

**COUNSELLING SERVICES MANAGEMENT  
AND SOCIAL APPLICATION**

**BY**  
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**(Kampar Campus)**

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## **ABSTRACT**

This project is a development-based project with the aim of developing a counselling services management website with an integration of social platform for the Guidance and Counselling Unit of UTAR Kampar. This project mainly caters UTAR counsellors and students where all counselling services will be conducted within the same platform. It is developed to facilitate online counselling and documentation process of the counselling unit as UTAR's current counselling system strongly relies on hard copy documentation and diverse platforms to conduct some of the modules or main features include appointment scheduling system, past records and online peer support community for mental health which encourages the registered students to engage and socialize with each other along the recovery journey. Prior to the development of this project, thorough research and a detailed review were conducted to analyse existing online counselling and mental health support applications on the market to determine the benefits and limitations. This project is initialized with the aid of flow charts, use case diagrams and activity diagrams to visualize the project overview. The methodology chosen for this project would be Extreme Programming (XP) and the application will be developed in HTML, CSS, JavaScript, and PHP with Visual Studio Code as the integrated development environment (IDE). XAMPP will be used as the local host server for this project where MySQL will act as the database server whereas Gmail SMTP will be integrated to setup the SMTP server for email verification purposes.

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## LIST OF ABBREVIATIONS

<i>DSA</i>	Department of Students Affairs
<i>RAD</i>	Rapid Application Development
<i>XP</i>	Extreme Programming
<i>IDE</i>	Integrated Development Environment

## **CHAPTER 1 INTRODUCTION**

### **1.1 Background information**

In the past decade, the advancement in technology development has caused significant impact on various industries to revolutionize their solutions and services to both web and mobile platform. However, in the counselling industry, technologies are not fully utilized for the improvement of productivity or performance of an industrial counselling service especially within schools and universities.

Students are often pressured to succeed in academics and suffered from financial stress as well as having uncertainty about their future [1]. These could affect the students' mental stability, motivation, concentration, and social interaction. Due to existing stigma and taboo in the society where mental health awareness is not given proper attention, many students tend to avoid seeking help from professionals [2]. Common stigma about mental health in Asia is that mental illness is normally viewed as supernatural phenomenon instead of a scientifically proven disorder where this is prone to encourage the victims to seek help from the wrong sources that might worsen the situation [3].

There are various types of counselling approach offered by the counselling industry whereas for UTAR Guidance and Counselling Unit, face-to-face counselling is often preferred over online counselling. The counselling unit has their own individual section under the Department of Student Affairs (DSA) on UTAR official website, where relevant information such as the general services provided will be put up accordingly. However, UTAR students are still required to be physically present at the DSA office to find out more about the services and to make an appointment by filling up hard copy forms. After that, a counsellor will be assigned to contact the students via phone call to notify them about the appointment details such as venue and preferred date or time. Prior conducting the session, the students are required to fill in student profile form and self-assessment checklist, subsequently, the students are required to fill in feedback form as well. All these documents and documentation of the session's highlights will be kept in a file by the counsellor which increase the difficulty of managing the records when the number of students seeking for counselling services increases.

Despite the preference over face-to-face counselling approach, by contrast, in the research conducted by Hanley [4] has proven that online engagement is valued by students, and it has received positive feedback to the proposed alternative of using online counselling to

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provide mental health support within tertiary education. Wong et al. [5] emphasized that majority of the university students opt for online counselling due to inconvenience to be physically present for face-to-face counselling. Hence, counselling services should be modified to initiate online support to encourage students who would never engage in counselling to begin the process.

Therefore, this project aims to develop a website by integrating the counselling management system and social platform together where both the counsellors and students in UTAR can be reached out easily as well as increasing the efficiency in managing each counselling session's details. According to H. [6], close to 30% of adults, aged 16 and above are facing acute mental health problems and they have used Subtle Asian Mental Health which is a Facebook group to share their mental conditions as well as to obtain mutual support from the community. Thus, it is believed that the innovative integration would provide an effective online counselling journey by engaging UTAR students socially for mutual support.

## **1.2 Problem Statement and Motivation**

Proper mental health care and its correspondent awareness on mental illness is an issue that should be made a priority. This is a form of education to provide the community a good understanding of what mental health is and how to increase the chances for early intervention to those who suffer from mental illness [7].

As Covid-19 surge in outbreak affecting face-to-face counselling and making appointment physically, all the services provided by UTAR Guidance and Counselling Unit are conducted online. This indicates that online counselling approach is currently being adopted to adapt to the situation caused by the pandemic. However, the counselling unit is relying on external sources such as Google Forms and Spreadsheet as well as soft copy documents which also require manual procedures for record keeping. For example, UTAR Guidance and Counselling Unit has created their own Facebook page and the admin has put up the counselling session registration Google Form link on the description box and DSA section on UTAR official website. The responses from the Google Form will then be exported to Spreadsheet for management purposes. The entire process would normally take at least 2 working days for the appointment to be successfully made because the counsellors would be manually assigned and they are required to reach out to the students by using outsource platforms such as email, Microsoft Teams or social media like Facebook. Normally, the counselling session would be

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conducted on Microsoft Teams or Facebook depending on the platform that both the counsellor and student agreed with.

To wrap it up, the current counselling approach adopted in UTAR's counselling unit is inefficient as the medium of delivery and clients' data management is not effective. The concise problem statements are as follows:

1. **The lack of management capability in the existing counselling services system.**  
There is a diverse set of platforms in providing counselling services, ranging from appointment process, therapy, follow up session to clients' feedback when the entire process should be performed within a reliable platform for better user experience, which in this case reduces the clients' confusion and eases the counsellors to manage their clients and counselling schedules.
2. **Data redundancy and inconsistency in students' details.** When counselling appointments are made offline, physical documentation is needed to keep track of the details whereas if the appointments are made on google forms, only the administrative staff that is accountable in exporting the data into spreadsheet would be accessing the reports. Thus, the counsellors might have redundant details of their clients.
3. **The lack of social engagement and user interactivity of the counselling community.**  
Existing counselling units in tertiary education focuses on counselling process provided by the counsellor to the students. However, it is just as significant to build a social mental health community within the counselling units which enable students to engage in peer support and mutual respect to validate their intersection with mental health.

### **1.3 Project Objectives**

The development of the website in this project aims to integrate counselling services management and social platform that would enhance the counselling process of UTAR students. The following are the precise project objectives:

- 1) To analyze various existing offline counselling approaches and online mental health support application in the market in terms of their functionalities and drawbacks in providing counselling services.
- 2) To design a website that can facilitate online counselling and manage relevant counselling documentation to aid the counselling process.

- 3) To develop an alternative online counselling approach and social mental health community as an enhancement to the current traditional counselling approach.

#### **1.4 Project Scope**

The scope of this project is to develop a website as counselling and social platform to aid UTAR counselling services management. This project will mainly cater to UTAR students, and it will be available in English version only.

The counsellors and students would have different sign-up processes and module interfaces. For the counsellors, they will be able to setup their profile according to their area of expertise, certificates, and et-cetera where the students are able to view the list of counsellors available as well as their respective profiles.

This website synchronizes all the counselling services process to be conducted on the same platform which include booking an appointment and online therapy sessions. The students and the counsellors will be able to chat among each other within a private conversation via text messages. The counsellors' appointment slots will be displayed in their profile where the students will be able to make an appointment directly. This application also allows students and counsellors to view past appointments' records.

The social platform will also be implemented on the website to build a UTAR peer support community for mental health which enable the registered students to follow each other. They are also able to post statuses on the news feed. The students are also able to rate and write reviews on the counsellors' profile.

#### **1.5 Contribution**

The proposed project consists of several aspects which can benefit the targeted users, which are students and counsellors of UTAR. This website will help to facilitate online counselling services on one platform and transition from the traditional manual appointment reservation system. The registered counsellors' profiles and their available appointment slots will be displayed on the application which enable the students to navigate and make an appointment easily with a few clicks. The counsellors will be notified when an appointment slot is reserved and after they confirm or reject the appointment made, the students will receive notification

about their appointment instantly. This feature made an impact to eliminate the traditional appointment system which is via walk-in and the students are required to submit their contact details to the Guidance and Counselling Unit office, then wait for the counsellor to process their application and contact them via email or phone call. It also eliminates the need of relying to external platform such as Google Form, Facebook, email and et-cetera to liaise the counsellors with the students regarding counselling services. As this website consists of its own chat room which supports text messages, it provides flexibility for both the students and counsellors to opt for any mode of communication at any time. Besides, this website is also integrated with a social community for mental health peer support where the students are able to follow each other and to post any statuses on the news feed. This feature helps to engage all the students who are on their recovery journey to provide mutual peer support virtually.

## **1.6 Report Organization**

This report is organized into 7 chapters: Chapter 1 Introduction, Chapter 2 Literature Review, Chapter 3 Proposed Method/Approach, Chapter 4 System Design, Chapter 5 System Implementation, Chapter 6 System Evaluation and Discussion, and Chapter 7 Conclusion and Recommendation.

The first chapter introduces the information background, problem statement, project objectives, project scope, motivation, and contribution. The second chapter covers the literature review, which is divided into two sections, where the first part covers the functionalities comparison of existing relevant applications according to their strengths and weaknesses. The second part covers the system methodologies review based on their differences, strengths, and drawbacks.

The third chapter covers the project's system methodology and its workflow whereas the fourth chapter covers the project's system designs which include block diagram, flow chart, wireframe user interface and UML diagrams such as use case diagrams and activity diagrams. The fifth chapter covers the project's system implementation where hardware and software setup, configurations and system operations were discussed in detail. The sixth chapter covers the project's system evaluation which include system testing results, objective evaluation, and project challenges. The seventh chapter is about the conclusion and recommendation for future enhancement of the project.

