Skype - software requirement specification srs

Software Engineering (Lovely Professional University)

Software Requirements Specification

For

SKYPE

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Table of Contents

1.Introduction

1.1   Purpose

The purpose of this document is to present a detailed description of **Skype**.

1.2   Document Conventions: font: TNR 12

1.3   Intended Audience and Reading Suggestions

The document is intended for all the stakeholders customer and the developer **(designers, testers, maintainers)**. The reader is assumed to have basic knowledge of video calling and chatting services. Knowledge and understanding of UML diagrams is also required.

1.4   Definitions

- **User**

  Someone who uses the application for their requirements.

- **Admin/Administrator**

  System administrator who is given specific permission for managing and controlling the system.

- **Stakeholder**

  Any person who has interaction with the system who is not a developer

- **Account**

  Single account for a user from which they can use the facilities of sykpe.

- **Uses**

  Skype can be used in number of ways like instant calling ,video chat ,voice message ,text messaging ,send images and file and screen sharing.

- **Requirements**

  Skype requires the various things before using it .Before using skype you need to have a good internet connections ,for video calling we requires speakers ,microphone camera etc.

  Different operating system requires different requirements.

1.5   Project Scope

Skype was founded in 2003 by Niklas Zennström, from Sweden, and Janus Friis, from Denmark. The **Skype** software was created by Estonians Ahti Heinla, Priit Kasesalu, and Jaan Tallinn. The first public beta version was released on 29 August 2003. Skype offers a number of features based around calling (both free and paid), messaging (including instant, voice and text messaging (SMS)), video chat, and file and screen sharing.

2.   Overall Description

2.1   Product Perspective

Skype is essentially a freemium voice-over-IP service, that allows registered users to communicate online via online video calling, instant messaging, and mobile chat. Though relatively young in the grand scheme of things, the software application is arguably the best method for users to communicate long distance, whether they are looking to conduct multi-party business meetings or merely send short, video messages between friends and family. The software requires no more than an internal or external camera and microphone, often built-in your computer or smartphone, and an active Internet connection. Calls and messages within Skype are free, but those to landline and mobile phones will cost varying amounts depending on the region and accompanying subscription plan. Although some cost more than others, paying for the premium services is typically far cheaper than purchasing a dedicated phone or texting plan on your own.

Mobile Apps

In 2012, the website launched Mobile App for Smartphone users. The skype app was designed for Blackberry, Android ,windows and iPhone devices.

With the launch of mobile Apps and HTML site, more than half of traffic inflow happened through Apps and Mobile sites.

Calling

- Skype to skype call

- Calls to mobile and landline

- Group calls

- Skype numbers

  Video

- One to one

- Group chat

Message

- Emojis and emoticons

- Internet messaging

- Send texts

- Voice message

Sharing

- Send files

- Screen share

- Group screen

- Send contacts

Hardware interface

- 128 MB of RAM required

- Processor

- Internet

- Mouse

- Keyboard

- Camera

- Microphone

2.2 Product Features

The Skype application should work 24 hours. The application identifies a customer by a user Id and a password. It collects information about the user. It then communicates the information provided by the user to the concerned organizations .Now they user can start using the functions of skype by selecting the function such as video call,chatting,messaging etc. the system must handle concurrent applications running with multiple users.The system should be secure from external people.

2.3   User Classes and Characteristics

2.4   <u>Characteristics</u>: There are several users of the Skype:

- **User** are simply members which use application of different purpose.
- **Maintainers** must be experienced network administrators.

2.5   Design and Implementation Constraints

- Login

Validate user

- Validate user.
- Valid username and password

Validate for Wrong user name and password:

- Validate for wrong password.
- If username not correct, prompt error message, "wrong username"
- If password is wrong , prompt error message, "wrong password"

Users

- Business conferences
- Meeting
- Intercultural exchange
- Marketing
- To connect people socially
- Social media

2.6Assumptions and Dependencies

- Hardware never fails
- Bad internet connection
- User unavailable(offline)

3. Specific Requirements

3.1 Functional Requirements

The functional requirements are organized in two sections First is the hardware and software requirement and second is network.

Functional requirement 1:

Download application of Skype : A user should be able to download the application of skype through either an application store or similar service on the mobile phone. The application should be free to download.

Functional requirement 2:

Profile page - A user should have a profile page. On the profile page a user can edit his/her information, which includes the password, e-mail address and phone number.

Functional requirement 3:

User registration – The user should be able to do the registrations easily. The requirements for registration should be mentioned in an understandable way. Given that a user has downloaded the mobile application, then the user should be able to register through the mobile application. The user must provide user-name, password and e-mail address. The user can choose to provide a regularly used phone number. In order for a user to register on the mobile application of the same.

Functional requirement 4:

User log-in - Given that a user has registered from the mobile app, then the user should be able to log in to the mobile application. The log-in information will be stored on the phone and in the future the user should be logged in automatically.

Functional requirement 5:

Retrieve password - Given that a user has registered, then the user should be able to retrieve his/her password by email.

Functional requirement 6:

Given that a user is logged in to the Skype, then the first page that is shown should be the search page. The user should be able to search for the other users according to his/her requirements.

