WhatsApp Application

Project for software engineering:

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1.Introduction:

1.1 Purpos:
This document describes the software requirements and specification for a messenger app Whatsapp.
With the WhatsApp application, any user will be able to communicate with his friends and family at any time. They can also send messages, receive voice and video calls, and create groups as well.

1.2 Project Scope:
WhatsApp is a proprietary, cross-platform, encrypted instant messaging client for smartphones. It
uses the Internet to send text messages, documents, images, video, user location and audio messages
to other users using standard cellular mobile numbers. As of February 2016, WhatsApp had a user
 base of one billion, making it the most popular messaging application. WhatsApp Inc., based
in Mountain View, California, United States, was acquired by Facebook Inc. on February 19, 2014,
for approximately US$19.3 billion

1.3 Intended audience and reading suggestions:
 This document is intended for stakeholders of the application, to assist in the development process of WhatsApp as well as to provide a reference to explain the system to the user

2.Specific Requirements:

2.1 Functional requirements :

System feature:

• User registration

The user must be able to register in the application with a valid phone number. when installing the application.

• Add new contacts

The application should detect all contacts from the user's phone book.

These contacts are automatically added to WhatsApp.

• Send a message

 The user should be able to send an instant message to any contact in their WhatsApp.

Notify the user when the message has been successfully delivered to the recipient.

• Send attachments

The user must be able to send audio, video, and image files as attachments.

• Broadcast message

 The user must be able to create groups and send messages to these groups.

• Message Status

The user being able to obtain information about whether the message sent has been read by the recipient.

2.1 External Interface Requirements:

-User Interfaces:

The customer user interface should be intuitive, such that
99.9% of all new Applications are able to
complete their transactions without any assistance.

-Hardware Interfaces:

The hardware should have following specifications:
-Ability to run the Latest Version of Application.
-Ability to use Network resources
-Touch screen for convenience
-Keypad (in case touchpad fails)
-Continuous power supply and network supply
-Ability to connect to WhatsApp network
-Ability to take input from user
-Ability to validate user

-Software Interfaces:

The software interfaces are specific to
a proprietary, cross-platform, encrypted instant
messaging clien

3.Non-Functional requirements:

3.1 Scalability:
WhatsApp should be able to provide instant messaging services to 1 billion users at any given time.

3.2 Robustness:
In case user's device crashes, a backup of their chat history must be stored on remote database servers to enable recoverability.

3.3 Performance:
Application must be lightweight , must send messages instantly and must be work on all mobile and tablet devices.

3.4 Security:
WhatsApp's end-to-end encryption is used when you chat with another person using WhatsApp Messenger. End-to-end encryption ensures only you and the person you're communicating with can read or listen to what is sent, and nobody in between, not even WhatsApp.