## CHAPTER 2 LITERATURE REVIEW

### 2.1 Application Review

#### 2.1.1 Metro Mind: Online Counselling and Therapy App [8]

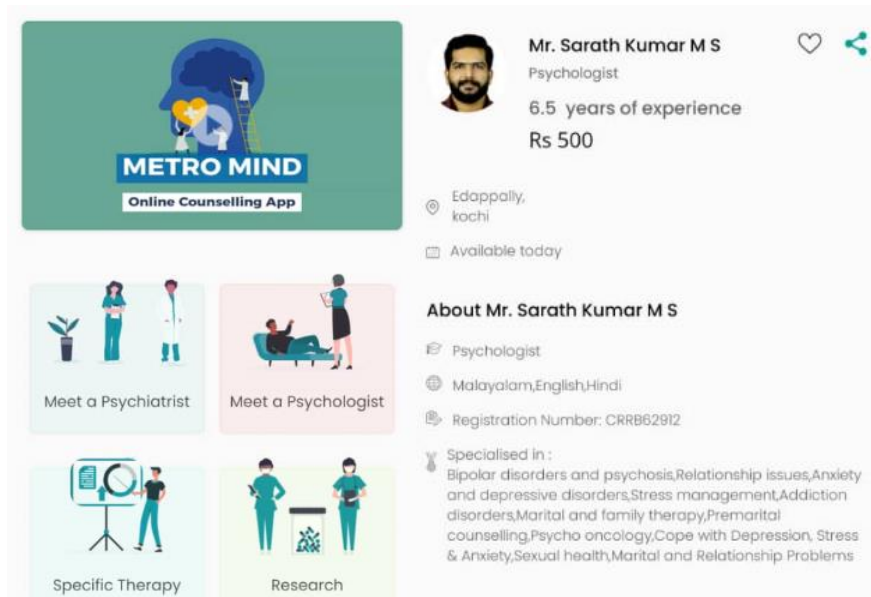


Figure 2.1 Metro Mind's home page and psychologist details

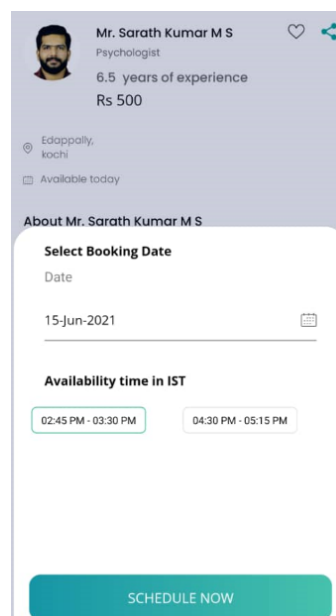


Figure 2.2 Psychologist's allocated appointment slots

#### Strength

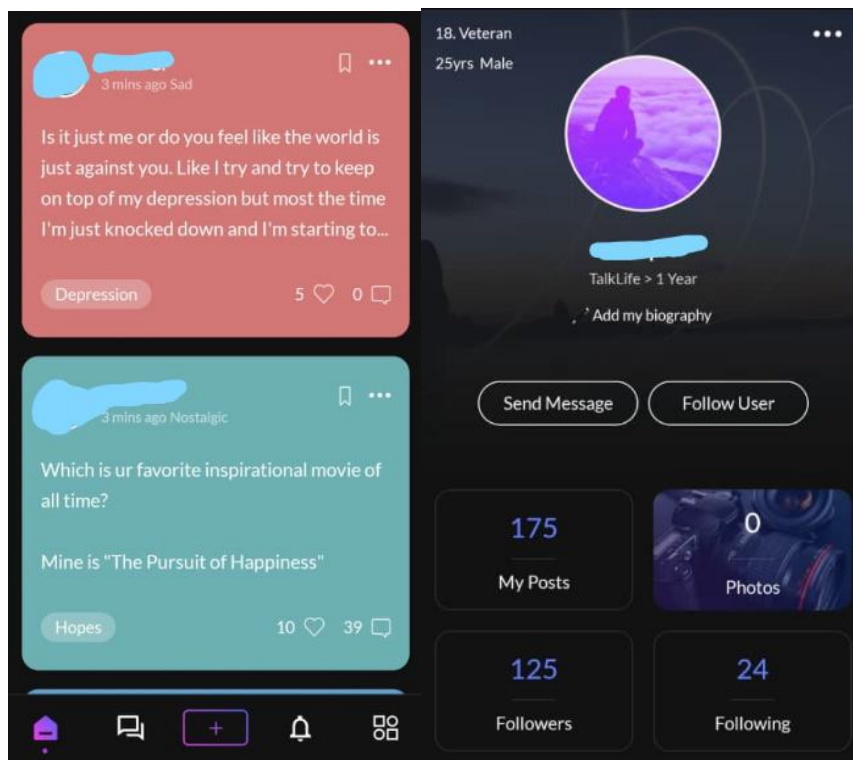
Metro Mind is an online counselling app which helps clients to find appropriate therapy approaches. This application introduces a simple user interface that is easy to navigate for first-time users where the landing page shows the therapy categories in an organized manner.

Besides, the list of available counsellors and their respective details are displayed in their profile to ease the appointment application process.

### Weakness

User is unable to chat with the counsellor before making any appointment which could be inconvenient in certain cases where the user has any inquiries. This application also does not have any social engagement as it is solely providing one-to-one counselling session via phone call and text messages in a private room after making the appointment.

### **2.1.2 TalkLife for Anxiety, Depression & Stress [9]**



*Figure 2.3 TalkLife's social platform and user profile*

### Strength

TalkLife is a mental health support community platform where the users seek support and share their thoughts or experiences on the application. As compared to other applications, TalkLife has an easier sign up process where the users can just connect to their google accounts. Since it is a social platform, it allows the users to follow/add each other and post status according to category as well as being able to comment and reply on the status.

### Weakness

TalkLife user interface is slightly messy where there is significant colour contrast in the statuses posted by the users. Besides, users are only allowed to send text messages within the conversation and anonymity is also encouraged in this application.

### 2.1.3 Talkspace Counselling & Therapy [10]

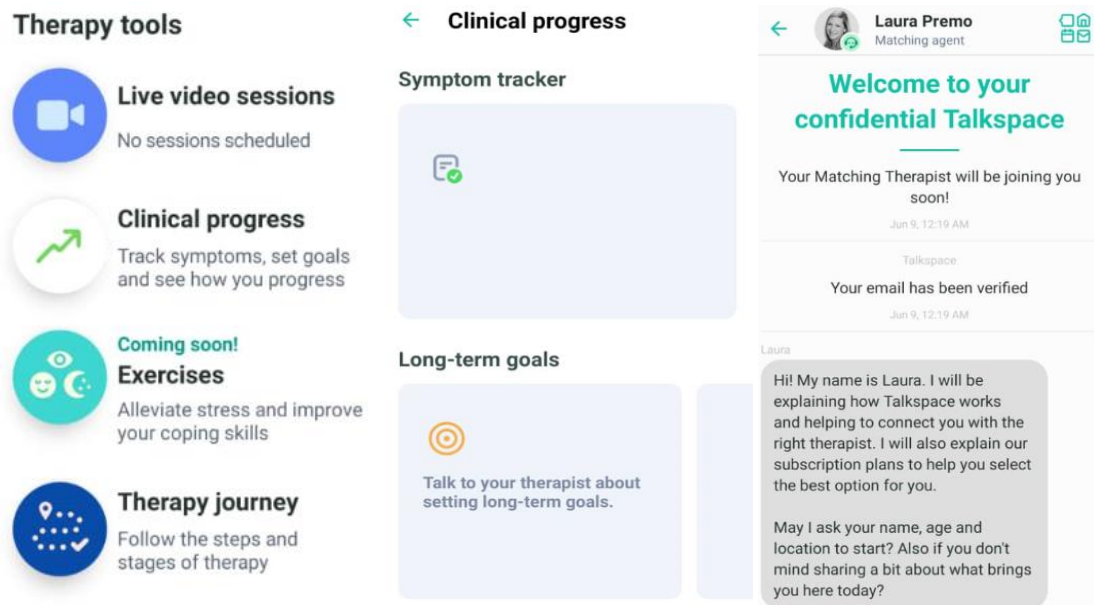


Figure 2.4 Talkspace's therapy tools, clinical progress and live chat

#### Strength

TalkSpace is an application which offers online therapy with the matched therapist. The application offers live video call with the therapist and the session can be carried out in the form of text and voice messages as well. TalkSpace comes with a progress tracker where the users are able to navigate to their clinical records and the key points of each session.

#### Weakness

User is unable to view the list of counsellors and their profile details before an appointment is made. Social platform is also not applicable in this application where it is solely one-to-one counselling and follow up sessions between the user and the counsellor. Besides, guideline on making an appointment is also not provided.

### 2.1.4 Comparison of Features

Features/ Application	Metro Mind: Online Counselling and Therapy	TalkLife for Anxiety, Depression & Stress	Talkspace: Counselling & Therapy
Counselling platform	/		/
Add or follow more than 1 user/counsellor		/	
View the list of users/counsellors and their profiles	/	/	
Track past appointment	/		
Track progress of each counselling session			/
Text messages in private conversation	/	/	/
Phone call in private conversation	/		/
Video call in private conversation			/
Post statuses & comments		/	

*Table 2.1 Comparison of Features*

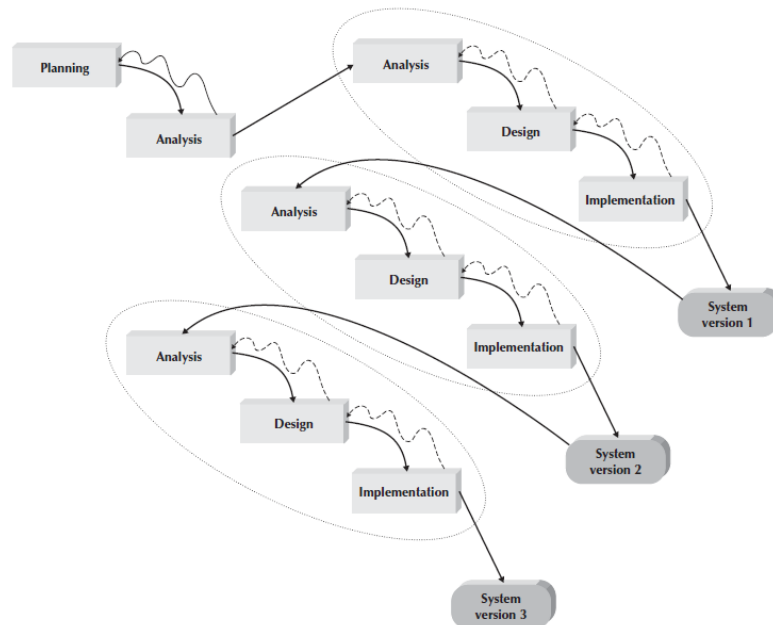
## 2.2 Methodology Review

### 2.2.1 Rapid Application Development (RAD) [11]

There are two methodologies that are part of RAD methodology which are phased development and prototyping development. The phased development is where an overall system will be divided into a series of demo or version that will be developed sequentially. The



analysis phase will pinpoint the overview of conceptual models and categorize the requirements into a few versions. The first version usually has all the major fundamentals and determining functions of the overall system while the subsequent versions will be designed and implemented accordingly. This is to perform additional analysis based on the previous requirements designed and in order to combine with new features to improve the system from time to time.



*Figure 2.5: Phased development [11]*

In prototyping development, analysis, design and implementation phases happened concurrently and all these three phases will be performed multiple times upon system completion. This methodology emphasizes on the creation of prototypes where they are incomplete versions of the software program to allow users perform evaluation report by trying them out, rather than interpreting and evaluating the design based on descriptions. In the process of building the first version of prototype, the analysis, design and implementation phase are performed concurrently and repeated upon system completion with the help of user feedback.

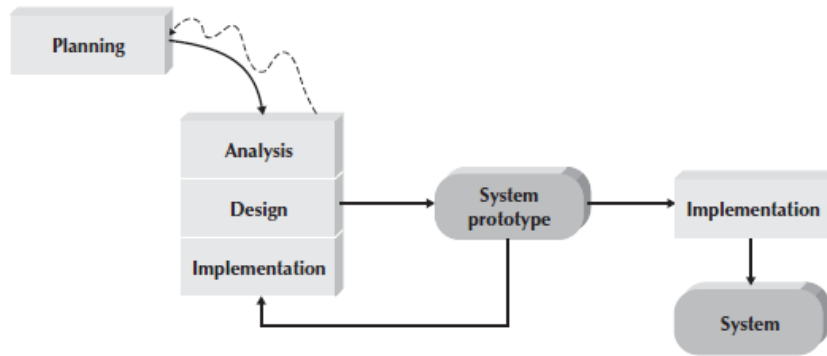


Figure 2.6: Prototyping development [11]

### 2.2.2 Agile Development [11]

Agile development is a programming-centric methodology where it emphasizes on simple and iterative application development that eliminates much of documentation, modelling and time spent on the system development process. One of the most commonly used agile development methodology is the Extreme Programming (XP) where it follows an iterative cycle modelling concept with five phases which are planning, designing, coding, testing and integration. According to Biju [12], the first phase which is the planning phase usually occurs at the beginning of each iteration then the design, coding and testing will be performed incrementally. After that, the integration of source code will happen continuously into the main branch, one contribution at a time. The XP methodology has a clearer user requirement overview in system development which makes this approach to have better flexibility and adaptability during the development process [13].

