Messaging app

0045

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1. **The Goal Description**.

The purpose of the project is to facilitate social communication between people by writing messages, voice calls or video calls.

2. **The Methodology**.

We will use **Iterative model** to apply messaging app software

➢ Iterative model gets a preliminary version of system to the user quickly so that business value is provided.

Since user are working with the system important additional requirement may be identified and incorporated into subsequent version
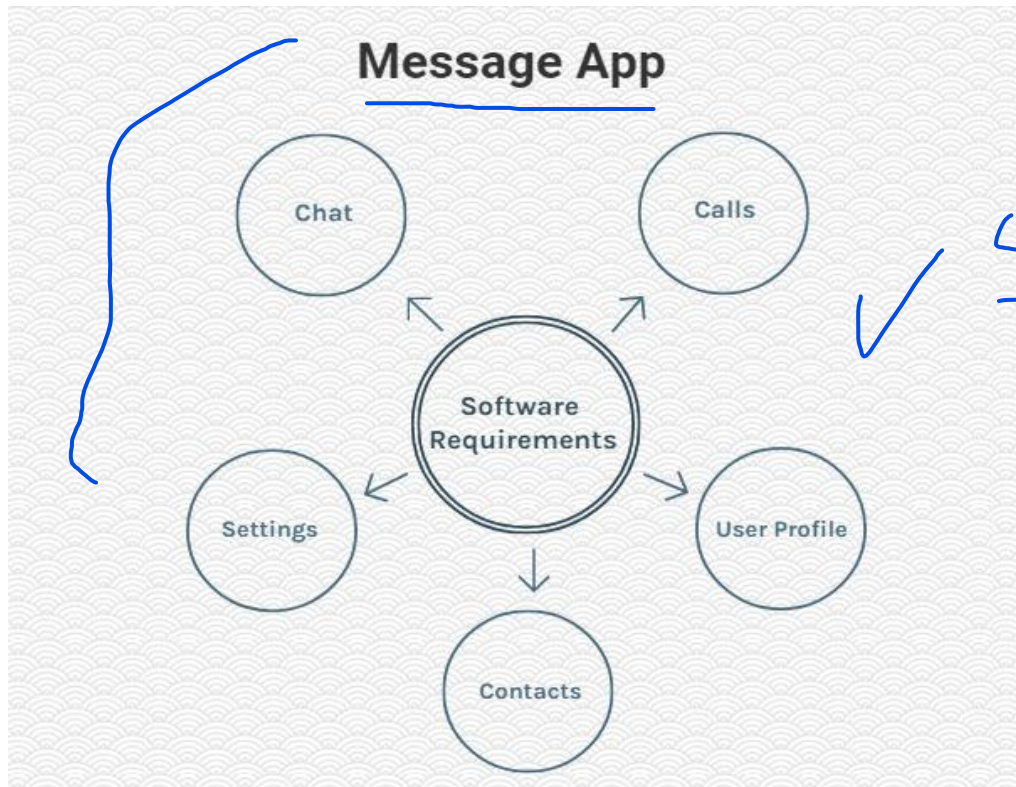
3. Tasks Table with Dependences, Duration

- Goal specification (T1)
- Feasibility study (T2)
- Requirement analysis and specification(T3)
- Requirement documentation (T4)
- Primary and Initial design (T5)
- Design Message App Management system interfaces (T6)
- Design completeness and verification(T7)
- Implementation & coding (T8)
- System verification and testing (T9)
- System Review With Customer(T10)
- Complete Implementation (T11)
- System Launch (T12)

Tasks	Dependences	duration
T1		3 Days
T2	T1 (M1)	3 Days
T3	T1, T2 (M3)	1 Week
T4	T3	3 Days
T5	T4(M4)	3 Days
T6	T5(M5)	1 Week
T7	T6(M5)	3 Days
T8	T7, T6,T5(M6,M7)	1 Week
T9	T8	3 Days
T10	T9 (M9)	2 Days
T11	T10(M10)	2 Days
T12	T11(M,9,M10)	2 Days

For the Message App system the **Milestones** and **Deliverables** are:

