Assignment -1

Advanced Software Engineering

Software Requirement Specification (SRS)

!0/2/2021

Lavanya Sreenivas
MCA B
AJCE

Android Chat Application

CONTENTS

3

INTRODUCTION

Chatting, image, audio and video sharing is possible between two or more people using mobile phones which is common now-a-days. This system enables user to send or receive messages and images with mobile phone and personal computer. This system involves two users where user can send messages, share images using their devices. Both the users must have this application to be installed in their devices in order to use the functionality of this system. For security purpose, system will encrypt and decrypt the images. So images are sent securely through network medium. This system enables the user to send messages from his mobile phone to the user using his personal computer. This system also enables the user to send and receive messages between two handheld devices i.e. mobile phones. This system requires good network connection. User can send or receive messages, images with their mobile phones as well as with their personal computers. This system is a web application in android technology. People can communicate with each other anywhere at any time. People can share their views. This system enables messages to be send between devices having two different operating system. This system is platform independent since this system works on different operating system. User can share their views by sending messages or images. User can feel this application to be visually appealing since it has an effective Graphical User Interface.

1.1Problem Statement

This project is to create a chat application with server and user to enable the users to chat with each other.

To develop an instant messaging solution to enable users to seamlessly communicate with each other.

The project should be very easy to use enabling even a novice person to use it.

1.2 Project Scheduling

This document provides a scalable scheduling tool and associated schedule development, analysis and monitoring methods that can be used by implementing agencies (IA) to prepare, monitor, and report project schedules.

This project is not that complex so there's no need to use very complex scheduling method.

1.3 Business Requirement Documentation

1.3.2 Overview

This Requirement document provides the requirements for Chat application. Both functional and non functional will be documented.

1.3.3 Business Process Affected

The following business process is in scope:

- New members
- Review
- Contacts

1.3.4 Applications

Chat Applications are in scope. Especially in this current scenario due to the pandemic situation, people use online application.

1.3.5 Features

- User Registration: - User must register by filling the registration form.
- User Login: -After registration, User can login with his/her user ID and password.
- Send Messages: - User can send messages in text, image format to other user.
- Encrypt and Decrypt Images:- System encrypt and decrypt images due to security reasons.

1.3.6 Software Requirements:

- Windows XP, Windows 7(ultimate, enterprise)
- SQL
- Visual studio
- Android SDK

1.3.7 Hardware Components:

- Processor – i3
- Hard Disk – 5 GB
- Memory – 1GB RAM
- Android Mobile Phone

2. SOFTWARE REQUIREMENT SPECIFICATION

2.0.1 Purpose

However the purpose of this project is to develop a java chat application. The objective of this process is as follows:

1. To develop an instant messaging solution to enable users to seamlessly communicate with each other.

2. The project should be very easy to use enabling even a novice person to use it.

2.1 Project Scope & Features

1. Broadcasting Chat Server Application is going to be text communication software; it will be able to communicate between two computers using point to point communication.

2. Companies would like to have communication software wherein they can communicate instantly within their organization.

3. The fact that the software uses an internal network setup within the organization makes it very secure from outside attacks.

4. Due to Covid-19 online conversations and usages are hiking.

2.2 Project Summary

The similar application can be found on the project either Android Market or in playstore. This project will focus on providing high quality usability experience to users mainly following Google user interface guideline. Experiments in the application will be tested on the test group to improve the usability quality based on the user's feedback.

2.3 Functional and Non Functional Requirements

2.3.1 Functional Requirements

    1. User Registration

    User must be able to register for the application through a valid phone number. On installing the application, user must be prompted to register their phone number. If user skips this step, application should close. The user's phone number will be the unique identifier of his/her account on Chat Application.

    2. Adding New Contact

    The application should detect all the contact from the user's phone book. If any of the contacts have ser accounts with Chat Application, those contact must automatically be added to the users contact list on chat application. If any of the contact has not yet registered on this application, user should be provided with an invite option that sends those contacts a regular text message asking them to join Chat Application on Google Playstore.

