**Research**

The first section of the objectives of this project is to perform research. An overview of the results of the research performed is described below. The results of this research will be formally presented and described in more detail in the final project report.

1. Framework Design

Multi-Client Server

Research was made into how a system could be set up to facilitate the communication of data messages between any two users of the system. The result of this research can be found in the design section, where an outline of the system to be created is given.

1. Current Applications

As a result of searching on the Google application marketplace ‘Google Play’, only two different applications currently exist that perform encrypted message communication. These two applications are:

* RSA Cipher Cat by Miasoft
* Cloak SMS Free by Hamish Medlin

Both applications allow the communication of encrypted messages between two users of the application. RSA Cipher Cat utilises the RSA asymmetric encryption scheme whereas Cloak SMS Free is uses the AES symmetric key encryption scheme.

1. Factors that can be used to compare schemes implemented on a mobile device

As the third section of this project is concerned with the analysis and comparison of cryptographic schemes, research was performed to discover which factors impact how successful and useful an encryption scheme on a mobile device is. The discovered factors are:

* Difficulty of techniques required to break encryption
* Energy Consumption/Battery power required
* Operation and Processing Time
* Cryptographic key size
* Mobile data usage
* Application size
* Number/Duration of data connection required