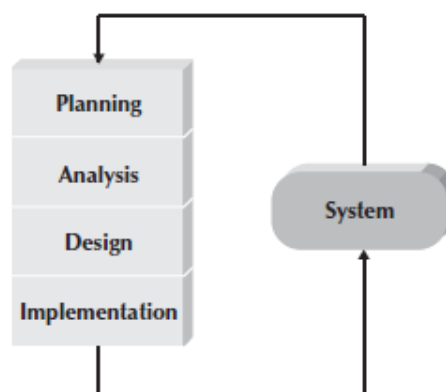


Figure 2.7: Agile development [11]

### 2.2.3 Criteria For Development Methodology Selection [11]

Usefulness For	Phase Development	Prototyping	Extreme Programming
Unclear User Requirements	Moderate	Excellent	Excellent
Unfamiliar Technology	Moderate	Poor	Poor
Reliable Systems	Moderate	Poor	Moderate
Short-time schedule	Excellent	Excellent	Excellent
Schedule Visibility	Excellent	Excellent	Good

*Table 2.2 Criteria for Development Methodology Selection*

Clarity of User Requirements: Both RAD and Agile methodologies are suitable for the systems development when the user requirements are not clear, thus phase development, prototyping and extreme programming are all appropriate to be implemented in this case.

Technology Familiarity: RAD methodology phased development is better because it creates opportunities to investigate the technology in certain level of depth before the completion of design. Agile methodology extreme programming is appropriate as well, however, prototyping is not suitable in this case because early prototypes are built on scratch using the new technology only. It might be time consuming to discover weakness in the new technology as more prototypes need to be developed for further investigation.

System reliability: Prototyping methodology is not suitable when it comes to system reliability due to the lack of thorough and detailed analysis or design phases that are mandatory for dependable systems. For agile methodology, it focuses on testing as well as incremental and iterative development hence it is the best option.

Short time schedule: Agile and RAD methodologies are great choice of options during short project timeline because the system functionalities can be adjusted by removing the functionality from the under-developed prototypes.

Schedule Visibility: RAD methodology performs most of the critical design decisions in the early part of the project in order to be able to identify risk factors. Hence, this would help to

keep the project on track to meet the schedule. On the other hand, Agile methodology is also appropriate as it performs iterative development so the schedule visibility also gets immediate attention in each phase.

## **CHAPTER 3 SYSTEM METHODOLOGY/APPROACH**

### **3.1 Methodology Involved**

The methodology that is being adapted to develop this project is Extreme Programming (XP) which is one of the Agile Development approaches. Adaptation of Extreme Programming emphasizes on simplicity and time saving where regular testing will be carried out with high user involvement to receive constant feedback during the conduction of each iterative cycle [14].

In XP methodology, the project is first being planned according to user requirement and followed by the analysis of the requirements and appropriate sets of tools for the project design and implementation. The flexibility of this approach which allows quality improvement at each phase if any issue arises during the development process which causes a mismatch of project requirements.

### **3.2 Project Workflow**

#### **a) Planning**

During the planning phase, project requirement and scope will be determined where the target audience or main user of the online counselling social platform would be university students and counsellors. Besides, background information, problem statements and project objectives will be drafted as a guideline for the subsequent phases as shown in CHAPTER 1. To ensure timely completion, a Gantt chart is constructed as well to monitor the timeline of each task and milestone.

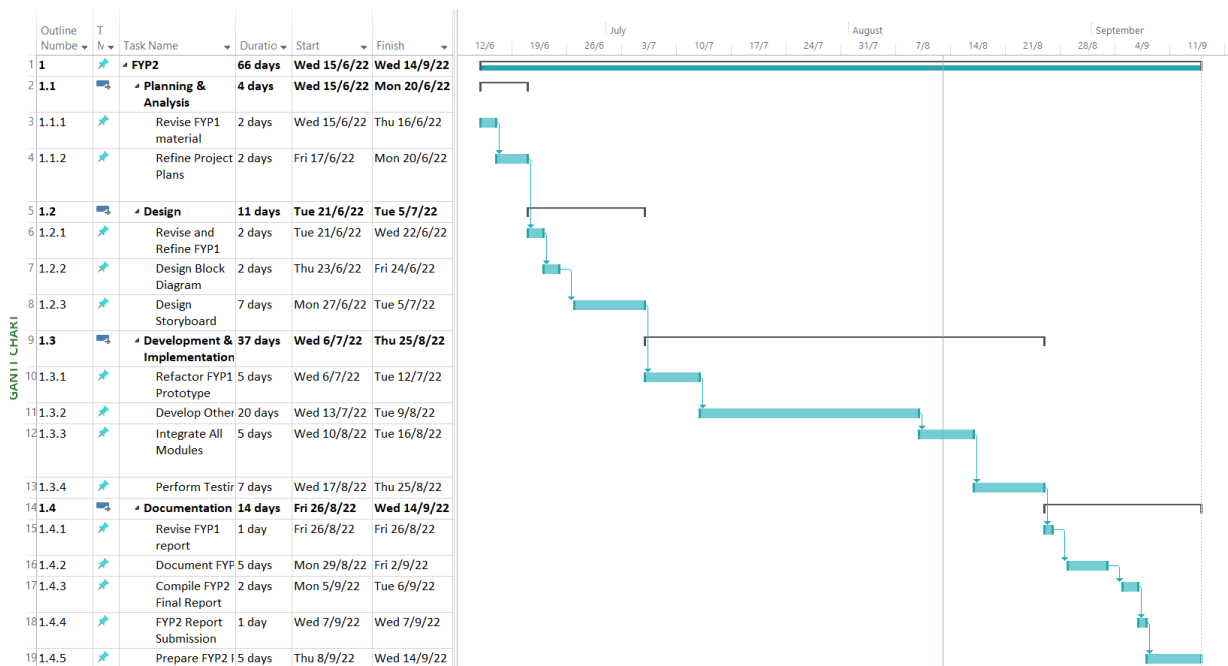


Figure 3.1 Gantt Chart

## b) Analysis

Proceeding to the analysis phase, as per discussed in CHAPTER 2, thorough research on existing online counselling applications will be conducted to get an insight of their functionalities and user interface respectively. During the research, the strengths and weaknesses of the respective application are analyzed to determine the functionalities of this project. Besides, various methodology approaches were reviewed and compared as well to identify the best methodology approach to be implemented in this project.

## c) Design

After analyzing and identifying all the functionalities and methodologies, required development tools will be used to come up with the wireframes and application features and logics of each module will be further developed. During the design phase, flow chart, block diagram and UML diagrams like use case diagrams and activity diagrams will be designed with the aid of Visual Paradigm Online and Figma. These will be visualized and further discussed in CHAPTER 4.

## d) Implementation

Finally, during the implementation phase, each individual module will be reviewed before

being integrated and linked to bring all the modules together. This implementation phase would be iterated into each sprint of short cycles to minimize risk during the project execution [15]. The outcome of each sprint will be integrated and tested where the evaluation of the prototype will involve revising the requirements through data collection and project structure to ensure that the project is developed on the same page as it is initiated. Each iterative process might produce a different outcome which indirectly contributes to each innovative feature in the project. As such, system testing will be performed to thoroughly test the final outcome which is further discussed in CHAPTER 6.

## CHAPTER 4 SYSTEM DESIGN

### 4.1 Block Diagram

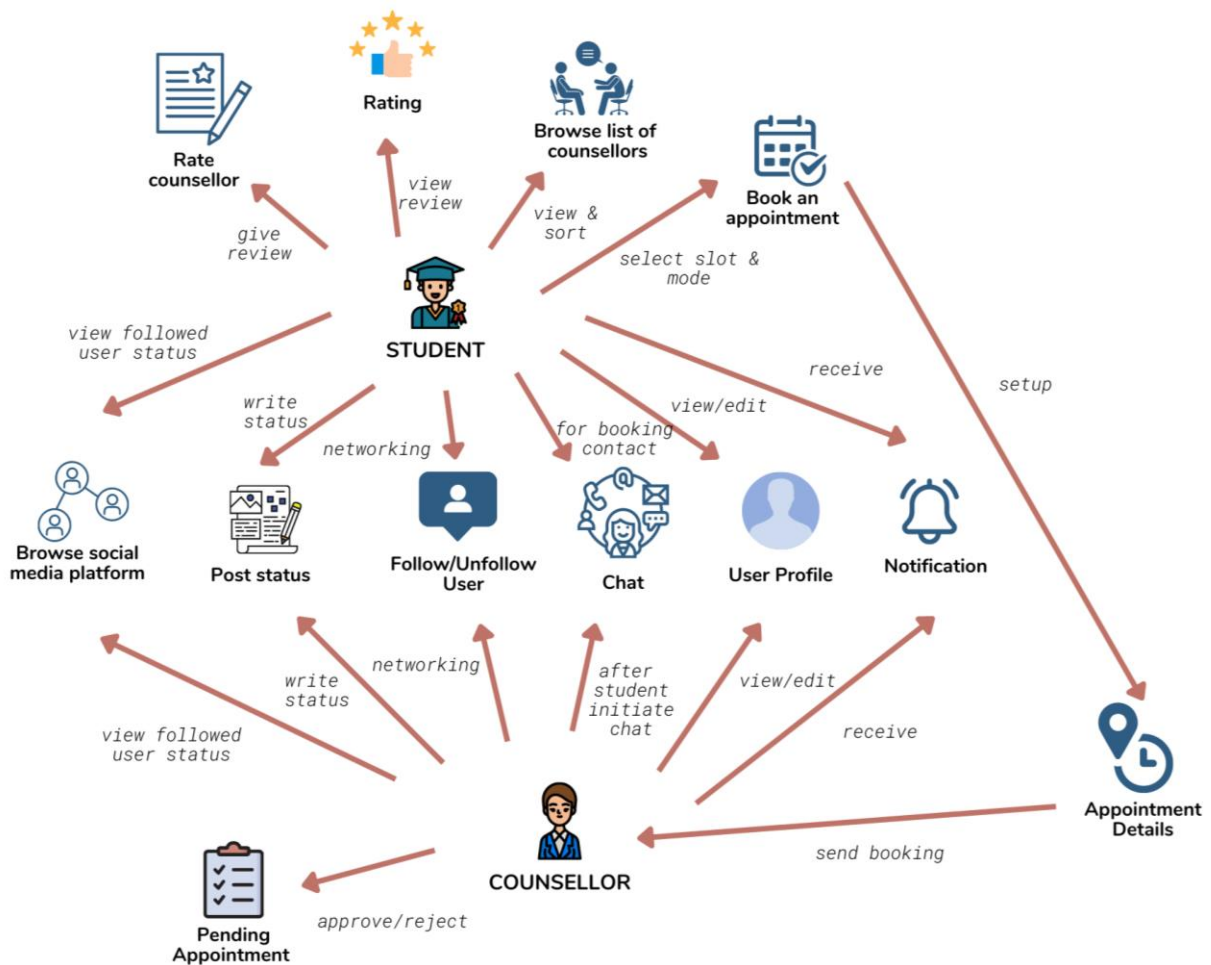


Figure 4.1 Block Diagram

#### a) Student:

Students will be directed to the homepage where the news feed of social platform and navigation menus are located, upon successful sign up and log in to the system after verifying their account of each login with verification code sent via Gmail SMTP. Students can edit their own profile anytime by modifying their details or changing profile picture.

In the social media platform, students can search all registered users (both students and counsellors) from the search bar and navigate to their respective profile. Student can follow and unfollow the selected user from their profile. Moreover, if the said selected user's profile is a counsellor, student can view all the past reviews or leave a review by rating stars and writing text comment about the counsellor. Besides, student can also post a status on the social media platform where the posted status can be seen by the said student's followers only.



Students can view the list of registered counsellors where they can also sort the counsellors according to area of expertise. From there, the students can book an appointment by selecting the date and time as well as mode of appointment from the preferred counsellor's profile. When all information is selected, the scheduled appointment will be sent to the respective counsellor to review. The appointment details will be displayed in the pending approval section until the counsellor respond to it. If the students wish to contact the counsellor prior making an appointment, they can chat in text messages in the chat room.

Students will receive notifications when the scheduled appointment is accepted or rejected and when any user follows them.