    3. Send Message

    User should be able to send instant message to any contact on his/her Chat Application contact list. User should be notified when message is successfully delivered to the recipient by displaying a tick sign next to the message sent.

    4. Broadcast Message

    User should be able to create groups of contacts. User should be able to broadcast messages to these groups.

    5. Message Status

    User must be able to get the information on whether the message sent has been read by the intended recipient. If recipient reads the message, 2 ticks must appear next to the message read.

2.3.2 Non Functional Requirements

    1. Privacy

    Messages shared between users should be encrypted to maintain privacy.

    2. Robustness

    In case user device crashes, a backup of their chat history must be stored can remote servers to enable recoverability.

    3. Performance

    Application must be light weight and must send messages instantly.
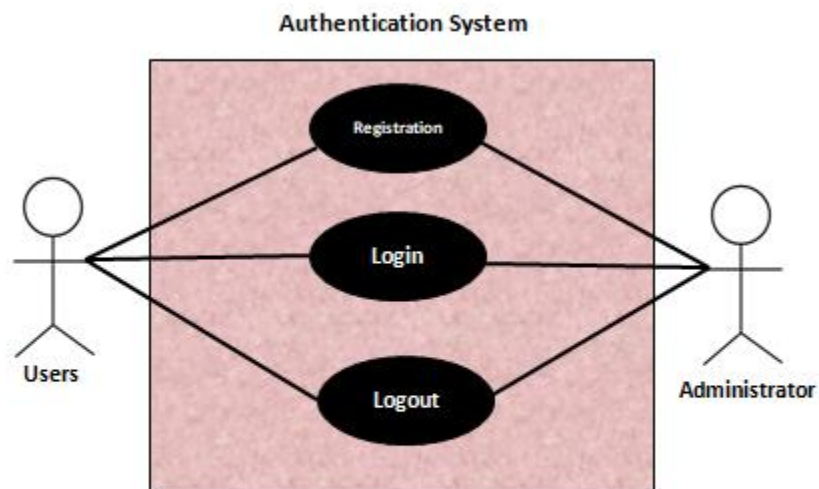
2.4 Use Case Table

Lavanya Sreenivas

| Level0	Level1	Level2		Actor
Chat Application	Authentication System	Register Login Logout		User Admin
	Contacts Form	Friend List Find Friend Add Friend Remove Friend Block Friend		User
	Chat Form	Send Message Group Chat		User
	Maintenance	User's Profile Database		Admin
	Monitor	Check History Feedback		Admin User

