maintainer for the inclusion of the developed code into the Linphone project.