1-Project approval (M1)
2-Project Start (M2)
3-Complete Gathering Requirements (M3) *Review Requirment*
4-Design approval (M4)
5-Complete Design (M5)
6-Complete Coding (M6)
7-Testing (M7)
8-Complete Testing (M8)
9-Complete Implementation (M9)
10-Project End (M10)

client

4. Project Schedule

https://sharing.clickup.com/g/h/6-9881141-7/c4cd0f5c6e48158

Tasks

- Goal specification
- Feasibility study
- Requirement analysis and specific...
- Requirement documentation
- Primary and Initial design
- Design Message App Managemen...
- Design completeness and verifica...
- Implementation & coding
- System verification and testing
- System Review With Customer
- Complete Implementation
- System Launch

| | 08 MAY | 09 MAY - 15 MAY | 16 MAY - 22 MAY | 23 MAY - 29 MAY | 30 MAY - 05 JUN | 06 JUN - 12 JUN | 13 JUN - 19 JUN | 20 JUN - 26 JUN | 27 JUN - 03 JUL |

Today

- Goal specification
- Feasibility study
- Requirement analysis and specification
- Requirement documentation
- Primary and Initial design
- Design Message App Management system interfaces
- Design completeness and verification
- Implementation & coding
- System verification and testing
- System Review With Customer
- Complete Implementation
- System Launch

5. The Requirements:

User Requirements

- Login
- Adding contacts
- Sending messages and media to individuals
- Creating groups
- **Message Status**
- Calling (Voice / video)
- **Send Attachments**
- Status
- Security
- Privacy
- Logout

- **Login:-** user can login with number and receive a code for confirmation (user have 3 attempts only).

- **Adding New Contacts: -** The application should detect all contacts from the user's phone book. If any of the contacts have user accounts with Message App , those contacts must automatically be added to the user's contact list on Message App . If any of the contacts have not yet registered on Message App, user should be provided with an invite option that sends those contacts a regular text message asking them to join Message App along with a link to the Message App application on Google Playstore.

- **Create Groups :-** The user can put more than one contact and communicate with them in the same conversation.

- **Send Message :-** User should be able to send instant message to any contact on his/her Message App contact list. User should be notified when message is successfully delivered to the recipient by displaying a tick sign next to the message sent.

- **Calling:-** The user can communicate with his contacts who use the same application via voice and video call.

- **Send Attachments** :- User should be able to send audio, video and images as attachments. Audio formats that the application should support : mp3 wav Video formats that the application should support : avi mp4 flv gif Image formats that the application should support: jpg png.

- **Message Status**:- User must be able to get 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.

- **Status:-** User Can Add a video or image or Text to story and disappear after 24 hours .

- **Privacy** :- User can edit his name and change his photo ….etc

- **Security** :- The system must be completely safe against cyber-attacks and hacking.

- **Logout** :- The user can log out of the application and log in again with all his data save And can also delete his account with complete data loss.

Domain Requirements

- **Login:-** user can login with number and receive a code for confirmation.

- **Portability**
  Application must be able to run an many different systems.

- **Security** :- The system must be completely safe against cyber-attacks and hacking (by using end to end encryption.)

- **Privacy** :- User can edit his name and change his photo ….etc and no one can see it unless it is the user who has given permission to see it .

1. **User Login -:**

   User must be able to register for the application through a valid phone number. On installing theapplication, 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 Message App.

2. **Adding New Contacts**

   The application should detect all contacts from the user's phone book. If any of the contacts have user accounts with Message App, those contacts must automatically be added to the user'scontact list on Message App.

   If any of the contacts have not yet registered on Message App, user should be provided with an invite option that sends those contacts a regular text message asking them to join Message App along with a link to the Message App application on Google Play store.

3. **Send Message**

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

4. **Send Attachments**

   User should be able to send audio, video, and images as attachments.Audio formats that the application should support:
   mp3 wav.
   Video formats that the application should support: avi mp4
   flv gif Image formats that the application should support jpg
   png

5. **Broadcast Message**

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

6. **Message Status**

   User must be able to get 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 messageread.

7. **User Profile**

   The user can edit his name and personal picture ….etc.

Non-Functional Requirements

1. **Scalability**
   Message App should be able to provide instant messaging services to 1 billion users at any giventime.

2. **Privacy**

   Messages shared between users should be encrypted to maintain privacy.

3. **Robustness**
   In case user's device crashes, a backup of their chat history must be stored on remote databaseservers to enable recoverability.