**b) Counsellor:**

Similarly, counsellors will be directed to the homepage where the news feed of social platform and navigation menus are located, upon successful sign up and log in to the system after verifying their account of each login with verification code sent via Gmail SMTP. Counsellors can edit their own profile anytime by modifying their details or changing profile picture. Counsellors can view all the reviews left by the students and their cumulative star ratings on their profile.

In the social media platform, counsellors can search all registered users (both students and counsellors) from the search bar and navigate to their respective profile. Counsellors can follow and unfollow the selected user from their profile. Besides, counsellors can also post a status on the social media platform where the posted status can be seen by the said counsellor's followers only.

Counsellors can view the list of pending and upcoming appointments. From there, the counsellors can review all the scheduled pending appointments where they can opt to accept or reject the appointment. If the counsellors reject the appointment, the details will be removed from the list of appointments. Else if the appointment is accepted, the appointment details will be shifted from the pending appointment section to upcoming appointment section.

Counsellors will receive notifications when they have a new scheduled appointment request or when any user follows them.

## 4.2 Flow Chart

### a) Log In and Sign Up Module

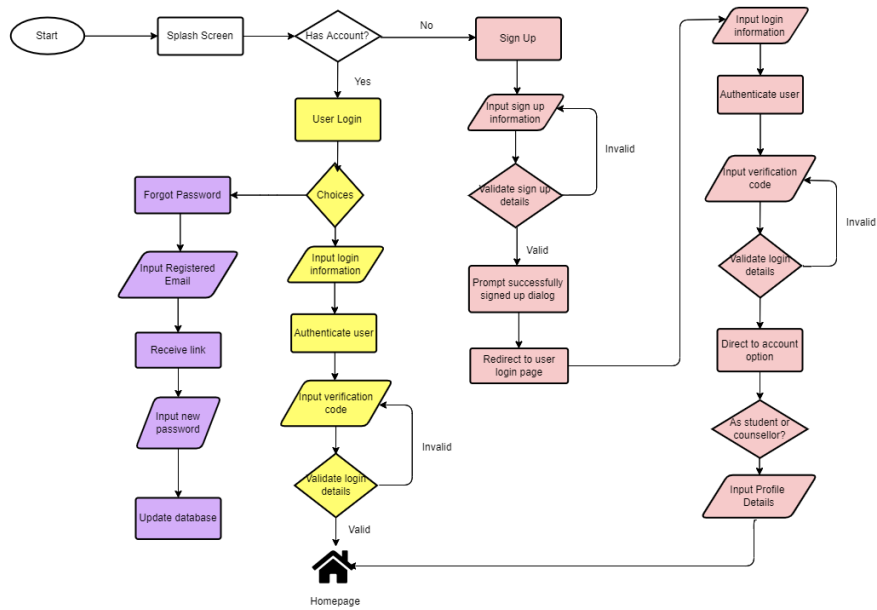


Figure 4.2 Log In And Sign Up Module Flow Chart

### b) Student Module

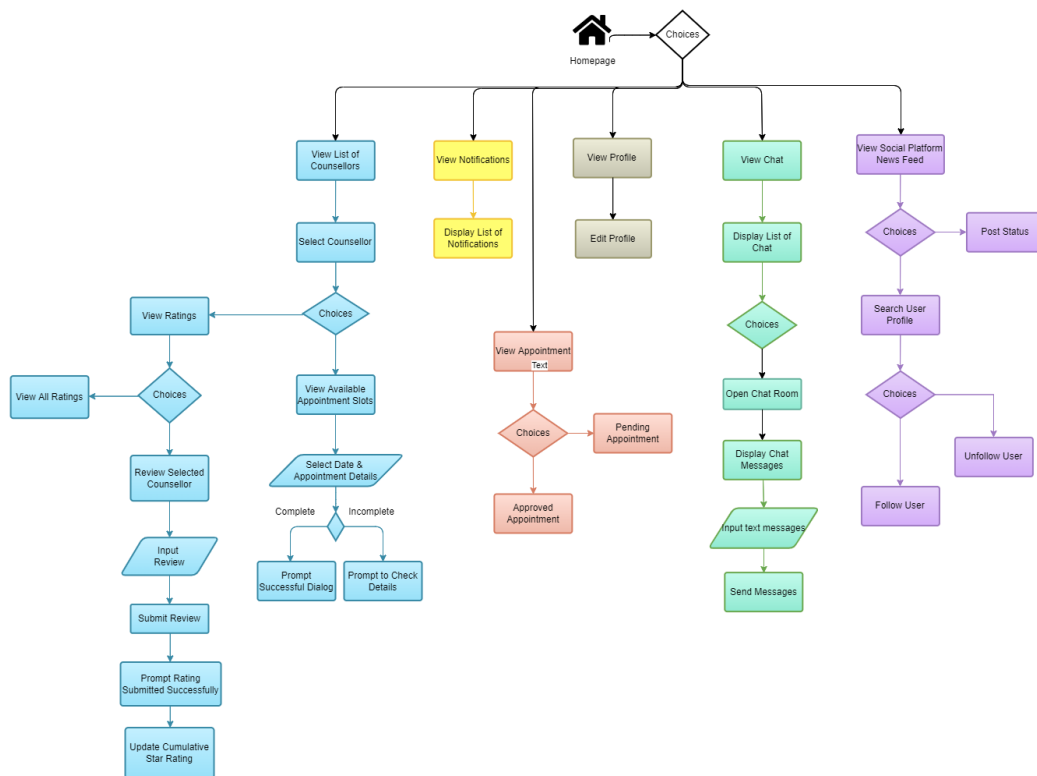


Figure 4.3 Student Module Flow Chart

### c) Counsellor Module

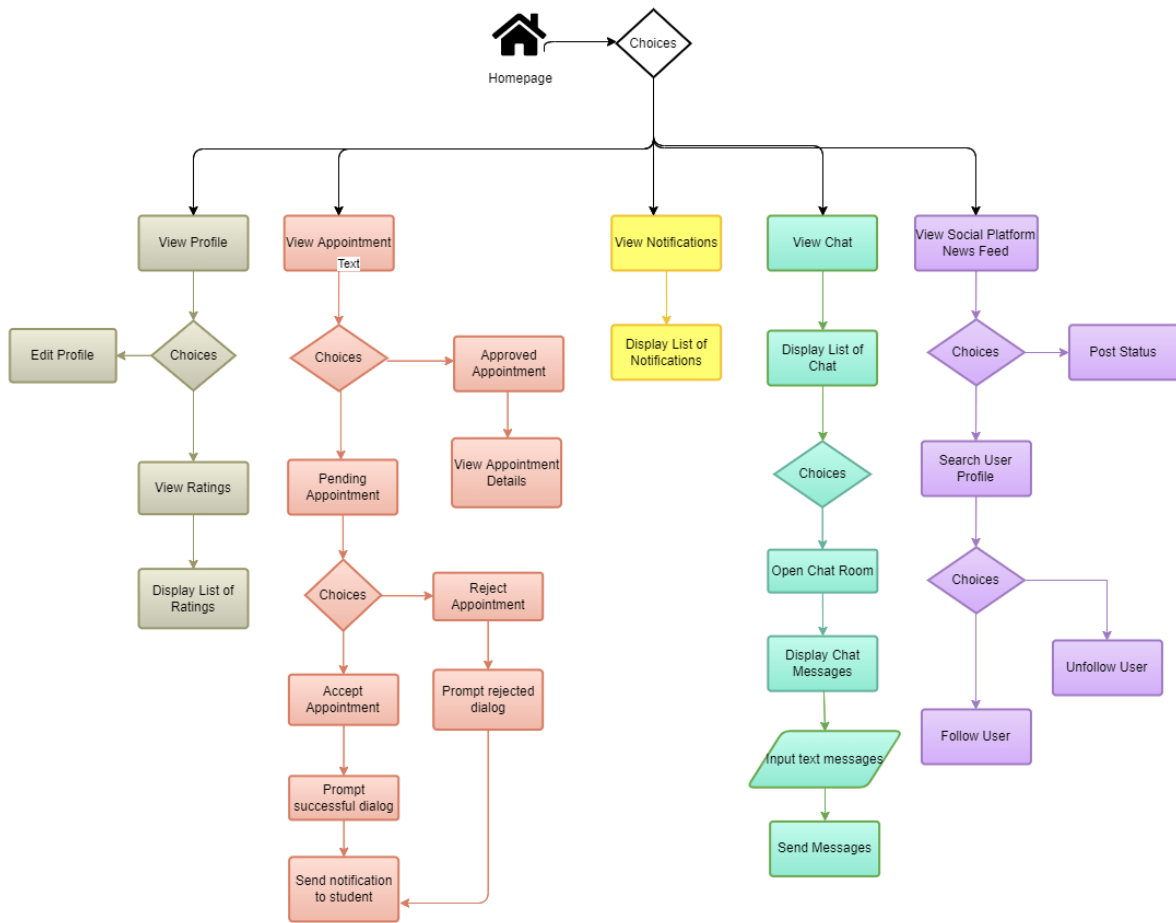


Figure 4.4 Counsellor Module Flow Chart

## 4.3 Use Case

### 4.3.1 Use Case Diagram

#### a) Student Module

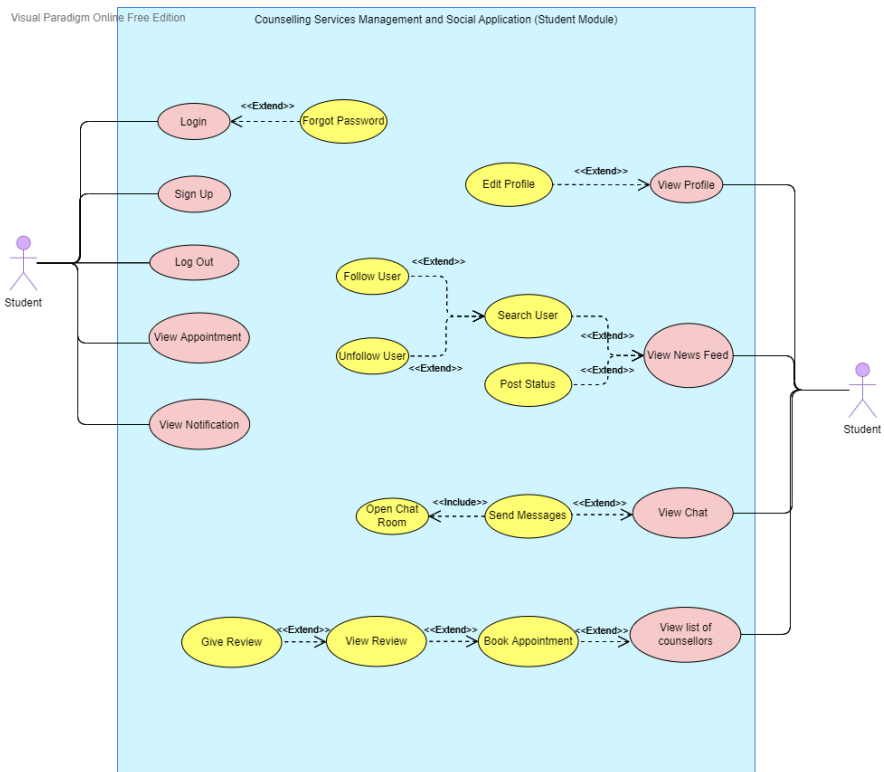


Figure 4.5 Student Module Use Case Diagram

**b) Counsellor Module**

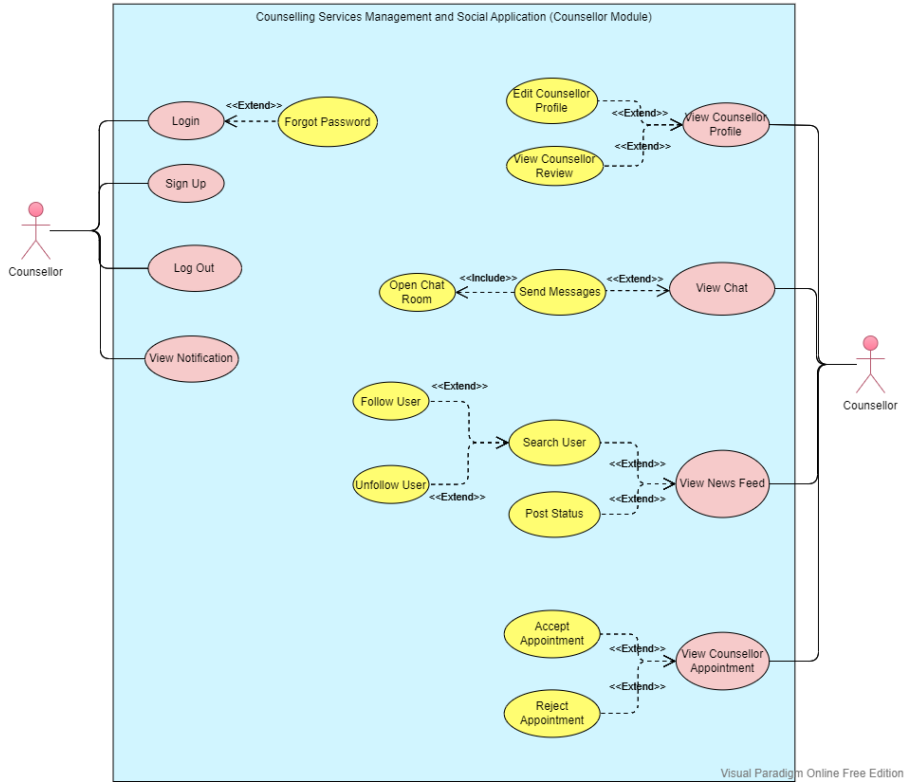


Figure 4.6 Counsellor Module Use Case Diagram

### 4.3.2 Use Case Descriptions

#### a) Shared use case of student and counsellor:

##### 1) Log In

Use Case Name	UC01_Log In
Description	User wants to log in to the website
Actor	Student or counsellor
Assumption(s)	User has an account and wants to log in
Precondition(s)	User has an account
Postcondition(s)	User is logged in to the website and redirected to home page
Primary Path	<ol style="list-style-type: none"> <li>1. User launches the system</li> <li>2. User is redirected to log in page</li> <li>3. User enters credentials</li> <li>4. System verifies the user by sending verification code via email</li> <li>5. User is redirected to home page</li> </ol>
Alternative Path(s)	<ol style="list-style-type: none"> <li>2a. User clicks on “Don’t have an account”. Use case resumes at UC02_Sign Up.</li> <li>2b. User clicks on “Forgot Password”. Use case resumes at UC03_Forgot Password.</li> </ol>
	<ol style="list-style-type: none"> <li>5a. Student is redirected to student dashboard</li> <li>5b. Counsellor is redirected to counsellor dashboard</li> </ol>
Exception Path(s)	System displays error message and prompts user to enter correct credentials at Step 3.

*Table 4.1 Use Case Description: Log In*

##### 2) Sign Up

Use Case Name	UC02_Sign Up
Description	User wants to sign up an account
Actor	Student or counsellor
Assumption(s)	User wants to sign up an account
Precondition(s)	
Postcondition(s)	User signed up an account and redirected to setup profile
Primary Path	<ol style="list-style-type: none"> <li>1. User clicks “Don’t have an account”</li> </ol>

	<ol style="list-style-type: none"> <li>2. User is redirected to sign up page</li> <li>3. User enters required data</li> <li>4. User clicks “Sign Up” button</li> <li>5. System verifies the user by sending verification code via email</li> <li>6. User is redirected to setup profile</li> </ol>
Alternative Path(s)	<ol style="list-style-type: none"> <li>6a. Student is redirected to student profile setup</li> <li>6b. Counsellor is redirected to counsellor profile setup</li> </ol>
Exception Path(s)	System displays error message and prompts user to enter valid input at Step 3.

*Table 4.2 Use Case Description: Sign Up*

### 3) Log Out

Use Case Name	UC03_Log Out
Description	User wants to log out from the website
Actor	Student or counsellor
Assumption(s)	User wants to log out
Precondition(s)	User is logged in
Postcondition(s)	User is logged out
Primary Path	<ol style="list-style-type: none"> <li>1. User clicks navigation menu</li> <li>2. User clicks log out</li> <li>3. User is redirected to log in page</li> </ol>
Alternative Path(s)	-
Exception Path(s)	-

*Table 4.3 Use Case Description: Log Out*

### 4) Forgot Password

Use Case Name	UC04_Forgot Password
Description	User has forgotten password and wants to reset password
Actor	Student or counsellor
Assumption(s)	User forgets and wants to reset password
Precondition(s)	User has signed up an account
Postcondition(s)	User receives email to reset password
Primary Path	<ol style="list-style-type: none"> <li>1. User clicks “Forget Password”</li> </ol>

	<ol style="list-style-type: none"> <li>2. System prompts user to enter registered email</li> <li>3. System sends reset password email to user</li> </ol>
Alternative Path(s)	-
Exception Path(s)	-

*Table 4.4 Use Case Description: Forgot Password*

#### 5) View Notification

Use Case Name	UC05_View Notification
Description	User wants to view notification
Actor	Student or counsellor
Assumption(s)	User wants to view notification
Precondition(s)	User is logged in
Postcondition(s)	User is redirected to notification page
Primary Path	<ol style="list-style-type: none"> <li>1. User clicks notification icon on the bottom navigation bar</li> <li>2. System gets the data</li> <li>3. User is redirected to notification page</li> </ol>
Alternative Path(s)	-
Exception Path(s)	-

*Table 4.5 Use Case Description: View Notification*

#### 6) View News Feed

Use Case Name	UC06_View News Feed
Description	User wants to view news feed of social media platform
Actor	Student or counsellor
Assumption(s)	User wants to view news feed
Precondition(s)	User is logged in
