DMS Comm

Project Charter

Project Description

In this project, we want to build an Android app. It could allow users to communicate over different devices and networks. DMS Comm is dedicated for improving the connection between people.

Project Objectives

- Create an Android application which can improve the communication between people over different networks, devices.
- Apply Messaging Service & Bluetooth technologies from DMS classes to have practical experience in Android development.

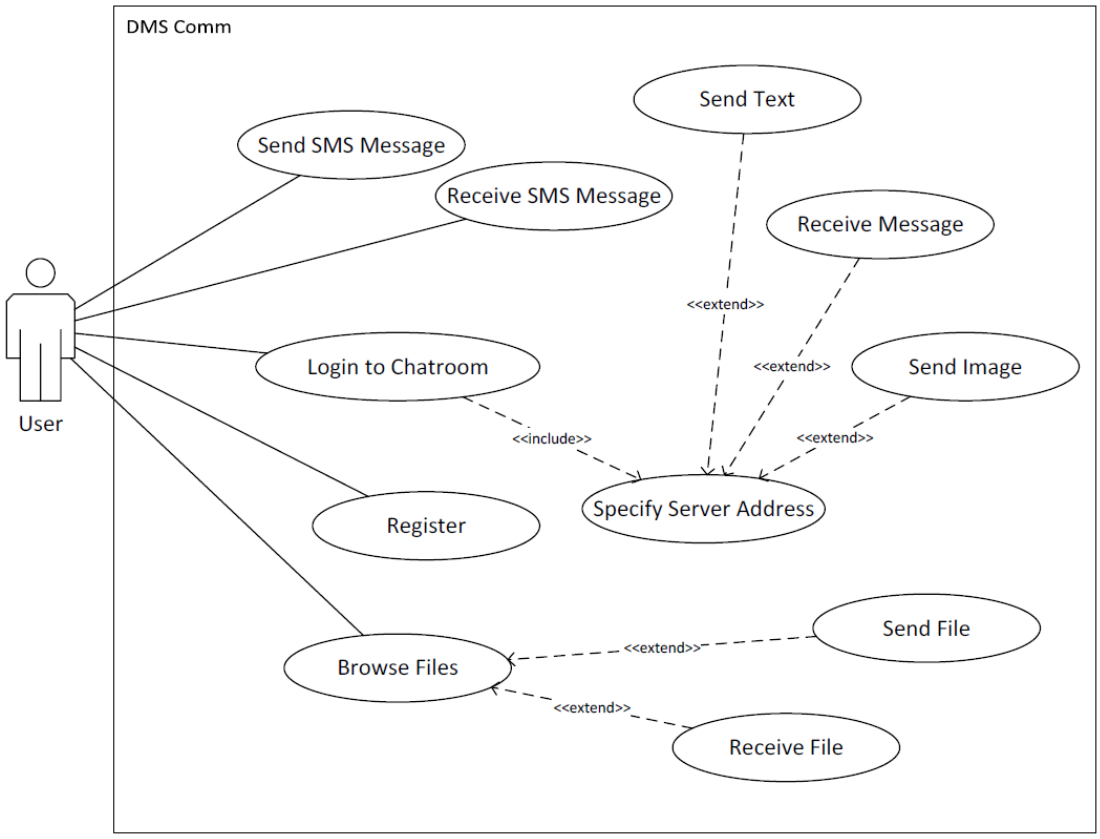
Project Scopes

- DMS Comm can send text messages via Android SMS service
- Users can join in a public chatting room, and have conversations via DMS Comm server with specified port number
- Users can use Android Bluetooth service to provide a service in the local network
- Users can join in a conversation via Bluetooth network

Team Members

Name	Student ID
Caroline Qiu	1300906
Jiajie Ji	1127766
Yue Li	1251124

Use Case Diagram



Rational of Change

Our project initially was designed to encourage people to take walks around near locations with scenery features. During implementation, team soon found difficulties in different areas, and made corresponding changes in order to meet the requirement of Distributed Mobile Systems assignment 2.

Found challenging areas are:

1. Lack of knowledge in AUT networking. Team set up a local server within AUT network; however, team was unable to change port availability on AUT PCs due to the user privileges.
2. The original idea was difficult to achieve. Team planned to examine the usage of GCM Push Notification feature. However, team struggled on server authentication and corresponding compliances.
3. Location-based features would require wider range of connectivity. Local network would largely reduce the features of Location-based service.

Project Implementation

DMS Comm contains 2 projects:

- A Netbeans project contains public chatting room server and PC end client.
- An Android project contains features for SMS sending, Bluetooth hosting, Bluetooth device looking, Bluetooth device connection, and Bluetooth chatting session.

Other Features

- The PC end applied Observer and Obserable pattern to capture the presentation (conversation) update.
- A public chat room for PC clients and Android clients
- Assignment 2 AUT server IP: 156.62.62.18 for chat server connection.

Project Flaws

As a development assignment, DMS Comm involves PC to Mobile, central based system (PC Server hosting with threading), peer-to-peer based system (Bluetooth hosting and connection), and various use of this software. We have identified some flaws below:

- Bluetooth features were tested under Samsung Galaxy S3 I9300 and HTC ONE X. We experienced difficulties in setting HTC One as Bluetooth service provider. From debugging report, HTC One seems missing some drivers.
- For the chat room hosting via PC server, the users must input the correct IP address. Server cannot distinguish if a phone user is left or switching to a different activity. As a result, this can cause impossible to re-join the chatting room unless the mobile application is removed (killed) from Activity stack.

Further Development

DMS Comm can be further enhanced by not only resolving the current issues but also improve the user interface layout, and gesture design, so that Android users can have better using experience with Android phones.

Versions

Date	Details	Participant
17-04-15	First version with SMS and Location-based Services	Caroline, Jiajie & Yue
24-04-15	Revised the detailed plan for the initial proposal	Caroline & Yue
01-05-15	Updated project documentation with SMS and Bluetooth Services	Caroline, Jiajie & Yue
07-05-15	Completed Project Summary and further improvement for future development	Yue