3.5 Usability:
WhatsApp should be easy to use for all groups and check if the search, chat, status, contacts and calls sections are available on the screen and the user can see all the sections individually.
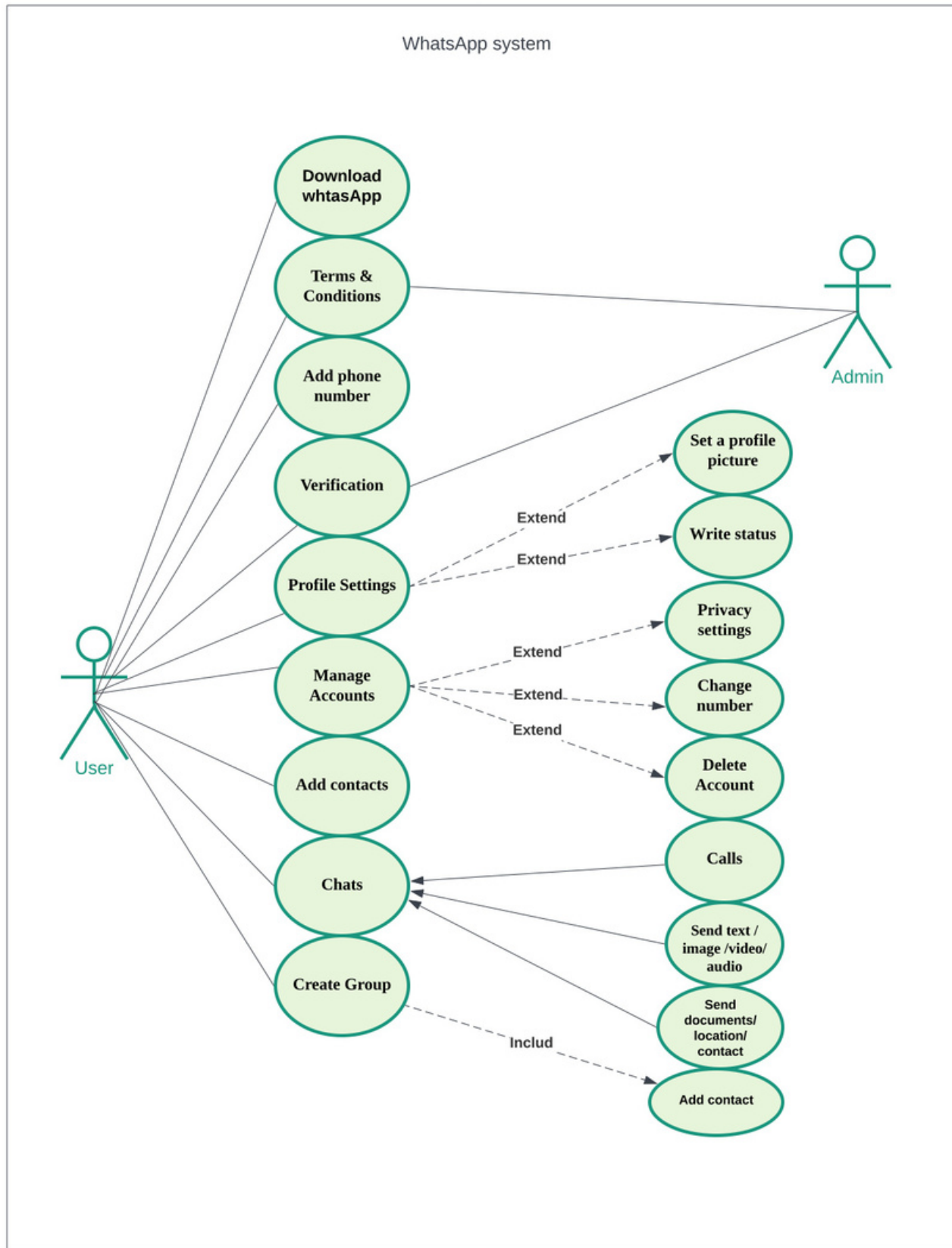
3.6 Main ability:
The main ability of WhatsApp is it allows you to send and receive calls and messages