Functional requirement 7:

After the selection of user to whom you want to do skype with you need to select the type of conversation to want get into that can be video chat,messaging ,file transfer etc.

Functional requirement 8:

Calling

- Skype to skype call
- Calls to mobile and landline
- Group calls
- Skype numbers

Functional requirement 9:

 Video

- One to one
- Group chat

Functional requirement 10:

 Message

- Emojis and emoticons
- Internet messaging
- Send texts
- Voice message

Functional requirement 11:

 Sharing

- Send files
- Screen share
- Group screen
- Send contacts

Functional requirement 12:

If no Internet is available then skype can not work.

4. External Interface Requirements

This section provides a detailed description of all inputs into and outputs from the system. It also gives a description of the hardware, software and communication interfaces and provides basic prototypes of the user interface.

4.1 User Interfaces

A first-time user of the website should see the log-in page when he/she opens the website. If the user is not registered, then he/she should be able to do that on the log-in page. So there should be an option for Sign-Up as well. If the user is not a first-time user, he/she should be able to see the search page directly when the website is opened. Every user should have a profile page where they can edit their e-mail address, phone number and password.

4.2 Hardware Interfaces

The hardware should have following specifications:

- 128 MB of RAM required
- Processor
- Internet
- Mouse
- Keyboard
- Camera
- Microphone

4.3 Software Interfaces

The software interfaces are specific to the target users.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

Prominent Search Feature

Prominent search feature.

The search feature should be prominent and easy to find for the user.
In order to for a user to find the search feature easily.

- Should give good quality image

- Should provide clear quality video calling

Response time

- Quick calling feature.
- The response time should be less..

System dependability

- The fault tolerance of the system.
- If the system loses the connection to the Internet or to the GPS device or the system gets some strange input, the user should be informed.
- Error handling

Security Requirements

Communication Security

Security of the communication between the system and server.
The messages should be encrypted for log-in communications, so others cannot get user-name and password from those messages.
Attempts to get user-name and password through obtained messages on 1000 log-in session during testing.
100% of the Communication Messages in the communication of a log-in session should be encrypted.

Admin Login Account Security
Security of accounts.
If an admin tries to log in to the web portal with a non-existing account then the admin should not be logged in.
The admin should be notified about log-in failure.

6.   Other Requirements

6.1 Data Base

The Skype must be able to use several data formats according to the data formats that are provided by the data bases of different users.