4. **Performance**
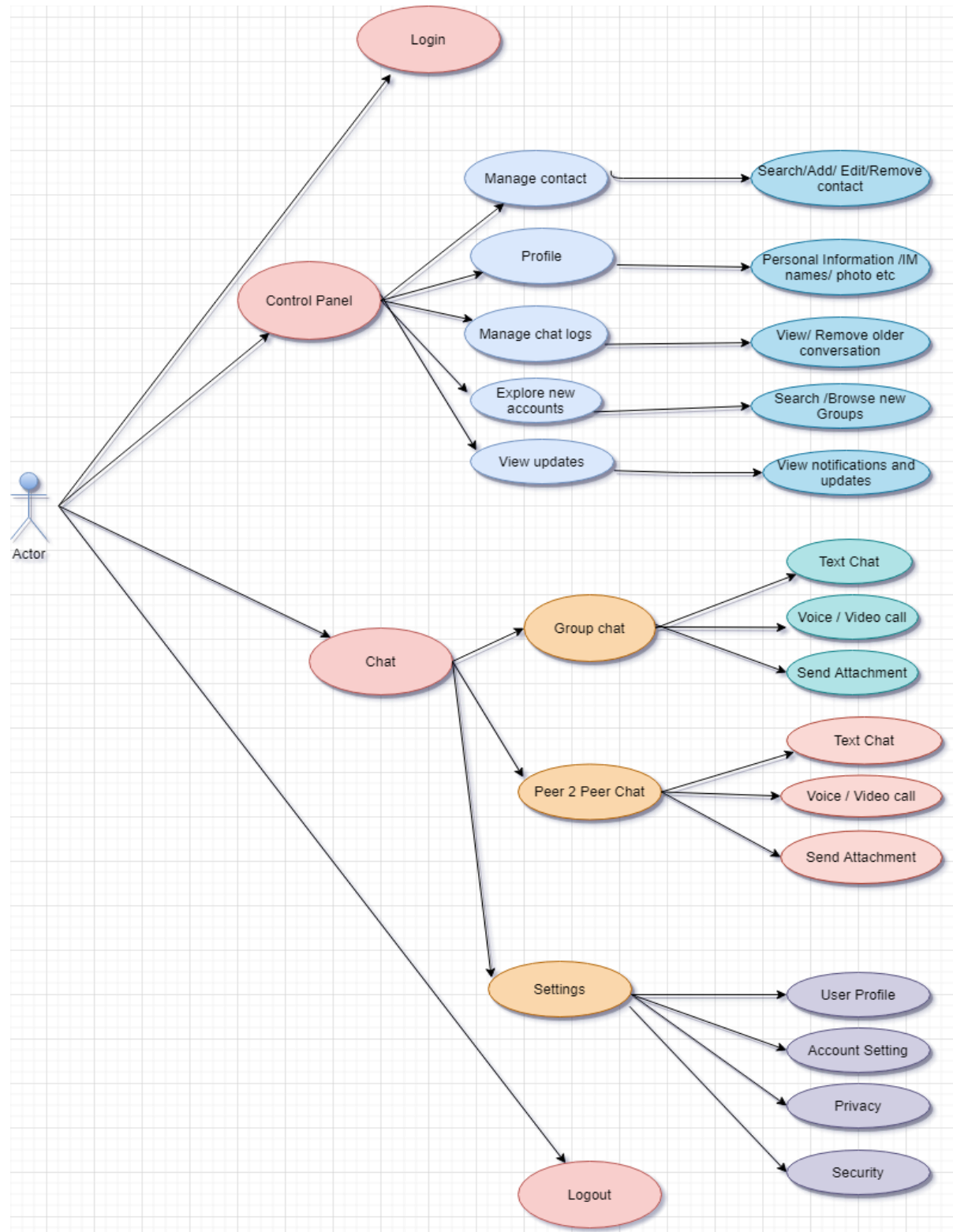   Application must be lightweight and must send messages instantly.

5. **Portability**
   Application must be able to run an many different systems.

2- Use case :

1. Use Case Diagram

Link :- https://drive.google.com/file/d/1P_73ZB6mniVx7FlGqNavSPCQpIkAyq-E/view?usp=sharing