2.5 Use Case Diagram
2.6 Authentication System

Authentication System

Registration

Login

Logout

Users

Administrator

2.6.1 Contact Form

Contacts Form
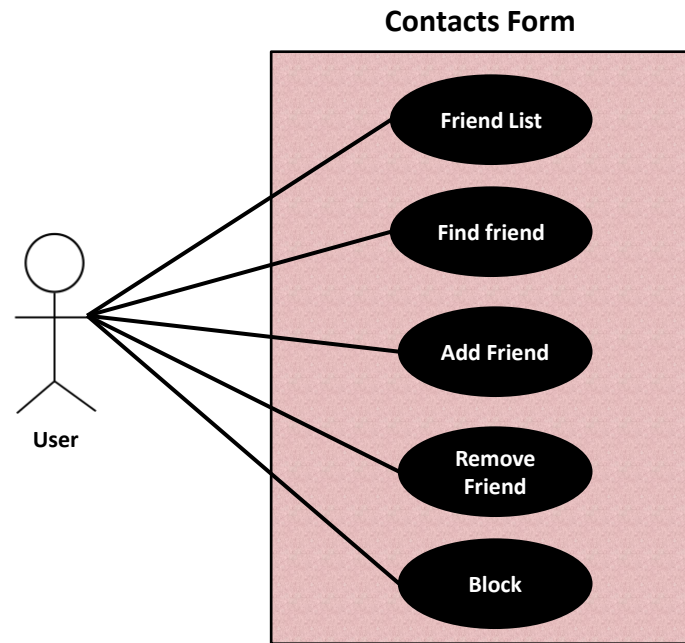
2.6.2 Chat Form

Chat Form

2.6.3 Maintenance

Maintenance

User's Profile

Database

Administrator

2.6.4 Monitor

Monitor

Check History

Feedback
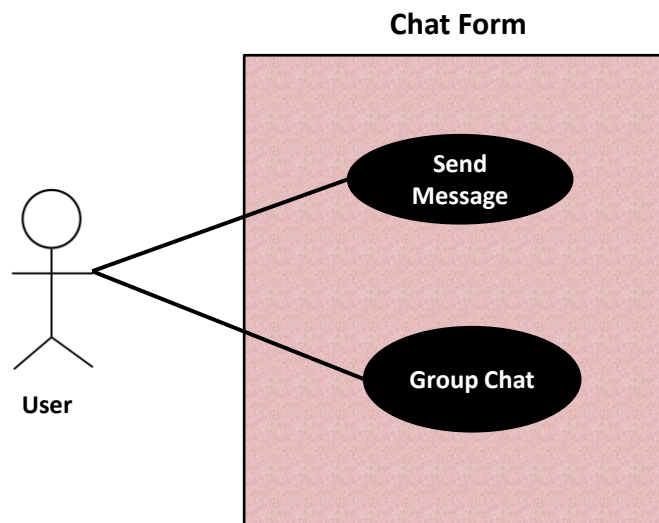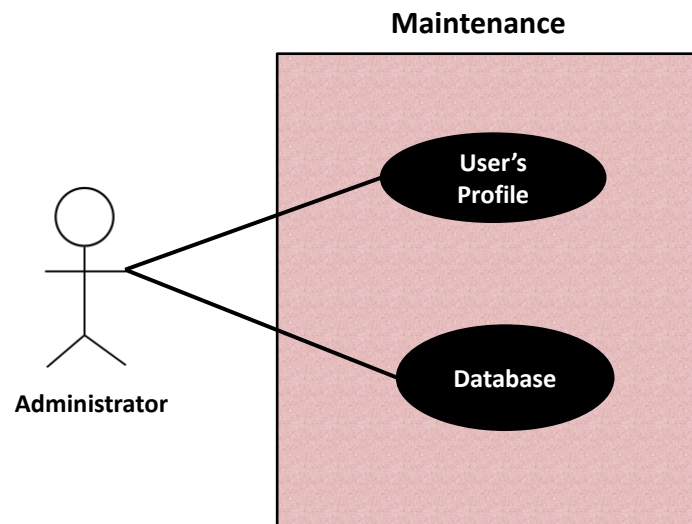
User

Administrator
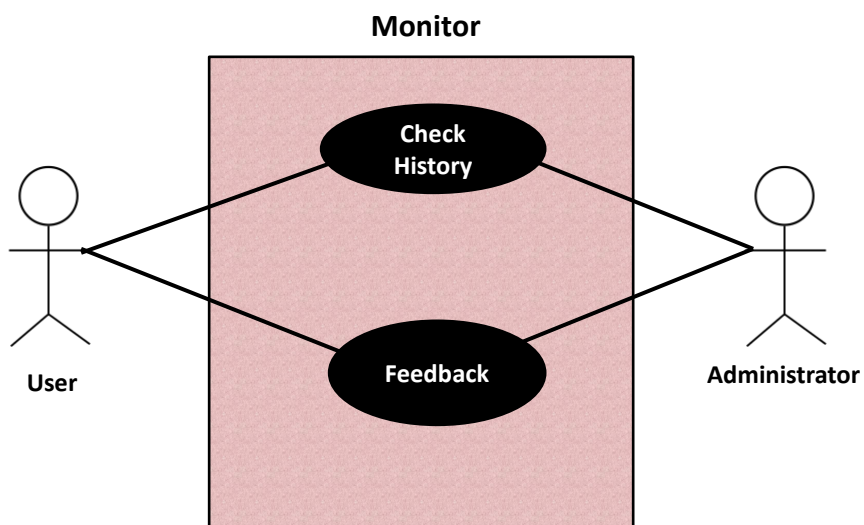
2.7 Methodology

2.7.1 Project Summary

The user interacts with the tool using GUI. The GUI Operates in two forms. Contact Form and Chat Forms. The contact forms contain list of all friends and the chat from will be used to chat with fiends.