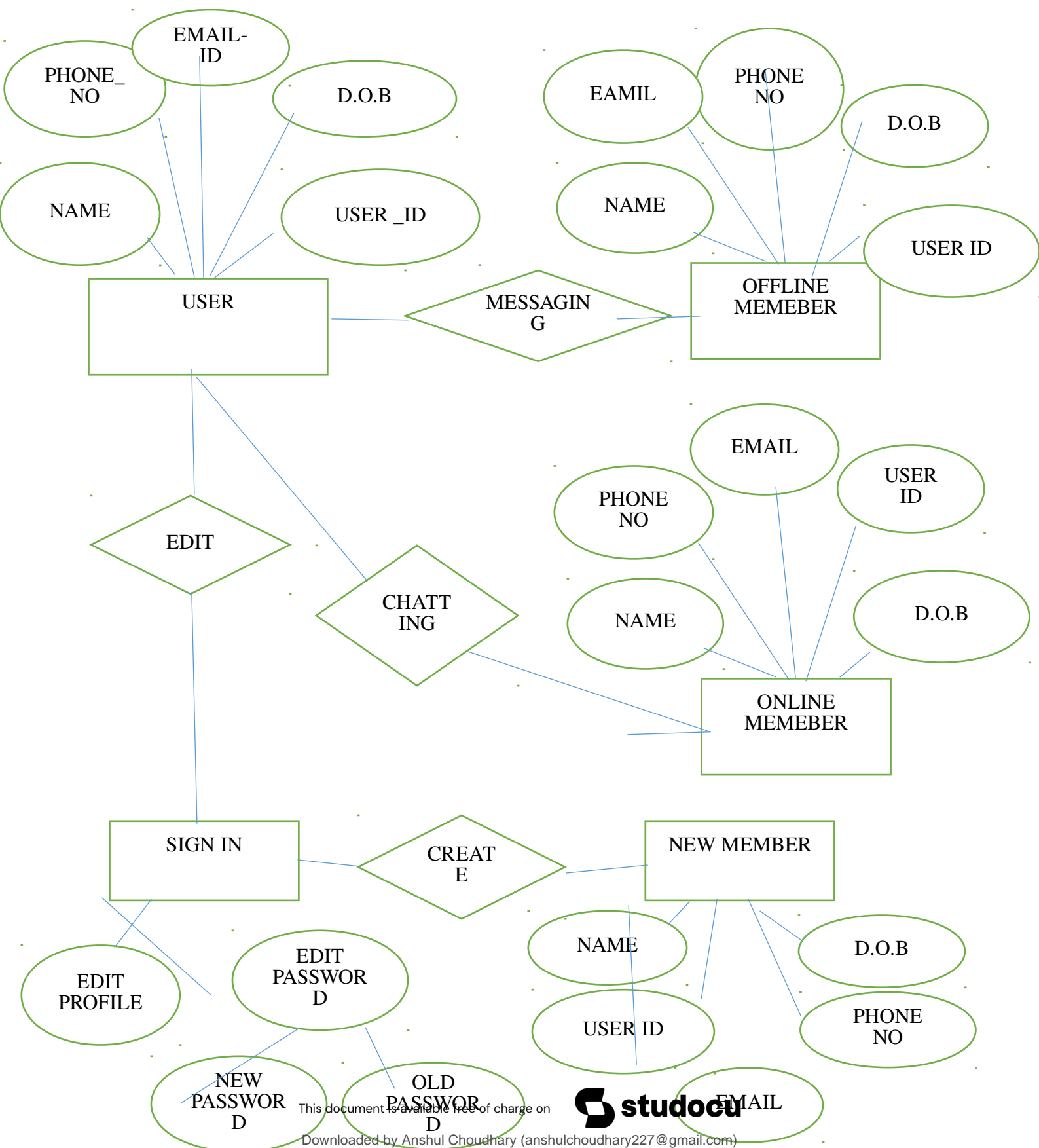### 6.1   Software Quality Attributes

Security.

Performance.

5.4.1 Availability: The network has to be available 24 hours a day.

5.4.2 Security: The skype should provide maximal security .In order to make that much more transparent there are the following requirements:

1. It must be impossible to plug into the network.
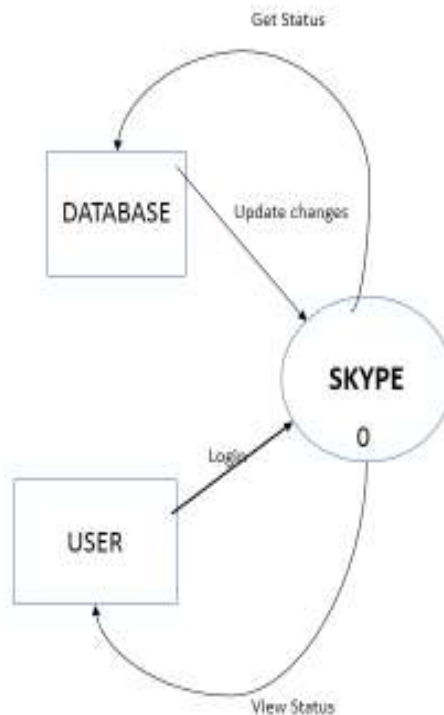
Design

ER DIAGRAM FOR SKYPE

PHONE_ NO

EMAIL- ID

D.O.B

NAME

USER _ID

USER

MESSAGIN G

EAMIL

PHONE NO

D.O.B

NAME

USER ID

OFFLINE MEMEBER

EDIT

CHATT ING

EMAIL

USER ID

PHONE NO

NAME

D.O.B

ONLINE MEMEBER

SIGN IN

CREAT E

NEW MEMBER

EDIT PROFILE

EDIT PASSWOR D

NAME

USER ID

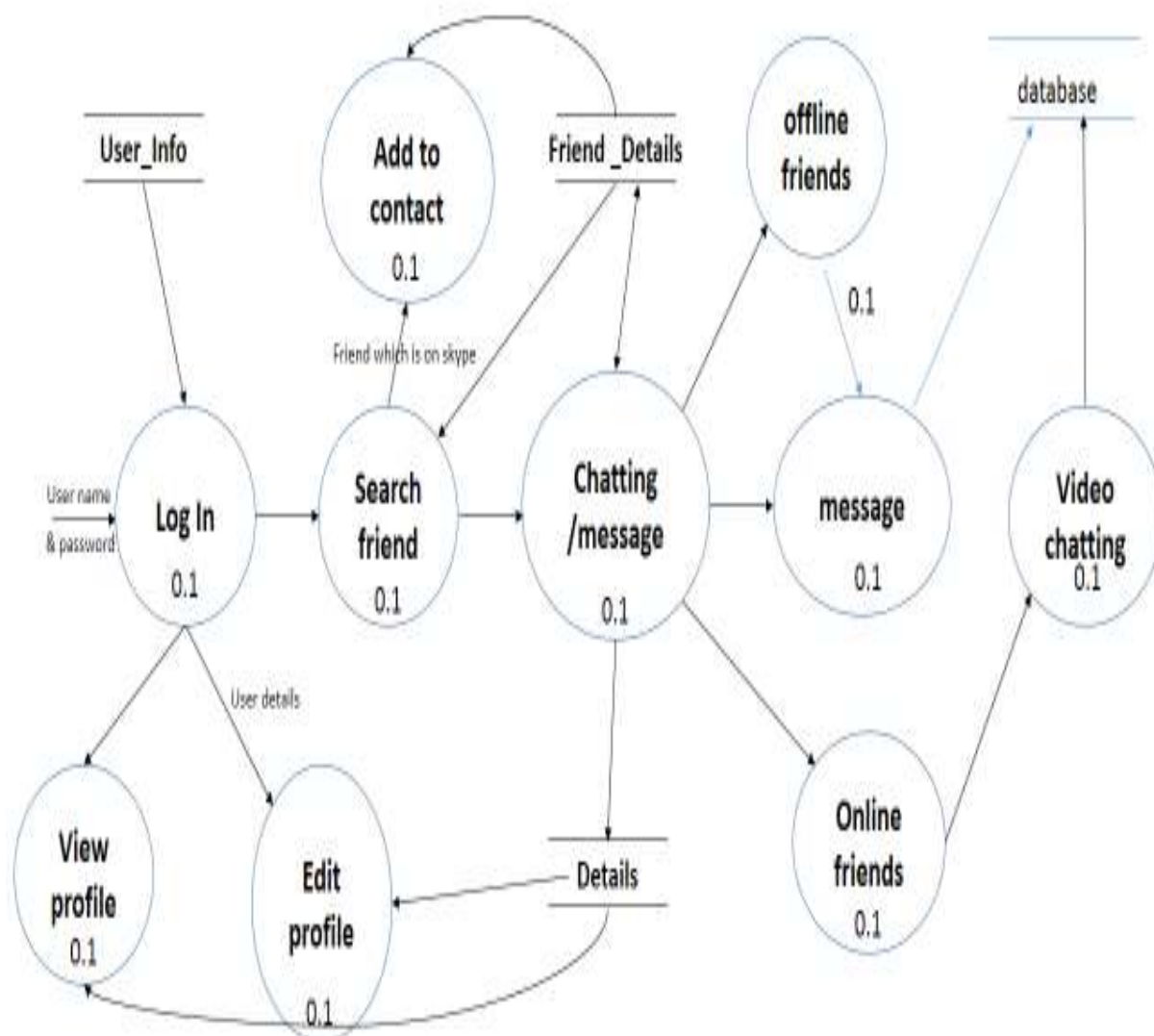D.O.B

PHONE NO

NEW PASSWOR D

OLD PASSWOR D