2. Represent the use cases elements in table like the following.

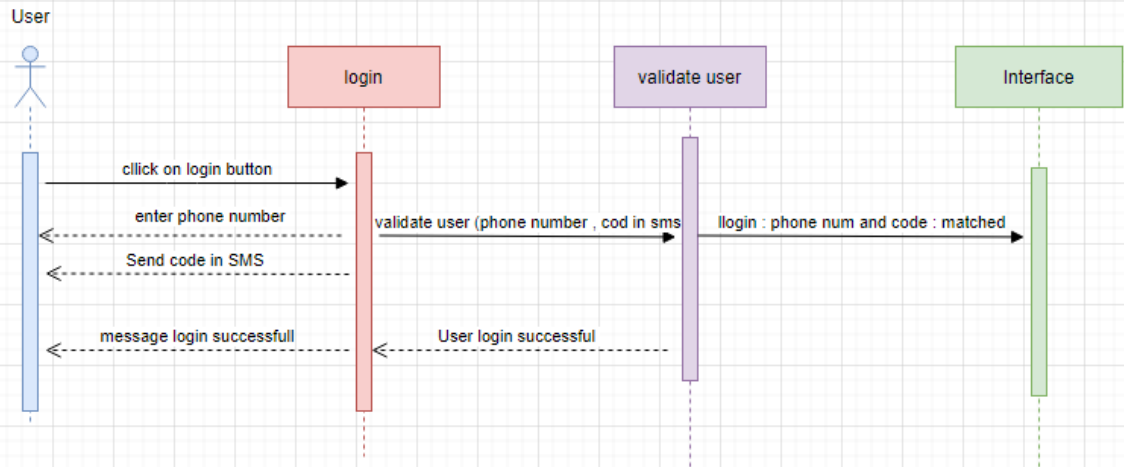| Use Case ID	LO12
Use Case Name	**Login.**
Summary	A user login to System to access the functionality of the system.
Pre-Condition	**System must be connected to the network.**
Trigger	The user puts his phone number and then sends the code in a SMS message, and after confirmation is made, he enters the user interface
Post - Condition	After successfully logging in, the user will be directed to the application interface and can use all the features of the app.
Main Scenario	1- The user must open the application 2-Select his country code 3-The user puts his phone number 4- A confirmation message will be sent 5-The user sets the code sent to him, and after making sure of its validity, the user will be directed to the main application interface 6- And then use the features of the app
Alternatives	1-If the user is not connected to the Internet 2-User puts an incorrect phone number 3-The user uses an incorrect code in the confirmation stage instead of the code sent to him in a SMS message.

Use Case ID	PY32
Use Case Name	Privacy
Summary	User can edit his name and change his photo ….etc
Pre-Condition	When you log in for the first time, these settings are the default.
Trigger	The user can change his profile picture, who can chat with and block list, who can add him to groups, … etc.
Post - Condition	The user can control what others see about his personal info.
Main Scenario	1-The user must open the application 2- The user must open Settings then Privacy User can Edit somethings Such as :- 1-Last seen 2- Profile picture 3-About 4-Read Receipts of Messages 5- who can add him to groups
Alternatives	If the user does not modify this default data, he loses some good application features.

Use Case ID	LT25
Use Case Name	Logout
Summary	The user clicks on "Logout" and their session is terminated.
Pre-Condition	The user is logged in. The user no longer wants to be logged in.
Trigger	User is done using the mobile application
Post - Condition	The user is logged out
Main Scenario	1-User is done using the web application 2-The user clicks on the logout button 3-The system logs the user out and invalidates the cookie/session 4-The system redirects to the default logout page.
Alternatives	The user will be logged in unless he presses the Logout button

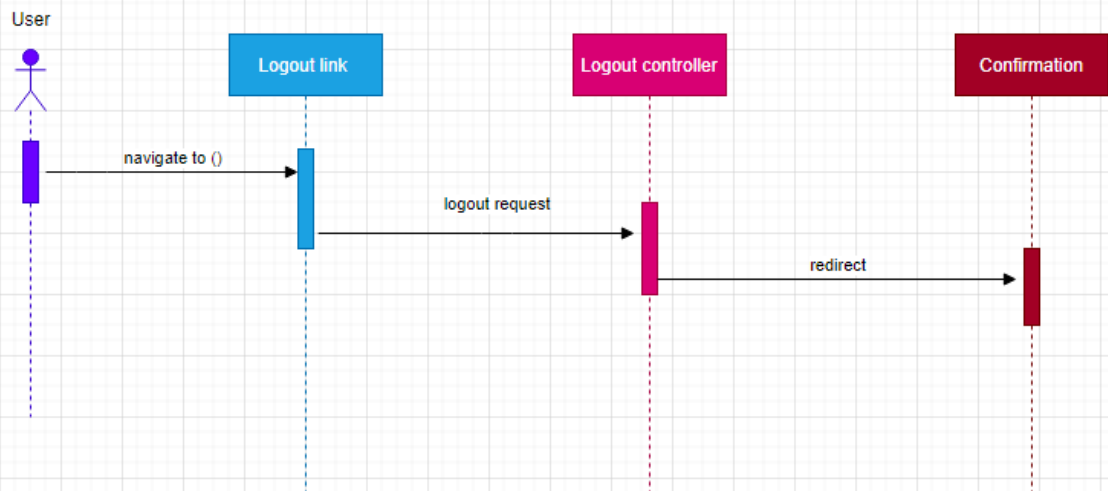6. The Sequence Diagram:

Develop the sequence diagram(s) that represent the interaction between objects in a sequential order.

Login

User

| login | validate user | Interface |

- cllick on login button →
- ← enter phone number
- validate user (phone number , cod in sms →
- llogin : phone num and code : matched →
- ← Send code in SMS
- ← message login successfull
- ← User login successful

Logout

User

| Logout link | Logout controller | Confirmation |

- navigate to () →
- logout request →
- redirect →

Privacy

User

Settings

Privacy

user open setting

Account , chat , notification , storage and data

Account

Privacy

user edit last seen ,profile photo ,About , read receipts of message

8. UML Diagram:

chat

chat _type : int ,string

getChat:void
setChattype ()

Message

type _Message int read only
type _Image :int read only
type _Voice :int read only
type_video : int read only
type_file :int read

set type ()
get type (): int
display () : Abstract

User

User name :string
phone number :int
password:int

login(username ,password ,phone number)
logout()
sitting()
chat()
status()
add new contact(phone number , name)

Setting

view profile()
setNotification ()
ubdateImage()
privacy()
help()
security()
changenumber()
profile photo()
chat()

Group chat

Group name:string
Msg type :string

get msg type ()
set msg() type
invite friend()
add friend:void
leaveGroup:void
remove friend:void
deleteGroup:void