using only an internet connection, which means it's free to use and ideal for international calling. There are no fees to sign up.
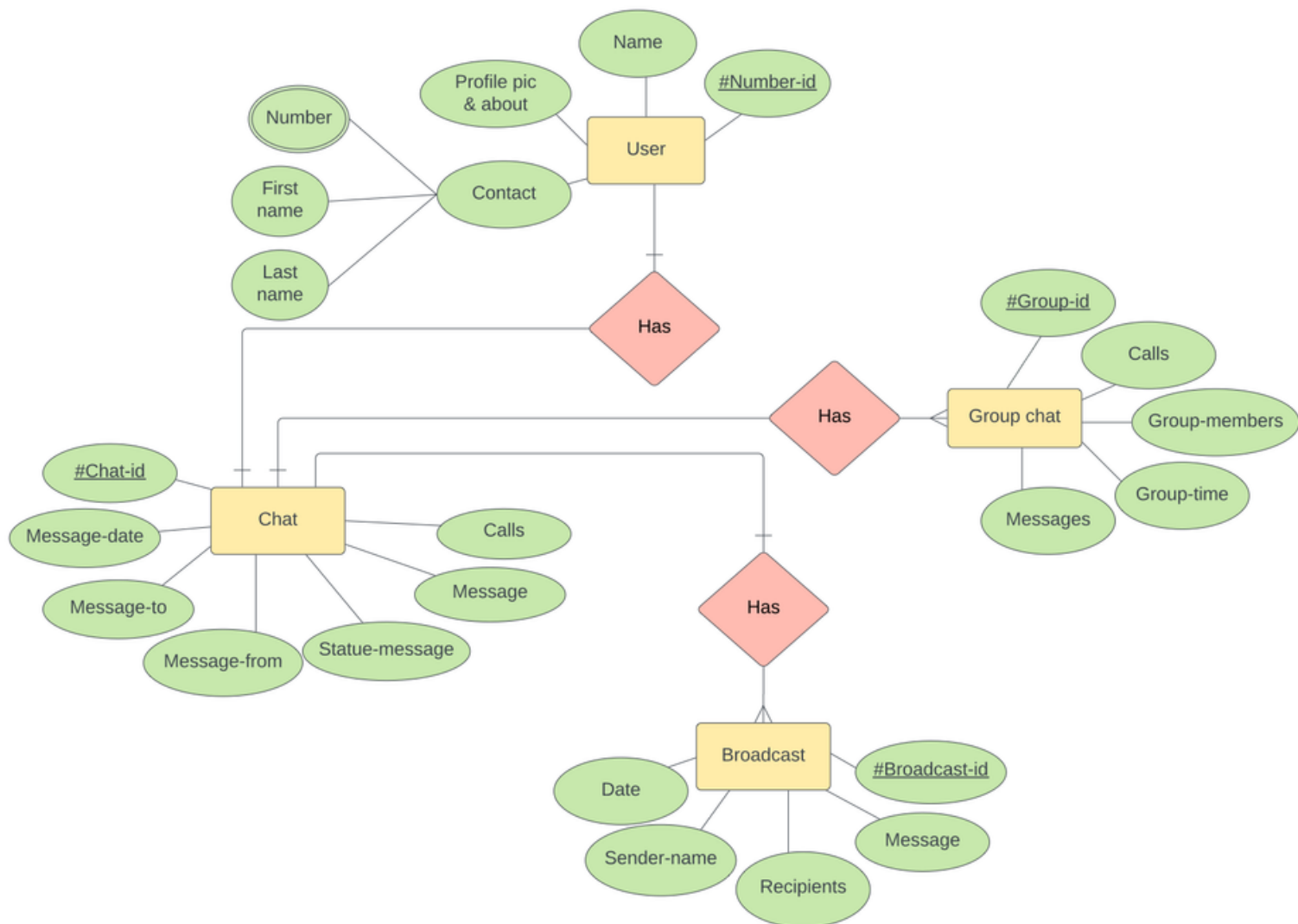
3.7 Availability:
WhatsApp is available for all devices with their systems such as: iOS, android, Windows and others. It also allows the application via the web under the name WhatsApp Web