EMAIL

DATA FLOW DIAGRAM

A data-flow diagram (DFD) is a graphical representation of the "flow" of data through an information system. DFDs can also be used for the visualization of data processing (structured design).

On a DFD, data items flow from an external data source or an internal data store to an internal data store or an external data sink, via an internal process
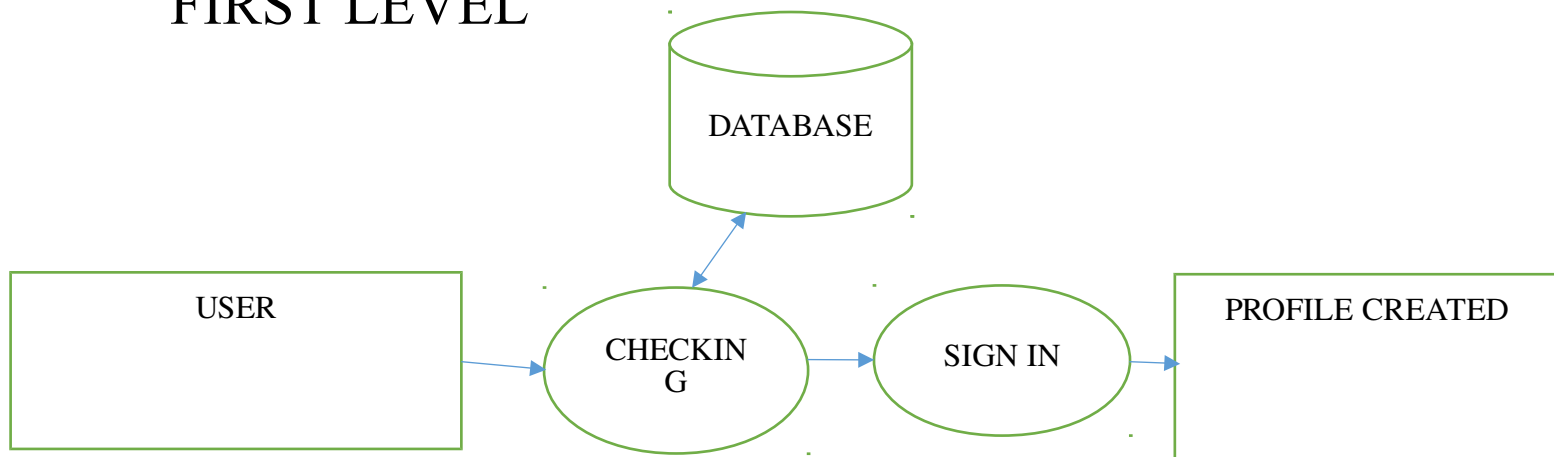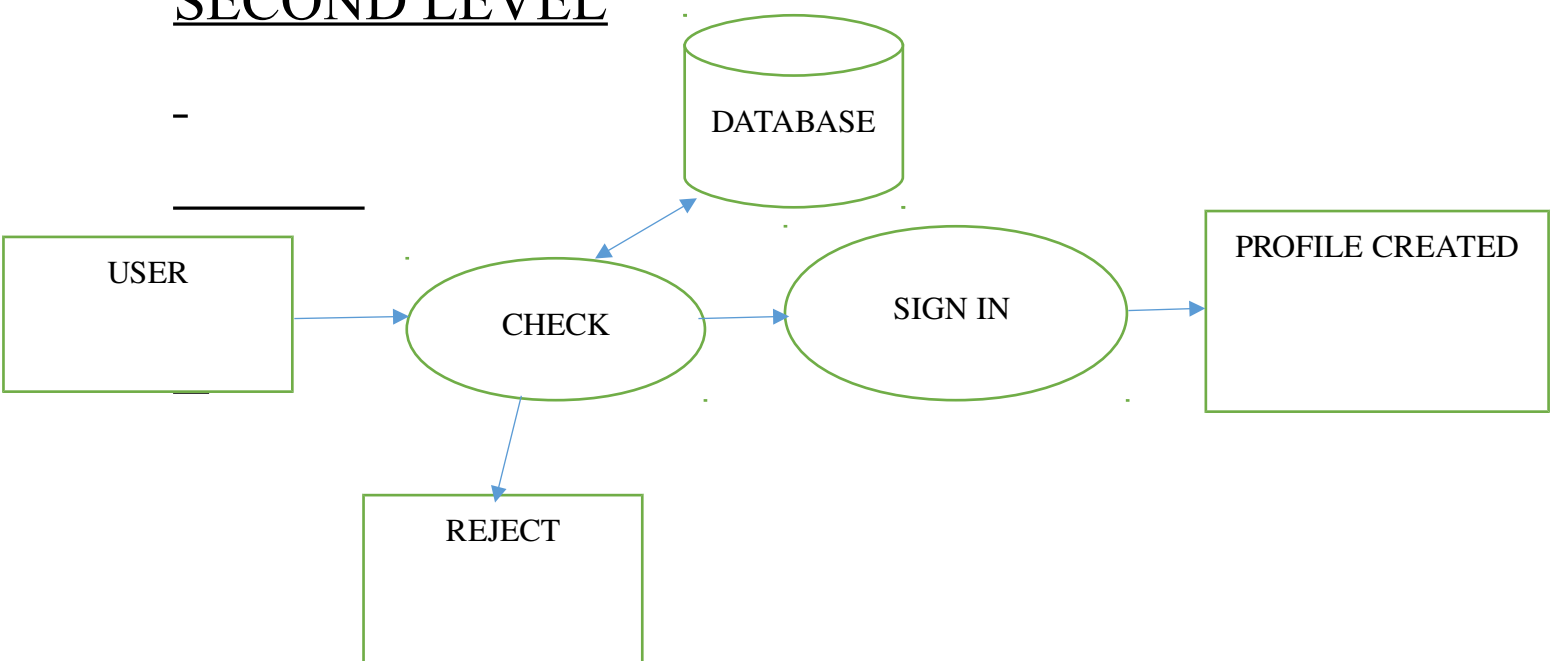
FIRST LEVEL