Postcondition(s)	User is redirected to news feed
Primary Path	<ol style="list-style-type: none"> <li>1. User clicks home icon</li> <li>2. User is redirected to news feed</li> <li>3. System gets data</li> <li>4. User is displayed a list of statuses posted by other followed users</li> </ol>
Alternative Path(s)	3a. User clicks + icon. Use case resumes at UC07_Post Status
Exception Path(s)	-

*Table 4.6 Use Case Description: View News Feed*

### 7) Post Status

Use Case Name	UC07_Post Status
Description	User wants to post status on news feed
Actor	Student or counsellor
Assumption(s)	User wants to post status
Precondition(s)	User is logged in and landed on news feed page
Postcondition(s)	User has posted a status
Primary Path	<ol style="list-style-type: none"> <li>1. User input text status</li> <li>2. User clicks submit button</li> <li>3. System stores the data</li> </ol>
Alternative Path(s)	<ol style="list-style-type: none"> <li>2a. User clicks cancel button</li> <li>3a. User is redirected back to news feed page</li> </ol>
Exception Path(s)	System prompts error message when user submits empty text field

*Table 4.7 Use Case Description: Post Status*

### 8) Search User

Use Case Name	UC08_Search User
Description	User wants to search user
Actor	Student or counsellor
Assumption(s)	User wants to search another user profile
Precondition(s)	User is logged in and landed on homepage
Postcondition(s)	User can view the list of search result
Primary Path	<ol style="list-style-type: none"> <li>1. User clicks search bar on the home page</li> <li>2. User is redirected to search screen</li> <li>3. User enters search keyword</li> <li>4. System displays search result</li> </ol>
Alternative Path(s)	-
Exception Path(s)	-

*Table 4.8 Use Case Description: Search User*

### 9) Follow User

Use Case Name	UC09_Follow User
Description	User wants to follow other registered users
Actor	Student or counsellor



Assumption(s)	User wants to follow other users
Precondition(s)	User is logged in and landed on other users' profile page
Postcondition(s)	User has followed the other user
Primary Path	<ol style="list-style-type: none"> <li>1. User clicks follow button</li> <li>2. System stores and updates the data</li> <li>3. System toggles and changes the follow button to unfollow</li> </ol>
Alternative Path(s)	-
Exception Path(s)	-

*Table 4.9 Use Case Description: Follow User*

#### 10) Unfollow User

Use Case Name	UC10_Unfollow User
Description	User wants to unfollow other registered users
Actor	Student or counsellor
Assumption(s)	User wants to unfollow other users
Precondition(s)	User is logged in and landed on other users' profile page
Postcondition(s)	User has unfollowed the other user
Primary Path	<ol style="list-style-type: none"> <li>1. User clicks unfollow button</li> <li>2. System updates the data</li> <li>3. System toggles and changes the unfollow button to follow</li> </ol>
Alternative Path(s)	-
Exception Path(s)	-

*Table 4.10 Use Case Description: Unfollow User*

#### 11) View Chat

Use Case Name	UC11_View Chat
Description	User wants to view chat records
Actor	Student or counsellor
Assumption(s)	User wants to view chat records
Precondition(s)	User is logged in
Postcondition(s)	User is landed in chat page
Primary Path	<ol style="list-style-type: none"> <li>1. User clicks chat icon on the bottom navigation bar</li> <li>2. System gets the data</li> <li>3. User is redirected to chat page</li> </ol>

Alternative Path(s)	3a. User clicks on individual chat. System fetches the data and redirects user to the selected chat room.
Exception Path(s)	-

*Table 4.11 Use Case Description: View Chat*

## 12) Open Chat Room

Use Case Name	UC12_Open Chat Room
Description	User wants to chat with other users
Actor	Student or counsellor
Assumption(s)	User wants to view the messages and/or chat with other users
Precondition(s)	User is logged in
Postcondition(s)	User is landed in chat room
Primary Path	<ol style="list-style-type: none"> <li>1. User clicks on any individual chat</li> <li>2. System gets the data</li> <li>3. User is redirected to the selected chat room</li> </ol>
Alternative Path(s)	2a. System creates a new chat room if related data is not found. Use case resumes at Step 3.
Exception Path(s)	-

*Table 4.12 Use Case Description: Open Chat Room*

## 13) Send Messages

Use Case Name	UC13_Send Messages
Description	User wants to send messages to other users
Actor	Student or counsellor
Assumption(s)	User wants to send a message
Precondition(s)	User is logged in and landed in the selected chat room
Postcondition(s)	User has sent a message
Primary Path	<ol style="list-style-type: none"> <li>1. User enters messages in the text field</li> <li>2. User clicks send button</li> <li>3. System stores the data</li> </ol>
Alternative Path(s)	3a. User wants to send more messages. Use case resumes at Step 1.
Exception Path(s)	-

*Table 4.13 Use Case Description: Send Messages*

### **b) Student:**

## 14) View Profile

Use Case Name	UC14_View Profile
Description	User wants to view own profile
Actor	Student
Assumption(s)	User wants to view own profile
Precondition(s)	User is logged in and landed in home page
Postcondition(s)	User is landed in their own profile
Primary Path	<ol style="list-style-type: none"> <li>1. User clicks profile icon on the bottom navigation bar</li> <li>2. System gets the data</li> <li>3. User is redirected to own profile page</li> </ol>
Alternative Path(s)	3a. User clicks on edit icon. Use case resumes at UC15_Edit Profile
Exception Path(s)	-

*Table 4.14 Use Case Description: View Profile*

#### 15) Edit Profile

Use Case Name	UC15_Edit Profile
Description	User wants to edit own profile
Actor	Student
Assumption(s)	User wants to edit own profile details
Precondition(s)	User is logged in and landed in their own profile page
Postcondition(s)	User has edited their details
Primary Path	<ol style="list-style-type: none"> <li>1. User clicks edit icon</li> <li>2. System gets the data and selected fields turn editable</li> <li>3. User edits the selected fields</li> <li>4. User clicks done</li> <li>5. System stores and updates the data</li> <li>6. User is redirected to their own profile page</li> </ol>
Alternative Path(s)	4a. User clicks cancel. Use case resumes at Step 6.
Exception Path(s)	-

