1. **Project Name**

Instant messaging aggregator for Android

2. **Project Vision and Objectives**

This project sets out to create a mobile application for Android, that aggregates multiple instant messaging protocols into one application. The objective is to develop an application that can feasibly be used in a practical messaging context. The application must provide an intuitive way for integrating different streams for one contact (e.g. if the contact uses Facebook Messenger and Google Talk, messages from both sources should be integrated into a single stream). The objective is to create an initial prototype application, that will support at least one instant messaging protocol and SMSs.

3. **Project Owner**

Willem van Heerden (email: wvheerden@cs.up.ac.za).

4. **Project Scope**

The project consists of the following components:

- A list of contacts, which must be retrieved from the central contact list of the user.
- A message stream, which shows messages sent back and forth between the user and a selected contact. The stream should include all messages sent in any of the supported protocols. There should be a mechanism to select which protocol the user wishes to use to communicate with the contact (this mechanism should only include protocols that the contact uses, and should default to the most used protocol for that contact).
- Push notifications must be supported for all messages received through the application.
- The supported protocols must be implemented in a way that allows additional future protocols to be provided by means of “plug-ins”. It should be easy to interface new protocols with the existing system.

The following component is specifically excluded from the scope of the project:

- Comprehensive support for a wide range of instant messaging protocols is not required for this prototype.

5. **Architectural Requirements**

The project has the following quality requirements:

- The final application must be very reliable, allowing messages to be sent using any of the supported protocols, without messages being “lost”.
- The project must be very well designed and documented, so that continued development is possible.
- The system must provide performance similar to that which is provided by the native messaging applications for the supported protocols.
- The system should be able to successfully handle volumes of messages (both incoming and archived) similar to those that can be handled by the native messaging applications for the supported protocols. No memory leaks should occur during the app's standard operation.
• A level of security should be maintained, which is similar to that enforced by the native messaging applications for the supported protocols. Messages should be sent using the same encryption as is used by the native protocol being used. Messages should not be recorded outside of the application. It is unnecessary to support encryption of the message archives for this prototype.

The system is not required to interface with any existing systems, except in the sense that third party communication protocols are used. It is intended for execution on a mobile device running the Android operating system.

6. Skills Requirements

A good knowledge of the following skills are all essential requirements that the project team must fulfil:

• A good knowledge of programming in Java.
• Object oriented programming and design patterns.
• Data structures.
• Good GUI design and HCI knowledge.

It will also be an advantage to have some experience with the development of Android applications.

7. Project Deliverables

The following deliverables are required:

• A fully functional application, according to specifications.
• The source and testing program code.
• Documentation generated during development (including requirements, architecture, design, and test plan documents).
• A user manual should be provided in an electronic format, that can be accessed by the user. The manual should be well organised, thorough, and should include examples of the various functions that are available.

8. Intellectual Ownership

The project is a prototype of a final product. Copyright falls the the University of Pretoria. The possibility of making the project available as open source may be considered at a later date. Should the prototype be successful, there is the possibility of developing the project into a commercial application, through the Business Enterprises unit at the University of Pretoria. This possibility will also be considered at a later date.

9. Client Commitments

The client undertakes to provide the following:

• Reference to existing instant messaging applications and aggregators that are available on Google Play, as well as suggestions of desktop open source instant messaging applications that could be helpful during development.
• Between one and two hours of consultation time per week.
• Regular meetings, should they be deemed necessary.
10. **Supporting Documents**

None