User_Info

Add to contact 0.1

Friend _Details

offline friends

database

Friend which is on skype

User name & password

Log In 0.1

Search friend 0.1

Chatting /message 0.1

message 0.1

Video chatting 0.1

User details

View profile 0.1

Edit profile 0.1

Details

Online friends 0.1

1. SIGN IN

ZERO LEVEL

| USER | → | SIGN IN | → | STORE IN DATABASE |

FIRST LEVEL

DATABASE

| USER | → | CHECKING | → | SIGN IN | → | PROFILE CREATED |

SECOND LEVEL

DATABASE

| USER | → | CHECK | → | SIGN IN | → | PROFILE CREATED |

REJECT

THIRD LEVEL

USER → CHECKING DETAILS → UNIQUE USERNAME → SIGN IN

DATABASE

REJECT

VIEW PROFILE ← ID GENRTAED

2.LOGIN PROCESS

ZERO LEVEL

USER → LOGIN SYSTEM → LOGIN INTO PROFILE

FIRST LEVEL

USER → LOGIN PROCESS

DATBASE

LOGIN INTO PROFILE

MATCH NOT FOUND

3.CHATTING

ZERO LEVEL

USER → CHATTING PROCESS → CHAT WITH MEMBERS

FIRST LEVEL

DATABASE

–

USER

SYSTEM

CHECKIN
G

CHAT

ACTIVITY CHART

START

ENTER THE SYSTEM

ID_CHECKING

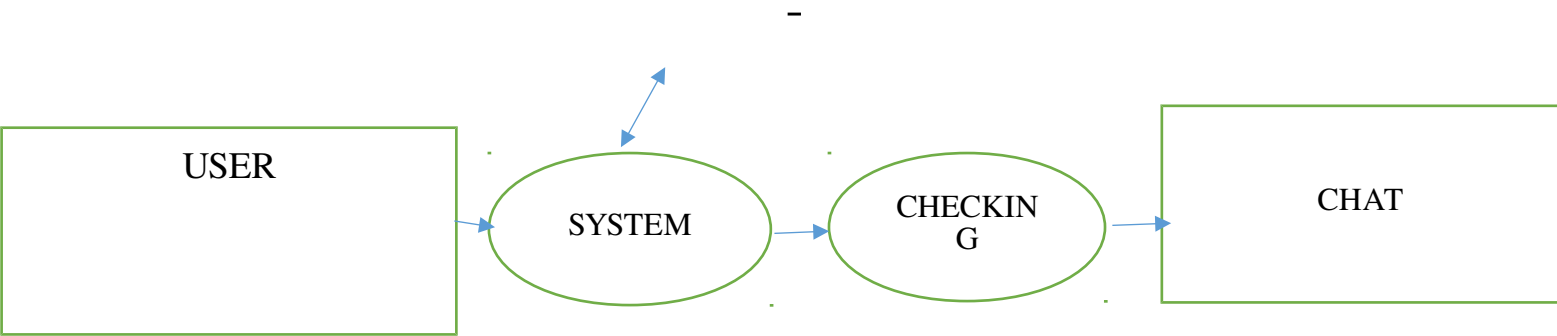REGISTRATION

VIEW PROFILE

ENTER TO CHAT

MEMBERS

MESSAGE

CHATTI NG

OFLINE MEMBERS

ONLINE MEMBERS
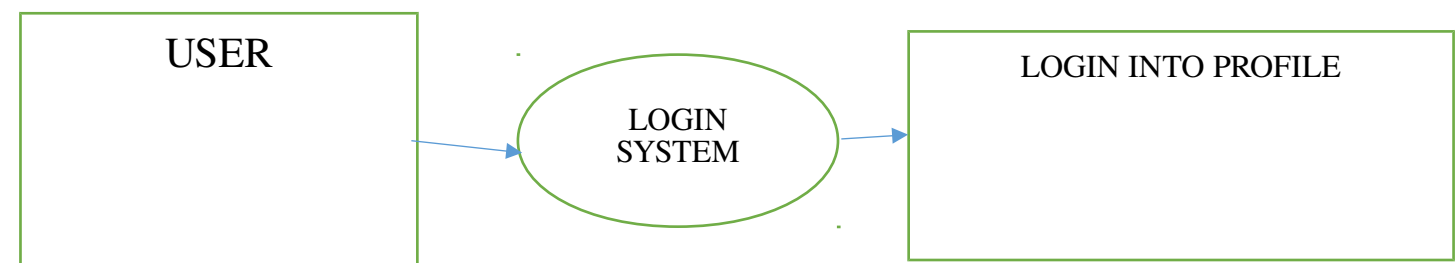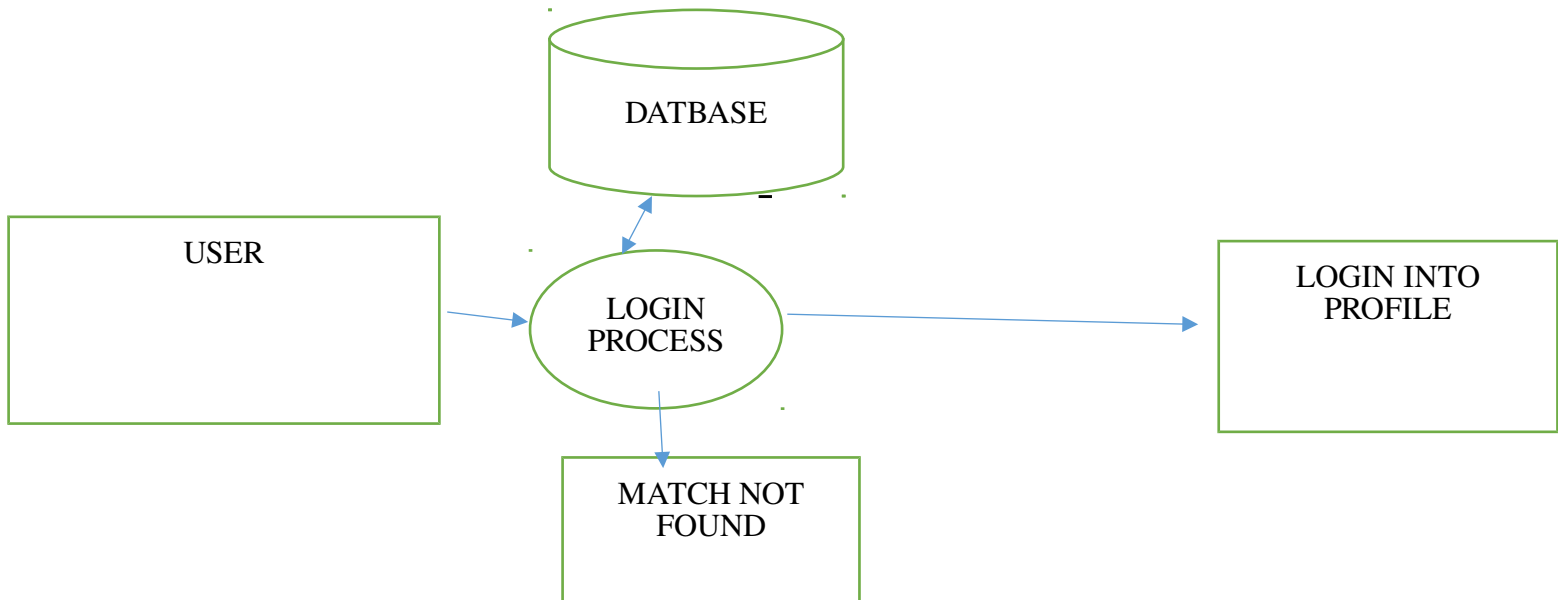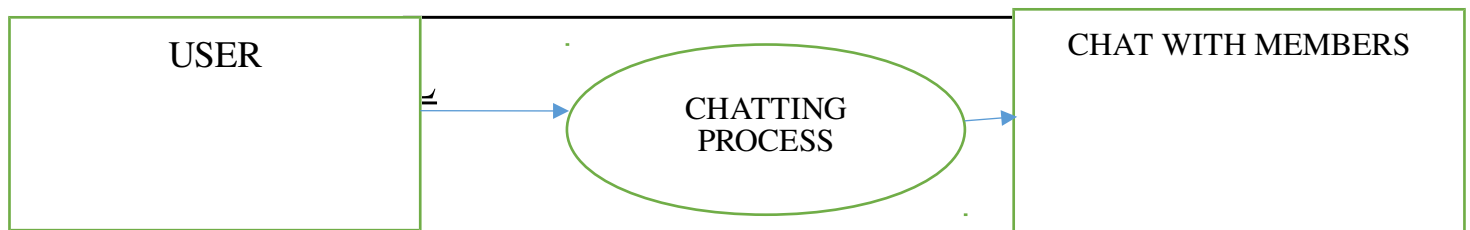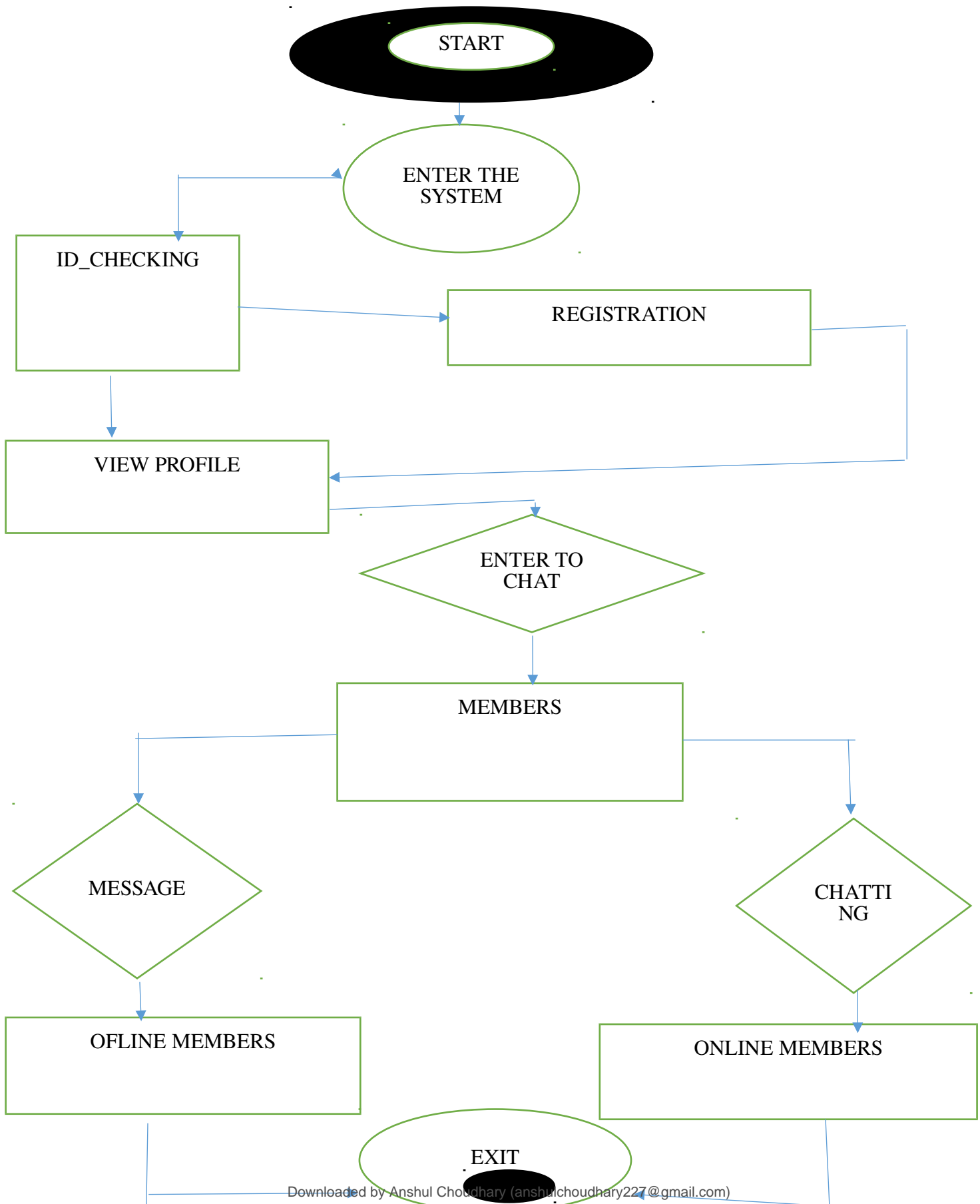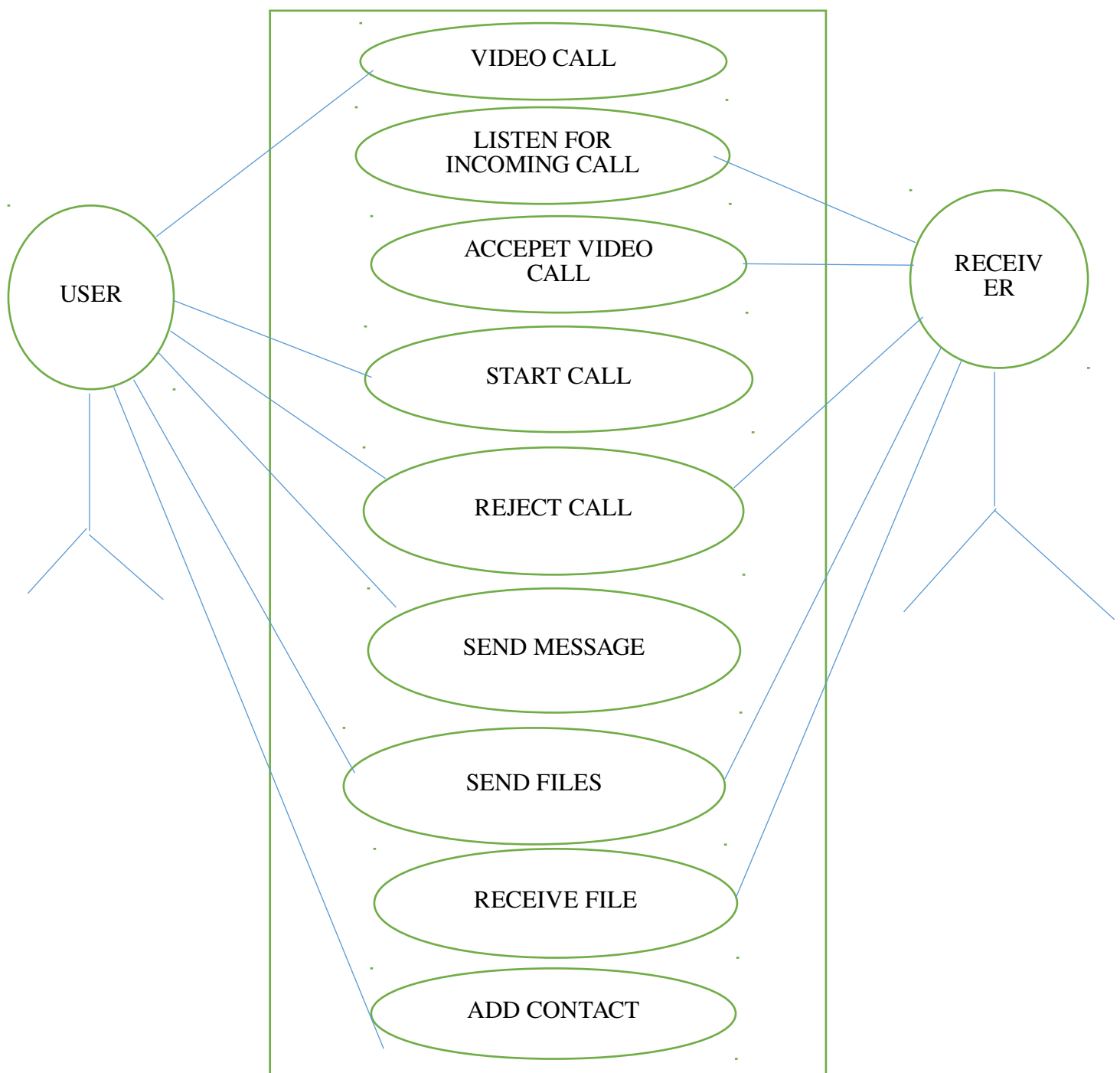
EXIT