*Table 4.15 Use Case Description: Edit Profile*

#### 16) View List of Counsellors

Use Case Name	UC16_View List of Counsellors
Description	User wants to view list of registered counsellors
Actor	Student

Assumption(s)	User wants to browse the registered counsellors
Precondition(s)	User is logged in and landed in homepage
Postcondition(s)	User is landed on list of counsellors' page
Primary Path	<ol style="list-style-type: none"> <li>1. User clicks on navigation menu</li> <li>2. User clicks on list of counsellors</li> <li>3. System gets the data</li> <li>4. User is redirected to list of counsellors' page</li> </ol>
Alternative Path(s)	-
Exception Path(s)	-

*Table 4.16 Use Case Description: View List of Counsellors*

### 17) Book Appointment

Use Case Name	UC17_Book Appointment
Description	User wants to book an appointment with a counsellor
Actor	Student
Assumption(s)	User wants to find out more about the counsellor and schedule an appointment
Precondition(s)	User is logged in and landed in list of counsellors' page
Postcondition(s)	User is landed on counsellor information page
Primary Path	<ol style="list-style-type: none"> <li>1. User clicks on "Book" button</li> <li>2. System gets and displays data</li> <li>3. User selects all fields</li> <li>4. User clicks "Confirm"</li> <li>5. System prompts "Appointment made successfully, pending counsellor approval"</li> </ol>
Alternative Path(s)	<ol style="list-style-type: none"> <li>4a. User clicks "Cancel"</li> <li>5a. User is redirected to Step 2.</li> <li>4b. User clicks "Contact Now". Use case resumes at UC12_Open Chat Room.</li> </ol>
Exception Path(s)	System displays error message and prompt user to select all required field if user misses out any field in Step 3.

*Table 4.17 Use Case Description: Book Appointment*

### 18) View Review

Use Case Name	UC18_View Review
Description	User wants to view the reviews of counsellors
Actor	Student
Assumption(s)	User wants to view the reviews of counsellors
Precondition(s)	User is logged in and landed in selected counsellor's profile
Postcondition(s)	User is landed in review page
Primary Path	<ol style="list-style-type: none"> <li>1. User clicks on "View All Reviews"</li> <li>2. System gets the data</li> <li>3. User is redirected to list of reviews page</li> </ol>
Alternative Path(s)	3a. User wants to give review. Use case proceeds with UC19_Give Review.
Exception Path(s)	-

*Table 4.18 Use Case Description: View Review*

19) Give Review

Use Case Name	UC19_Give Review
Description	User wants to review a counsellor
Actor	Student
Assumption(s)	User wants to review a counsellor
Precondition(s)	User is logged in and landed in counsellor's profile
Postcondition(s)	User has given a review on a counsellor
Primary Path	<ol style="list-style-type: none"> <li>1. User clicks on "Rate" button</li> <li>2. User is redirected to review form</li> <li>3. User input the number of stars</li> <li>4. User writes text review</li> <li>5. User selects either to recommend or not recommend the counsellor.</li> <li>6. User clicks "Submit" button</li> <li>7. System stores the data and prompts "Review submitted successfully"</li> </ol>
Alternative Path(s)	6a. User clicks "Cancel" button. User is redirected to counsellor's profile page
Exception Path(s)	System prompts error message if user submits empty review.

*Table 4.19 Use Case Description: Give Review*

## 20) View Appointment

Use Case Name	UC20_View Appointment
Description	User wants to view appointment records
Actor	Student
Assumption(s)	User wants to view appointment records
Precondition(s)	User is logged in and landed in homepage
Postcondition(s)	User is landed on list of appointment page
Primary Path	<ol style="list-style-type: none"> <li>1. User clicks appointment icon on bottom navigation bar</li> <li>2. System gets the data</li> <li>3. User is redirected to list of appointment page</li> </ol>
Alternative Path(s)	-
Exception Path(s)	-

*Table 4.20 Use Case Description: View Appointment*

### c) Counsellor:

## 21) View Counsellor Profile

Use Case Name	UC21_View Counsellor Profile
Description	User wants to view own profile
Actor	Counsellor
Assumption(s)	User wants to view own profile
Precondition(s)	User is logged in and landed in home page
Postcondition(s)	User is landed in their own profile
Primary Path	<ol style="list-style-type: none"> <li>1. User clicks profile icon on the bottom navigation bar</li> <li>2. System gets the data</li> <li>3. User is redirected to own profile page</li> </ol>
Alternative Path(s)	3a. User clicks on edit icon. Use case resumes at UC21_Edit Counsellor Profile
Exception Path(s)	-

*Table 4.21 Use Case Description: View Counsellor Profile*

## 22) Edit Counsellor Profile

Use Case Name	UC22_Edit Counsellor Profile
Description	User wants to edit own profile
Actor	Counsellor

Assumption(s)	User wants to edit own profile details
Precondition(s)	User is logged in and landed in their own profile page
Postcondition(s)	User has edited their details
Primary Path	<ol style="list-style-type: none"> <li>1. User clicks edit icon</li> <li>2. System gets the data and selected fields turn editable</li> <li>3. User edits the selected fields</li> <li>4. User clicks done</li> <li>5. System stores and updates the data</li> <li>6. User is redirected to their own profile page</li> </ol>
Alternative Path(s)	4a. User clicks cancel. Use case resumes at Step 6.
Exception Path(s)	-

*Table 4.22 Use Case Description: Edit Counsellor Profile*

### 23) View Counsellor Review

Use Case Name	UC23_View Counsellor Review
Description	User wants to view the reviews left on their profile
Actor	Counsellor
Assumption(s)	User wants to view the reviews left on their profile
Precondition(s)	User is logged in and landed in profile page
Postcondition(s)	User is landed in review page
Primary Path	<ol style="list-style-type: none"> <li>1. User clicks on “View All Reviews”</li> <li>2. System gets the data</li> <li>3. User is redirected to list of reviews page</li> </ol>
Alternative Path(s)	-
Exception Path(s)	-

*Table 4.23 Use Case Description: View Counsellor Review*

### 24) View Counsellor Appointment

Use Case Name	UC24_View Counsellor Appointment
Description	User wants to view appointment records
Actor	Counsellor
Assumption(s)	User wants to view appointment records
Precondition(s)	User is logged in and landed in homepage
Postcondition(s)	User is landed on the list of appointment page

Primary Path	<ol style="list-style-type: none"> <li>1. User clicks appointment icon on bottom navigation bar</li> <li>2. System gets the data</li> <li>3. User is redirected to list of appointment page</li> <li>4. System displays pending appointment details</li> <li>5. System displays upcoming appointment details</li> </ol>
Alternative Path(s)	4a. User clicks accept button. Use case proceeds at UC025_Accept Appointment
	4b. User clicks decline button. Use case proceeds at UC026_Reject Appointment
Exception Path(s)	-

*Table 4.24 Use Case Description: View Counsellor Appointment*

#### 25) Accept Appointment

Use Case Name	UC25_Accept Appointment
Description	User wants to accept appointment request
Actor	Counsellor
Assumption(s)	User has received appointment request
Precondition(s)	User is logged in and landed in list of appointments page
Postcondition(s)	User has approved pending request
Primary Path	<ol style="list-style-type: none"> <li>1. User clicks on “Accept” button</li> <li>2. System stores and updates the data</li> <li>3. System changes the status from pending to upcoming</li> <li>4. User is redirected to list of appointment page</li> </ol>
Alternative Path(s)	-
Exception Path(s)	-

*Table 4.25 Use Case Description: Accept Appointment*

#### 26) Reject Appointment

Use Case Name	UC26_Reject Appointment
Description	User wants to reject appointment request
Actor	Counsellor
Assumption(s)	User has received appointment request
Precondition(s)	User is logged in and landed in list of appointments page
Postcondition(s)	User has rejected pending request



Primary Path	<ol style="list-style-type: none"> <li>1. User clicks on “Decline” button</li> <li>2. System stores and updates the data</li> <li>3. System removes the display of declined appointment requests from the page</li> <li>4. User is redirected to list of appointment page</li> </ol>
Alternative Path(s)	-
Exception Path(s)	-