2.8 Project Deliverable's

1. An Android app
2. Documentation
3. Readme File

2.9 Hardware Interface

1. Android Phone
2. 128 MB minimum RAM Required
3. Internet or LAN Connections
4. Processor with Speed of 500 MHz

2.10 Constraints and Limitations

The system must be connected with internet. User only can use or install this app on android devices. The app doesn't have video and audio calling system and founding it to still get updated soon.

3. PROJECT RISK MANAGEMENT

3.1 Identification
Risk identification involves determining which risks or threats are likely to affect the project. It involves the identification of risks or threats that may lead to project outputs being delayed or reduced, outlays being advances or increased and/or output quality being reduced or compromised. One of the most difficult things is ensuring that all major risks are identified.

3.2 Analysis and evaluation
After identifying risks we should analyze them by determining how they might affect the success of the project. Risks should be analyzed and evaluated in terms of probability of occurrence and seriousness of impact if they do occur.

4. IMPLEMENTATION AND TESTING

4.1 Tools & Technology
Our technical team master a comprehensive set of tools and technologies during project development.

Programming languages: Java, PHP
IDE: Android studio
Version controlling: Ms Visual Source Safe, Git/GitHub
Databases: Oracle, MS SQL Server, MySQL, PostgresSQL
Application Web Servers: Apache Tomcat, Oracle Application Server
Testing: Installation testing, Functional testing, Load testing etc.

5. USER MANUAL

5.1 Processes
5.2 Registration for new Member
Open chat application and click on Sign Up. Then this window will pop up. Then you have to submit valid info to successfully register.

5.3 Login Features
Open Chat App then click on Log In Button. Then submit valid info to access your account.

5.4 Private Chatting
You can chat with our friends, relatives or any person in private.

5.5 Adding Friend
Open Chat App then click on Add plus button at top and add a person in your contact list. If a person doesn't exist in your contact, add them. And Invite them to install the app.

5.6 Chat Forms
After Login you will automatically redirected to Chat Form.

5.7 Block Friend
Go to setting Edit Friend List then you will see Block Button underneath the layout.

5.8 Settings
Open Chat App then click on Settings at bottom. Open Settings to change background image, profile picture etc..

6. CONCLUSION

There are several android apps which serve similar purpose as this project, but those apps are rather difficult to use and will provide confusing interfaces. A positive first impression is essential in human relationship as well as in human computer interaction. This project hopes to develop a chat service Android app with high quality user interface.

In future I would like to extend features such as:

 1. File Transfer
2. Voice message
3. Video Message
4. Audio Call
5. Video Call
6. Group Call

7. TROUBLESHOOTING

Problem	Cause	Solution
Cannot Register	1. The Required information field was not filled out entirely. 2. User name invalid or already exists. 3. Password Too short.	Enter all information in the required information field. Select a user name that is unique, something besides your name. Choose a password at least.
Can't Add Friend	Maybe your device getting wrong reference.	Restart or reinstall chat app.

8. TECHNICAL SUPPORT

For technical support contact me, lavanyasreenivas2022b@mca.ajce.in

9. REFERENCES

1. http://www/fit.vutbr.cz/study/courses/ITS/public/ieee829.html
2. http://techwhirl.com/user-guide-template/
3. https://www.onetonline.org/search/t2/examples/43231507?s=management%20software
4. http://www.projectinsight.net/project-management-basics/project-management-schedule