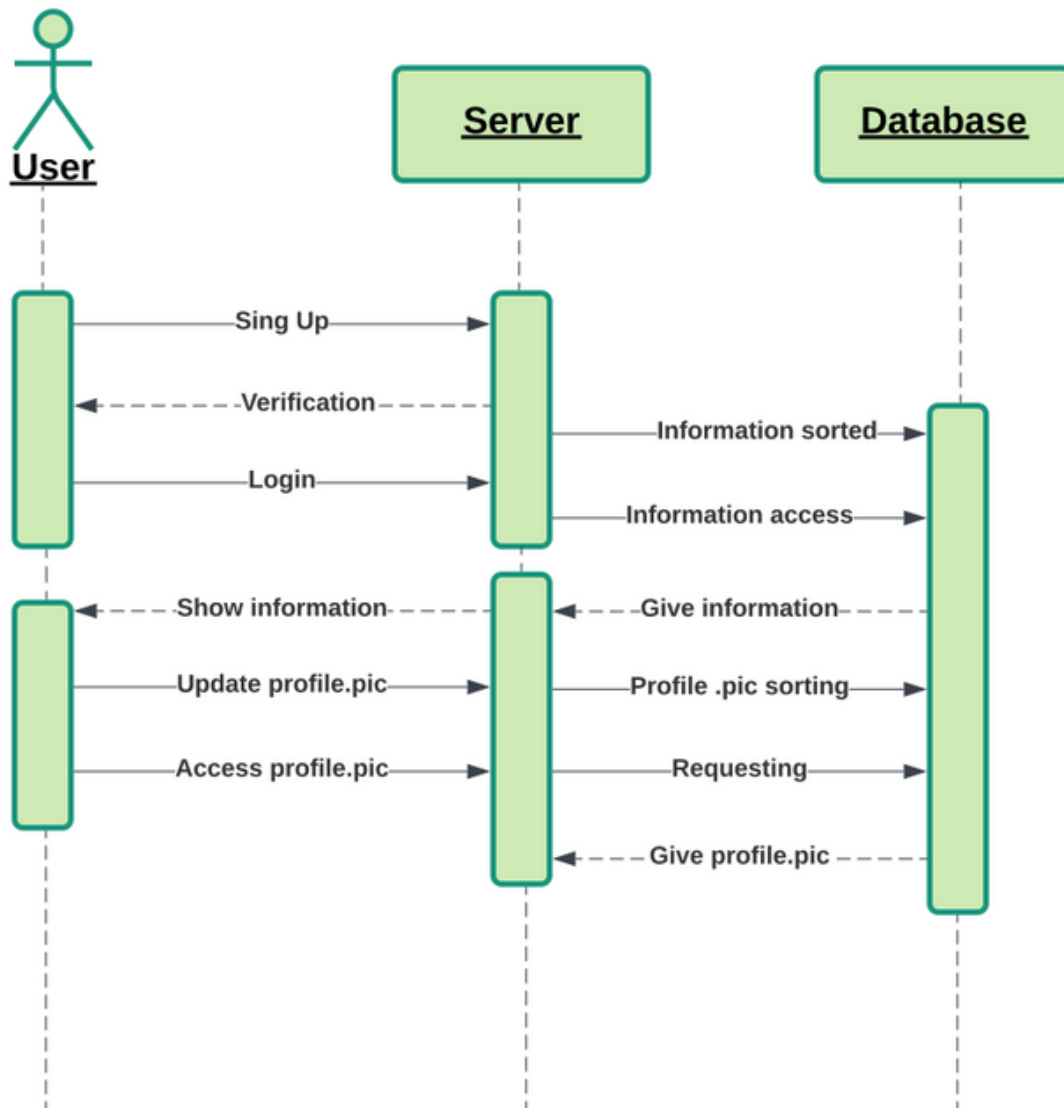
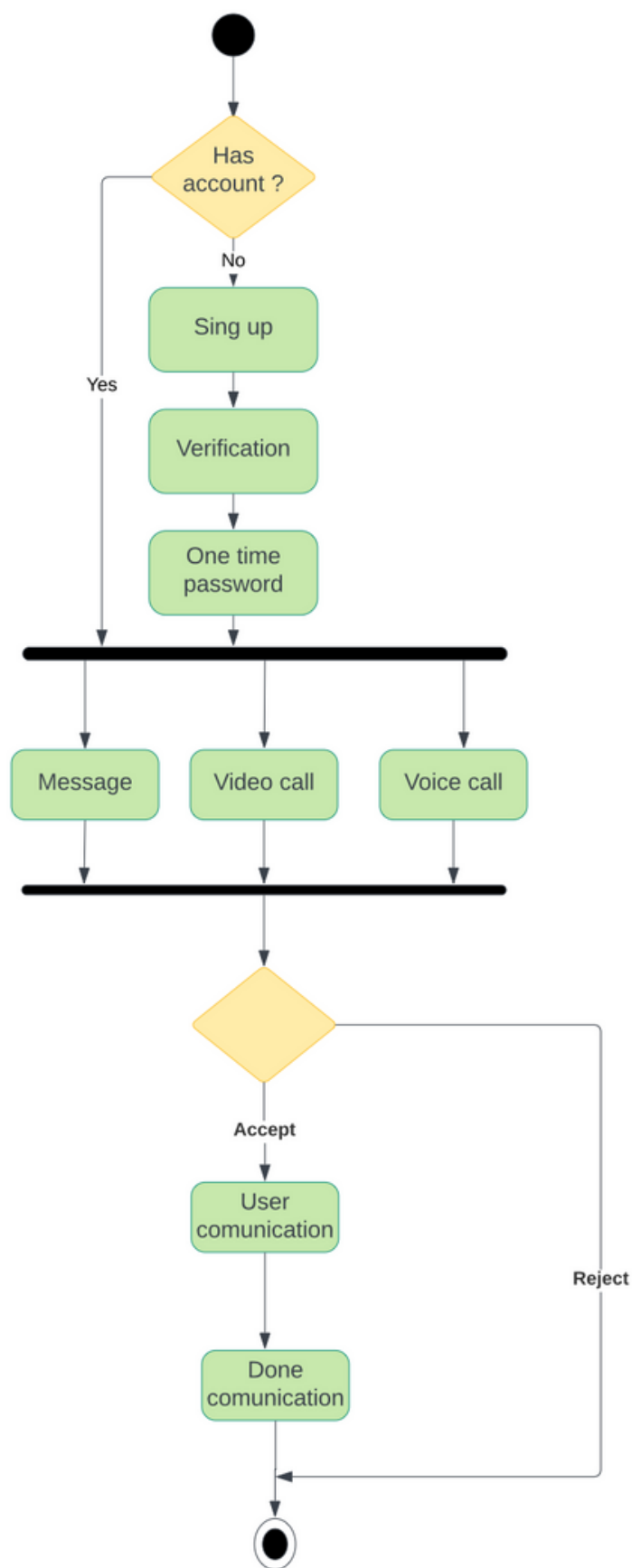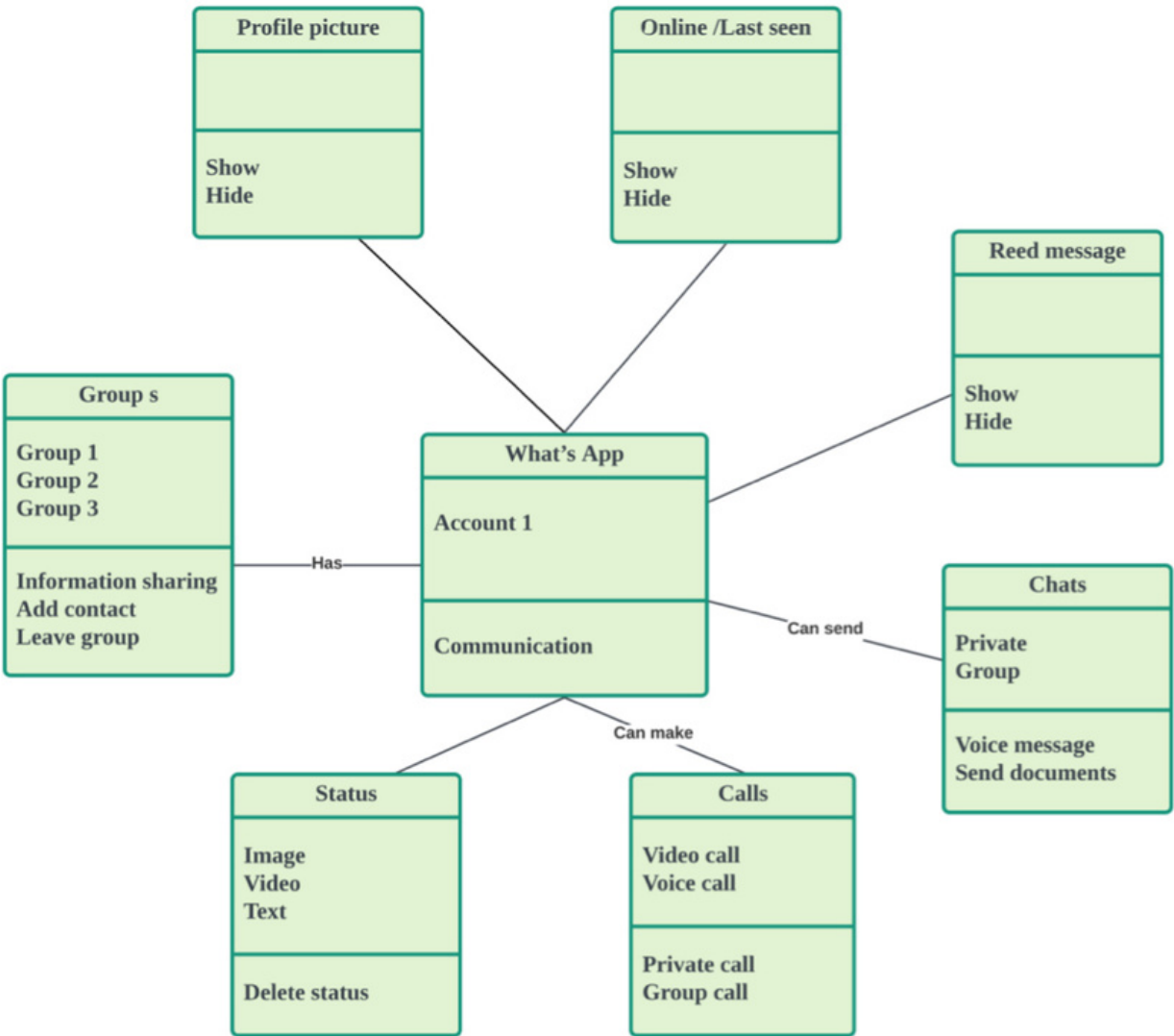# 4. UML diagrams :

4.1 Use Case diagram:

4.2 ER diagram:

4.3 Sequence diagram:

4.4 Activity diagram:

4.5 Class diagram:

Profile picture

Show
Hide

Online /Last seen

Show
Hide

Reed message

Show
Hide

Group s

Group 1
Group 2
Group 3

Information sharing
Add contact
Leave group

What's App

Account 1

Communication

Has

Can send

Can make

Chats

Private
Group

Voice message
Send documents

Status

Image
Video
Text

Delete status

Calls

Video call
Voice call

Private call
Group call

5. Sources:

- What'sApp.com
- Softwaretestingo.com
- Wordpress.com
- Academia.edu