Table 4.26 Use Case Description: Reject Appointment

#### 4.4 Activity Diagram

##### 1) Sign Up

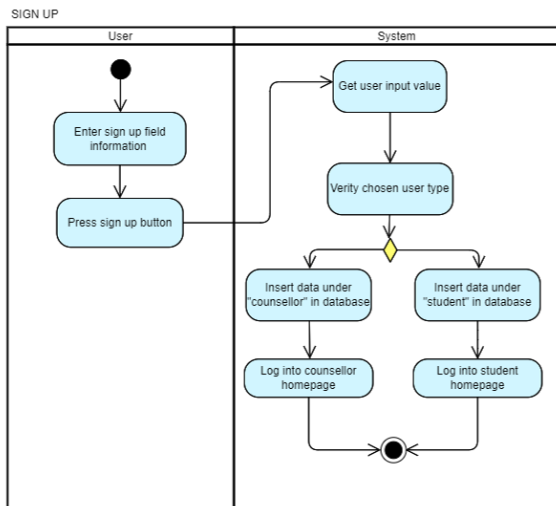


Figure 4.7 Sign Up

##### 2) Login

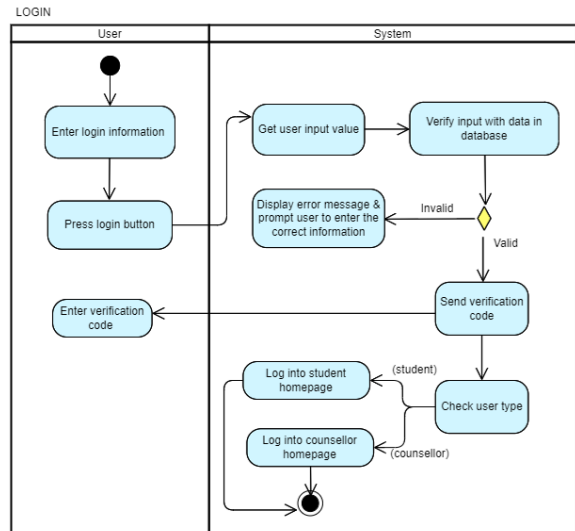


Figure 4.8 Log In

##### 3) Forgot Password

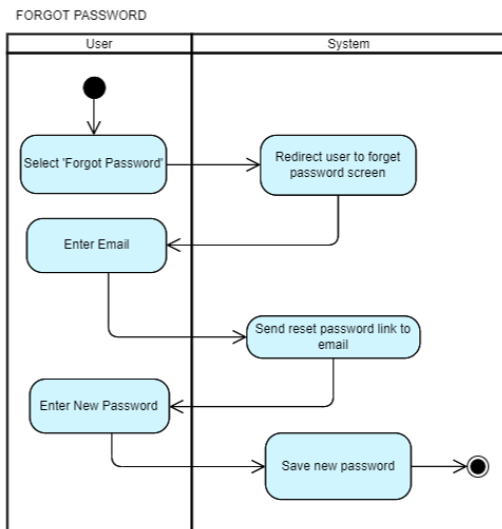


Figure 4.9 Forgot Password

##### 4) Log Out

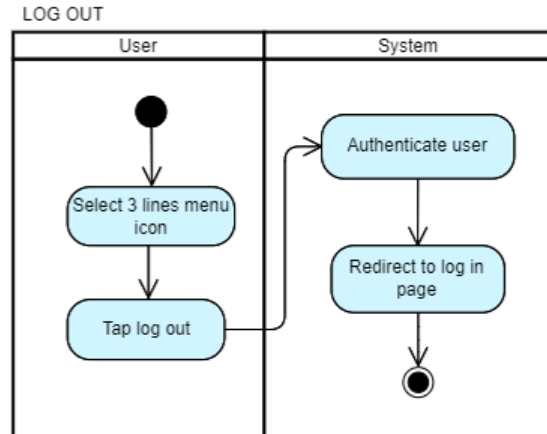


Figure 4.10 Log Out

### 5) View Notification

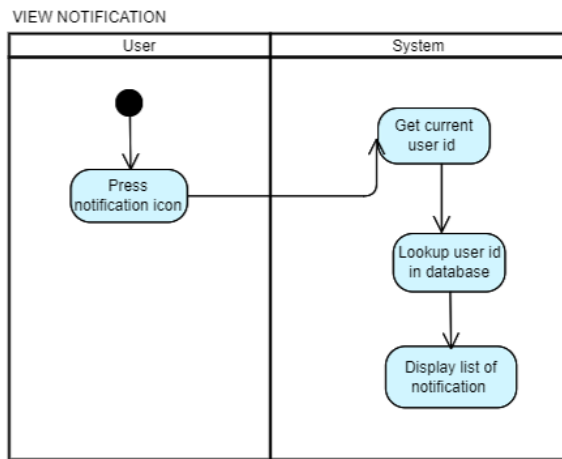


Figure 4.11 View Notification

### 6) Search User

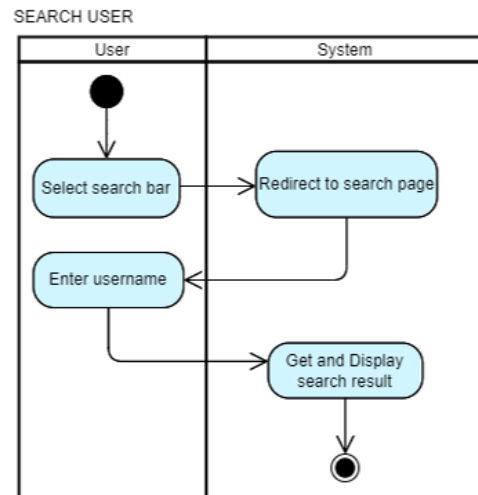


Figure 4.12 Search User

### 7) View Social Media Platform

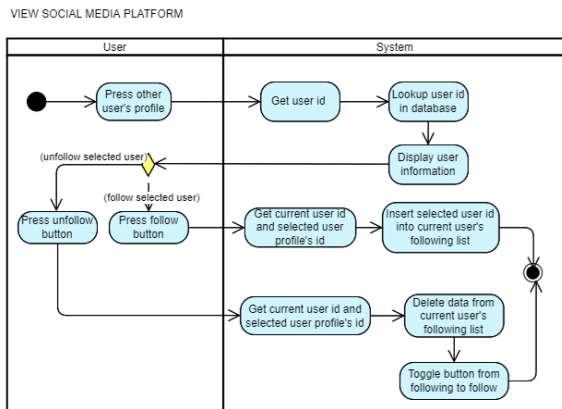


Figure 4.13 View Social Media Platform

### 8) Post Status

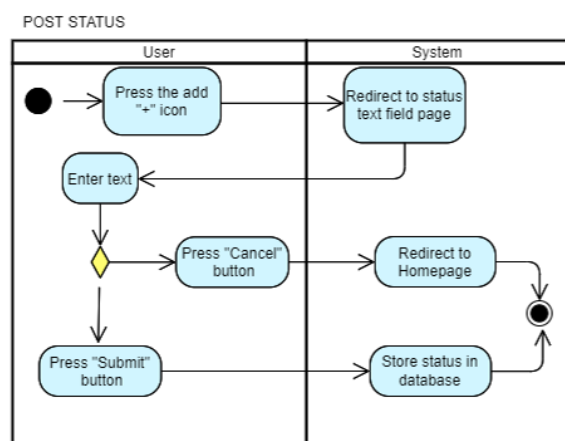


Figure 4.14 Post Status

### 9) View Chat

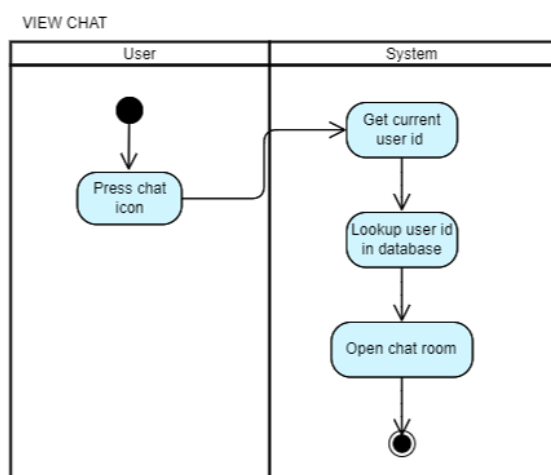


Figure 4.15 View Chat

### 10) Send Messages

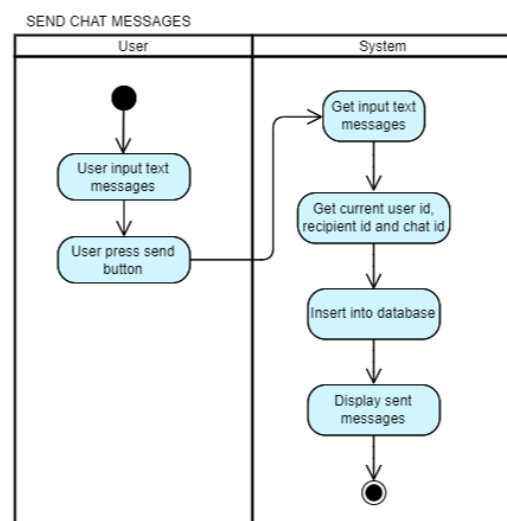


Figure 4.16 Send Chat Messages

11) Open Chat Room

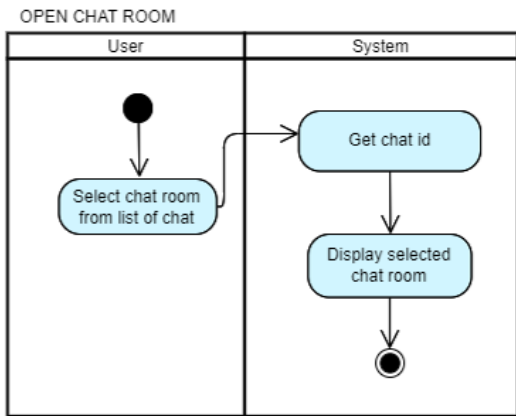


Figure 4.17 Open Chat Room

12) View Other User Profile

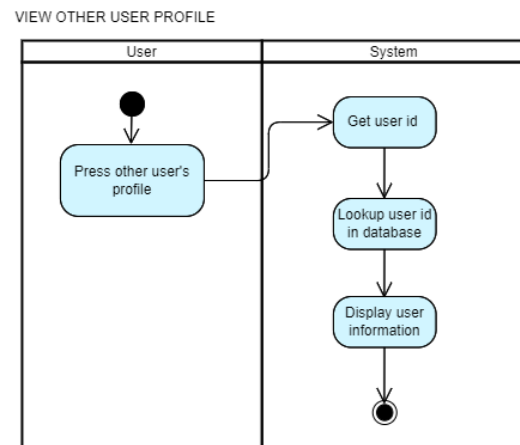


Figure 4.18 View Other User Profile

a) Student

13) View List of Counsellors and Book Appointment

Appointment

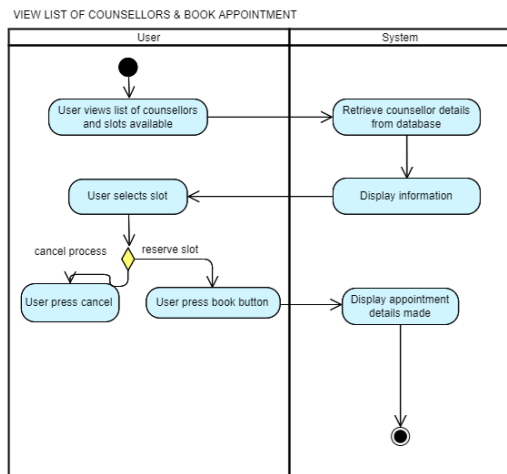


Figure 4.19 View List of Counsellors & Book Appointment

14) View Profile

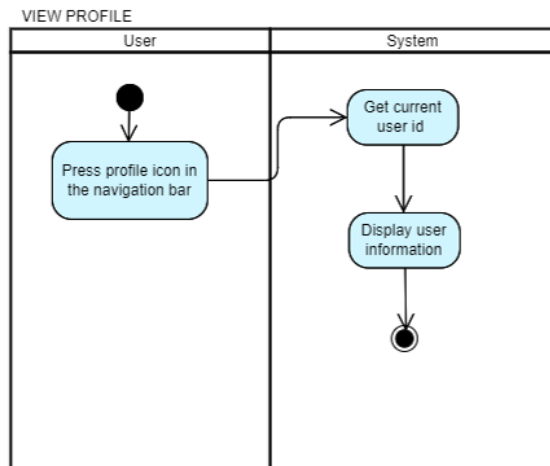


Figure 4.20 View Profile

### 15) View Appointment Booking

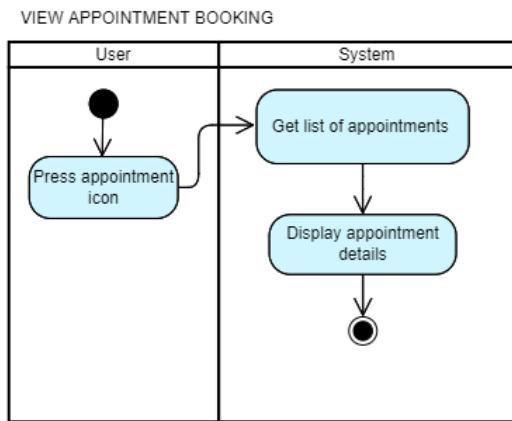


Figure 4.21 View Appointment Booking

### 16) Search User

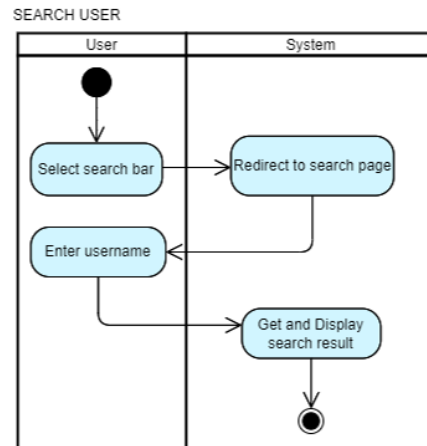


Figure 4.22 Search User

### 17) View Review

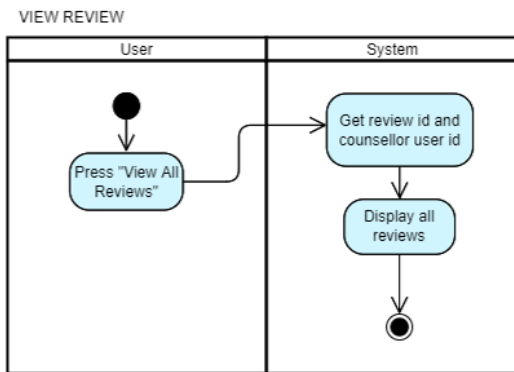