9. Prototype Development

```html
1   <!DOCTYPE html>
2   <html lang="en">
3     <head>
4       <meta charset="UTF-8" />
5       <meta http-equiv="X-UA-Compatible" content="IE=edge" />
6       <meta name="viewport" content="width=device-width, initial-scale=1.0" />
7       <title>Message App Interface</title>
8       <link rel="stylesheet" href="./css/bootstrap.min.css" />
9       <link rel="stylesheet" href="./css/style.css" />
10    </head>
11    <body style="max-width: 500px;" class="d-flex justify-content-center align-content-center flex-column">
12      <div class="container top-bar">
13        <div class="row title">Message App</div>
14        <div class="row mt-4">
15          <span class="col">Chats</span>
16          <span class="col">Status</span>
17          <span class="col">Calls</span>
18        </div>
19      </div>
20      <div class="container">
21        <div class="row mt-3">
22          <div class="d-flex justify-content-center">
23            <img src="./imgs/1.jpg" class="col-2 rounded-circle" alt="" />
24            <div class="col">
25              <div class="name">Hany Sa3ed</div>
26              <div class="last-msg">
27                Lorem ipsum dolor sit amet consectetur adipisicing elit.
28              </div>
29            </div>
30          </div>
31        </div>
32        <hr>
33        <div class="row mt-3">
34          <div class="d-flex justify-content-center">
35            <img src="./imgs/2.jpg" class="col-2 rounded-circle" alt="" />
36            <div class="col">
37              <div class="name">Amal Nassar</div>
38              <div class="last-msg">
39                Lorem ipsum dolor sit amet consectetur adipisicing elit.
40              </div>
41            </div>
42          </div>
43        </div>
44        <hr>
45        <div class="row mt-3">
46          <div class="d-flex justify-content-center">
47            <img src="./imgs/3.jpg" class="col-2 rounded-circle" alt="" />
48            <div class="col">
49              <div class="name">Samy Ali</div>
50              <div class="last-msg">
51                Lorem ipsum dolor sit amet consectetur adipisicing elit.
52              </div>
53            </div>
54          </div>
55        </div>
56        <hr>
57        <div class="row mt-3">
58          <div class="d-flex justify-content-center">
59            <img src="./imgs/4.jpg" class="col-2 rounded-circle" alt="" />
60            <div class="col">
61              <div class="name">Bassem Atef</div>
62              <div class="last-msg">
63                Lorem ipsum dolor sit amet consectetur adipisicing elit.
64              </div>
65            </div>
66          </div>
67        </div>
68        <hr>
69        <div class="row mt-3">
70          <div class="d-flex justify-content-center">
71            <img src="./imgs/1.jpg" class="col-2 rounded-circle" alt="" />
72            <div class="col">
73              <div class="name">Osama Sa3ed</div>
74              <div class="last-msg">
75                Lorem ipsum dolor sit amet consectetur adipisicing elit.
76              </div>
77            </div>
78          </div>
79        </div>
80        <hr>
81      <script src="./js/bootstrap.bundle.min.js"></script>
82    </body>
83  </html>
84
```
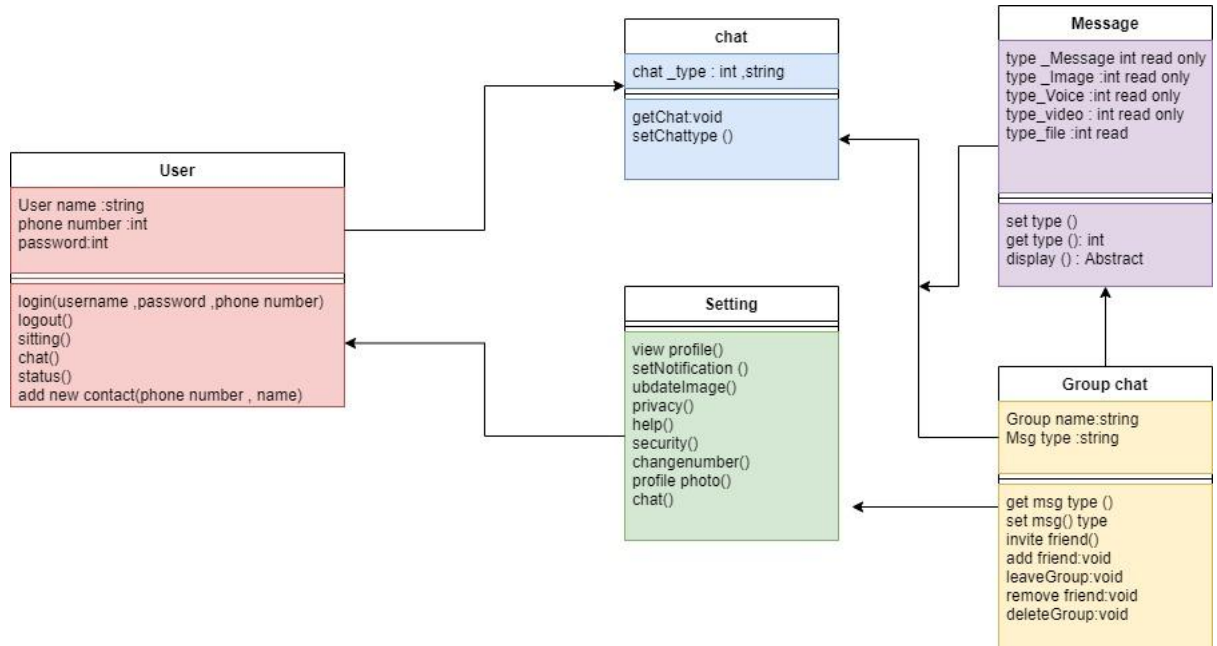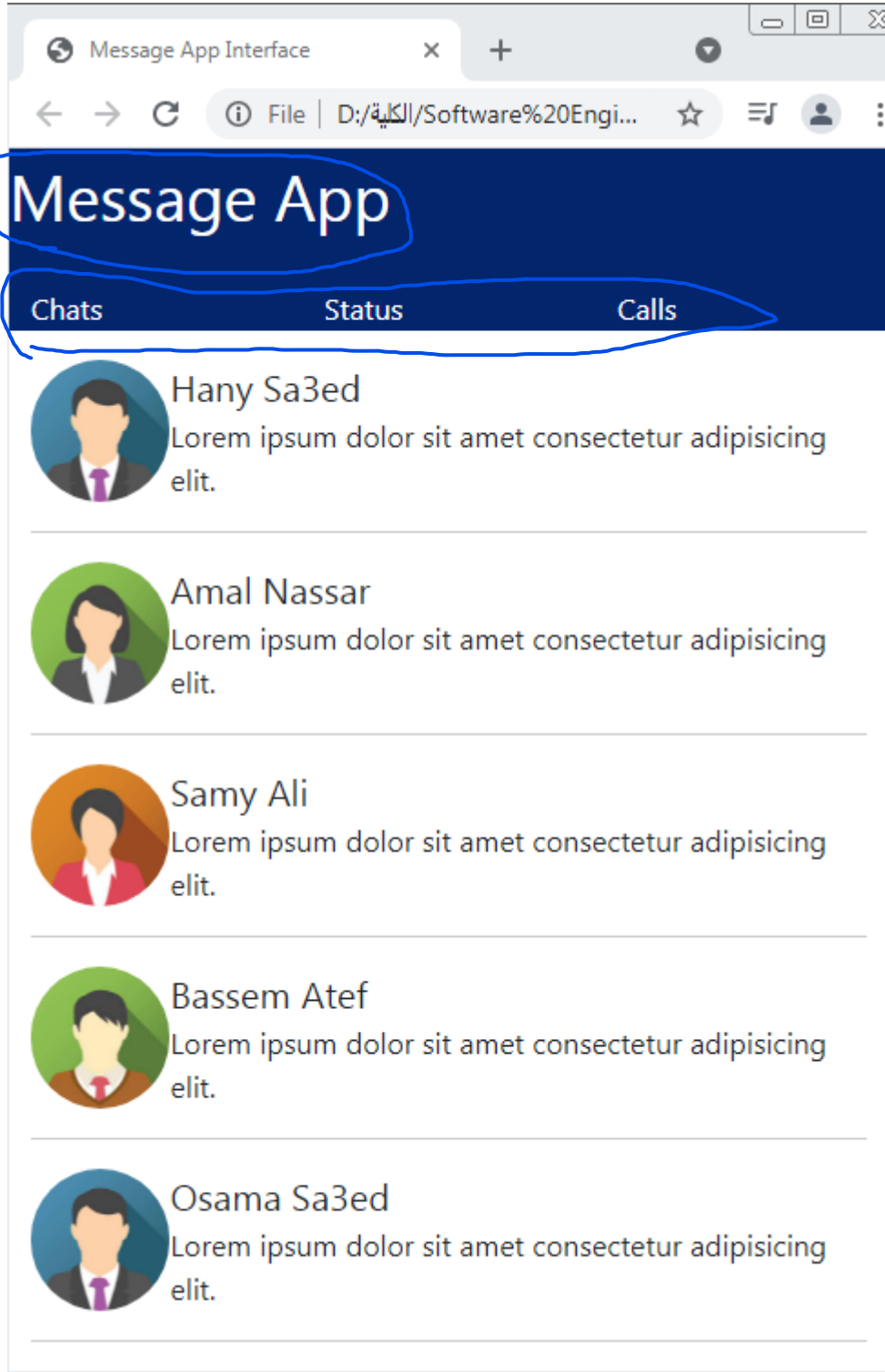
Hany Said
online