USE CASE DIAGRAM

In software and systems engineering a use case is a list of steps, typically defining interactions between a role (known in UML as an "actor") and a system, to achieve a goal. The actor can be a human or an external system.

In systems engineering, use cases are used at a higher level than within software engineering, often representing missions or SS

VIDEO CALL

LISTEN FOR INCOMING CALL

ACCEPET VIDEO CALL

START CALL

REJECT CALL

SEND MESSAGE

SEND FILES

RECEIVE FILE

ADD CONTACT

USER

RECEIV ER

<u>TESTING</u>

Test case 1: user login

Click on login button

Expected result:user profile page will be displayed

Obsereverd result: user profile page opened

Status:pass

Test case 2: user logout

Click on "logout button:

Expected result:user should be logout out from accoun**t**

Observed result: user is logged out of account

Status:pass

Test case 3: retrieve password

Click on forgot password

Expected result: password will be send on email id

Observed result:password is send on email id

Status:pass

Test case 4: search for friend in contact

 Click on search and write the name of person

Expected status: user found profile get opened

Observed status: user profile found

Status:pass

Test case 5: calling

Click on calling button

Expected result: called received if online

Observed result : called received

Status:pass

Test case 6: message

Click on send button

Expected result: message sent

Observerd result: message sent to the other

Status :pass

Test case 7: video calling

Expected result: incoming call sent

Observed result: call received

Status :pass

Test case 8: file sharing

Click on send button with attached file with it

Expected result :file sent

Obsereved result: file sent

Status :pass

Test case 9: able to send emojis

Expected result: emojis sent

Observed result:emojis sent

Status :pass

Test case 10: add contact

Expected result :contact added to friend list

Obsereved result: contact saved

Status:pass