Hi, Hany 😂
4:00 PM

Oh! hi 😃
4:00 PM

How are you doing?
4:00 PM

I'm doing alright. How about you?
4:00 PM

Not too bad. The weather is great isn't it?
4:00 PM

Yes. It's absolutely beautiful today.
4:00 PM

4:00 PM

I wish it was like this more frequently.
4:00 PM

Me too. ❤️
4:00 PM

So where are you going now?
4:00 PM

Type a message

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Chat InterFace</title>
    <link rel="stylesheet" href="css/style.css">
</head>
<body>
    <div class="container">
        <div class="chat">
            <div class="chat-header">
                <div class="profile">
                    <div class="left">
                        <img src="img/arrow.png" class="arrow">
                        <img src="img/logo.jpeg" class="pp">
                        <h2>Hany Said</h2>
                        <span>online</span>
                    </div>
                    <div class="right">
                        <img src="img/video.png" class="icon">
                        <img src="img/phone.png" class="icon">
                        <img src="img/more.png" class="icon">
                    </div>
                </div>
            </div>
            <div class="chat-box">
                <div class="chat-r">
                    <div class="sp"></div>
                    <div class="mess mess-r">
                        <p><img src="img/emoji-1.png" class="emoji">
                            Hi, Hany
                        </p>
                        <div class="check">
                            <span>4:00 PM</span>
                            <img src="img/check-2.png">
                        </div>
                    </div>
                </div>
                <div class="chat-l">
                    <div class="mess">
                        <p>
                            Oh! hi <img src="img/emoji-2.png" class="emoji">
                        </p>
                        <div class="check">
                            <span>4:00 PM</span>
                        </div>
                    </div>
                    <div class="sp"></div>
                </div>

                <div class="chat-r">
                    <div class="sp"></div>
                    <div class="mess mess-r">
                        <p>
                            How are you doing?
                        </p>
                        <div class="check">
                            <span>4:00 PM</span>
                            <img src="img/check-2.png">
                        </div>
                    </div>
                </div>
                <div class="chat-l">
                    <div class="mess">
                        <p>I'm doing alright. How about you?</p>
                        <div class="check">
                            <span>4:00 PM</span>
                        </div>
                    </div>
                    <div class="sp"></div>
                </div>

                <div class="chat-r">
                    <div class="sp"></div>
                    <div class="mess mess-r">
                        <p>
                            Not too bad. The weather is great isn't it?
                        </p>
                        <div class="check">
                            <span>4:00 PM</span>
                            <img src="img/check-2.png">
                        </div>
                    </div>
                </div>
                <div class="chat-l">
                    <div class="mess">
                        <p>
                            Yes. It's absolutely beautiful today.
                        </p>
                        <div class="check">
                            <span>4:00 PM</span>
                        </div>
                    </div>
                    <div class="sp"></div>
                </div>

                <div class="chat-r">
                    <div class="sp"></div>
                    <div class="mess mess-r">
                        <img src="img/post2.jpg" class="img_chat">
                        <div class="check">
                            <span>4:00 PM</span>
                            <img src="img/check-2.png">
                        </div>
                    </div>
                </div>
                <div class="chat-r">
                    <div class="sp"></div>
                    <div class="mess mess-r">
                        <p>I wish it was like this more frequently.</p>
                        <div class="check">
                            <span>4:00 PM</span>
                            <img src="img/check-2.png">
                        </div>
                    </div>
                </div>
                <div class="chat-l">
                    <div class="mess">
                        <p>
                            Me too. <img src="img/heart.png"  class="emoji">
                        </p>
                        <div class="check">
                            <span>4:00 PM</span>
                        </div>
                    </div>
                    <div class="sp"></div>
                </div>
                <div class="chat-r">
                    <div class="sp"></div>
                    <div class="mess mess-r">
                        <p>
                            So where are you going now?
                        </p>
                        <div class="check">
                            <span>4:00 PM</span>
                            <img src="img/check-1.png">
                        </div>
                    </div>
                </div>
            </div>

            <div class="chat-footer">
                <img src="img/emo.png" class="emo">
                <textarea placeholder="Type a message"></textarea>
                <div class="icons">
                    <img src="img/attach file.png">
                    <img src="img/camera.png">
                </div>
                <img src="img/mic.png" class="mic">
            </div>
        </div>
    </div>

</body>
</html>
```

Privacy

Privacy

Last Seen
Everyone

Profile Photo
My Contacts

About
Nobody

Status
Everyone

Groups
Nobody

Live Location
None

Blocked Contacts
12 Contacts

Fingerprint Lock
Disable

```html
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Privacy</title>
    <link rel="stylesheet" href="./css/bootstrap.min.css" />
    <link rel="stylesheet" href="./css/style.css" />
  </head>
  <body>
    <div class="container top-bar">
      <div class="row title p-4">Privacy</div>
    </div>
    <div class="container">
      <div class="row">
        <div class="title">Last Seen</div>
        <div class="state">Everyone</div>
      </div>
      <hr />
      <div class="row">
        <div class="title">Profile Photo</div>
        <div class="state">My Contacts</div>
      </div>
      <hr />
      <div class="row">
        <div class="title">About</div>
        <div class="state">Nobody</div>
      </div>
      <hr />
      <div class="row">
        <div class="title">Status</div>
        <div class="state">Everyone</div>
      </div>
      <hr />
      <div class="row">
        <div class="title">Groups</div>
        <div class="state">Nobody</div>
      </div>
      <hr />
      <div class="row">
        <div class="title">Live Location</div>
        <div class="state">None</div>
      </div>
      <hr />
      <div class="row">
        <div class="title">Blocked Contacts</div>
        <div class="state">12 Contacts</div>
      </div>
      <hr />
      <div class="row">
        <div class="title">Fingerprint Lock</div>
        <div class="state">Disable</div>
      </div>
      <hr />
    </div>
    <script src="./js/bootstrap.bundle.min.js"></script>
  </body>
</html>
```