Figure 4.23 View Review

### 18) Write Review

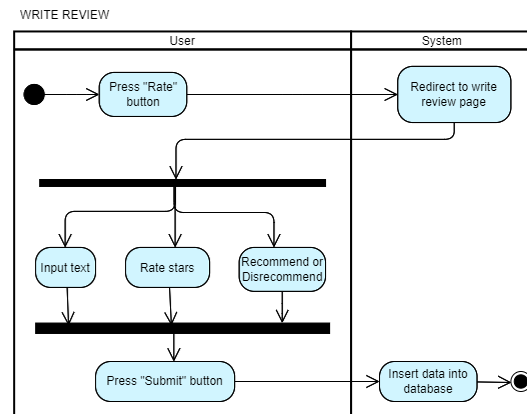


Figure 4.24 Write Review

### 19) Edit Profile

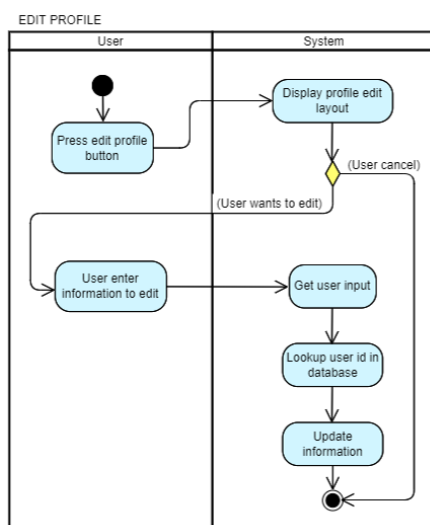


Figure 4.25 Edit Profile

**b) Counsellor**

20) View Counsellor Review

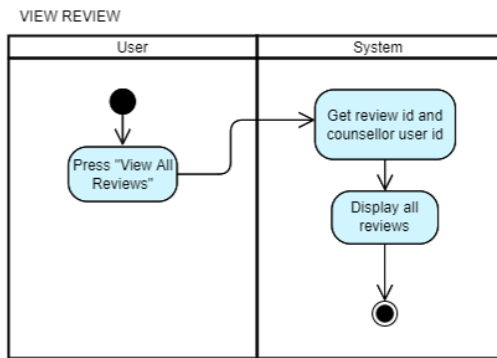


Figure 4.26 View Counsellor Review

21) View Counsellor Profile

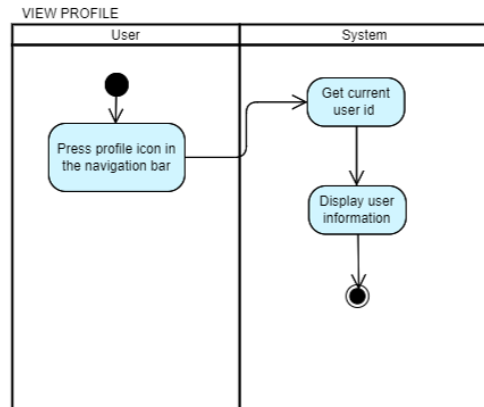


Figure 4.27 View Counsellor Profile

22) Edit Counsellor Profile

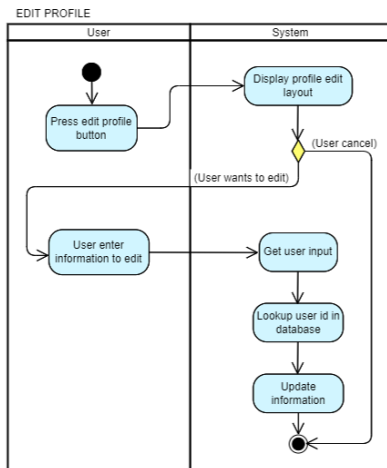


Figure 4.28 Edit Counsellor Profile

23) View Counsellor Appointment

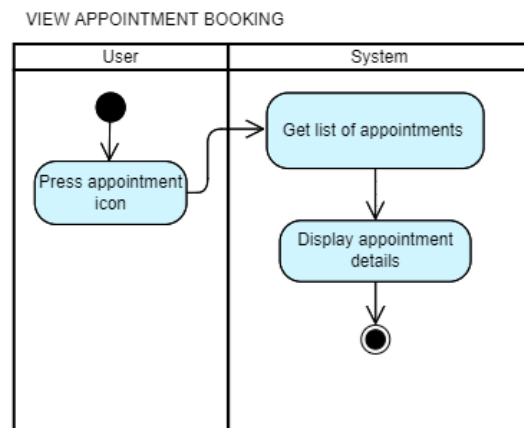


Figure 4.29 View Counsellor Appointment

24) Confirm Appointment

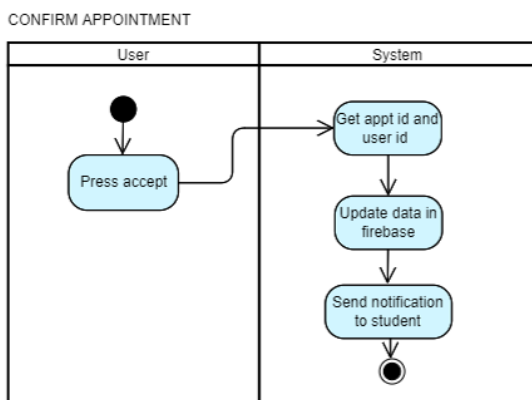


Figure 4.30 Confirm Appointment

25) Reject Appointment

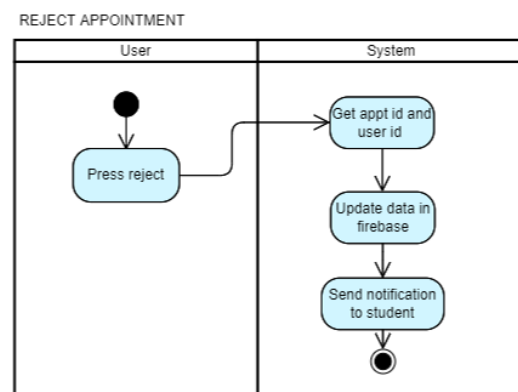


Figure 4.31 Reject Appointment

## 4.5 Components Design

The overall website design is in light blue theme, the followings are the wireframe user interface of the website:

### 1) Splash screen, Login and Sign Up

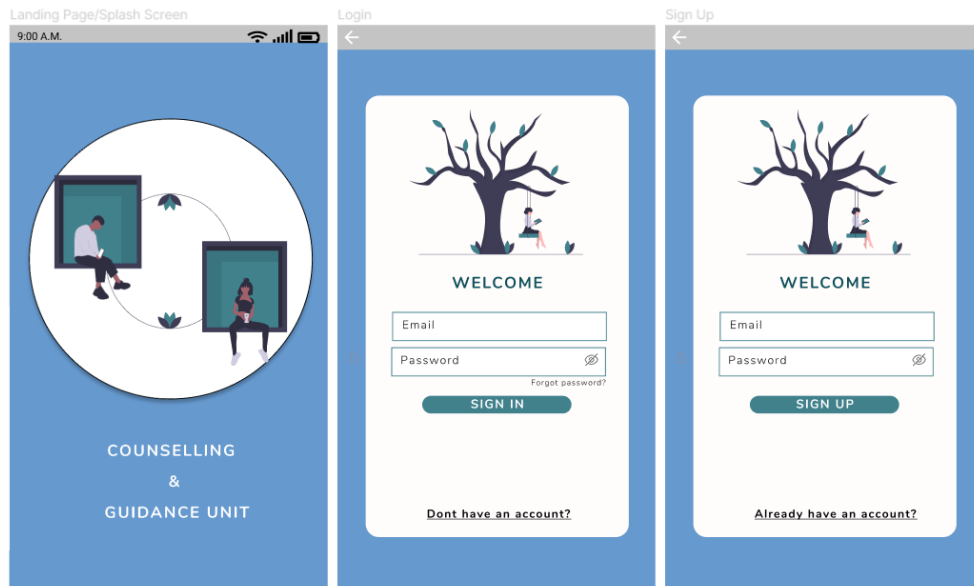


Figure 4.32 Splash Screen, Login and Sign Up

### 2) Account Verification, Forgot and Reset Password

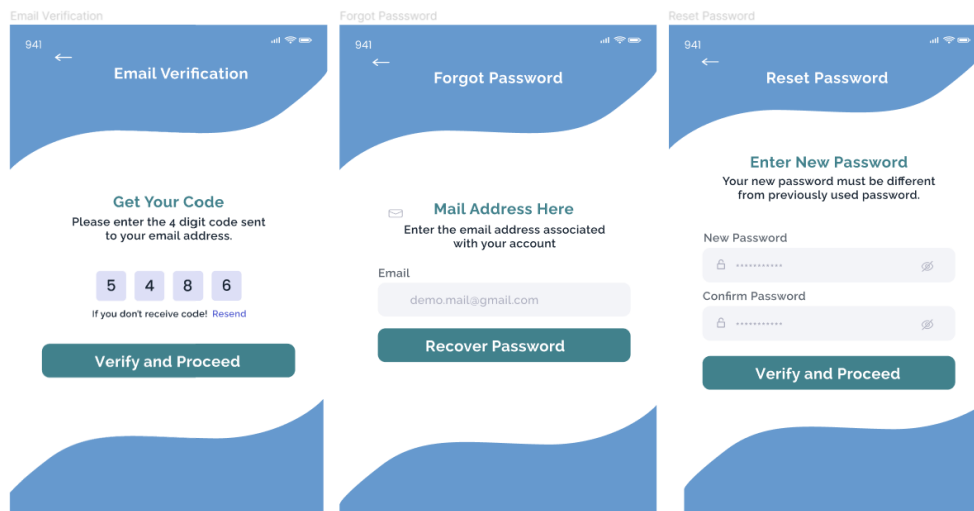


Figure 4.33 Account Verification, Forgot and Reset Password

### 3) Sign Up Option and General Profile Setup

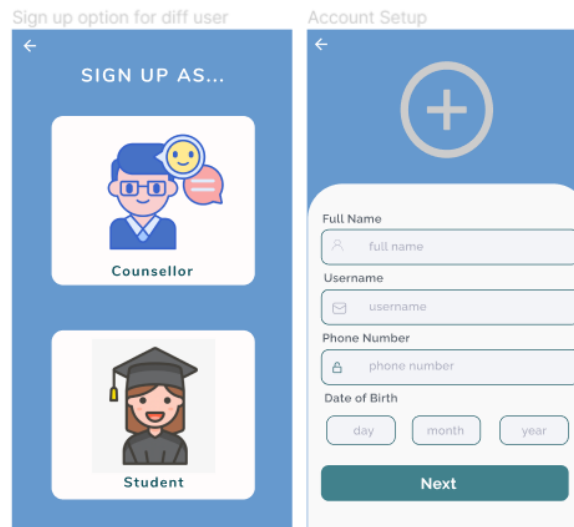


Figure 4.34 Sign Up Option and General Profile Setup

### 4) Sign Up for Student

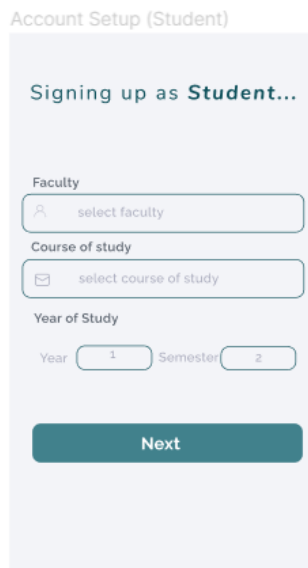


Figure 4.35 Sign Up for Student

### 5) Sign Up for Counsellor

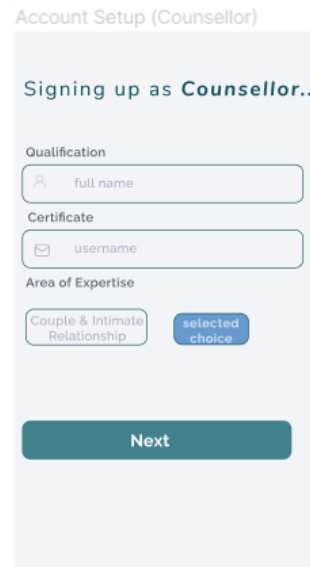


Figure 4.36 Sign Up for Counsellor

## 6) Navigation Menu

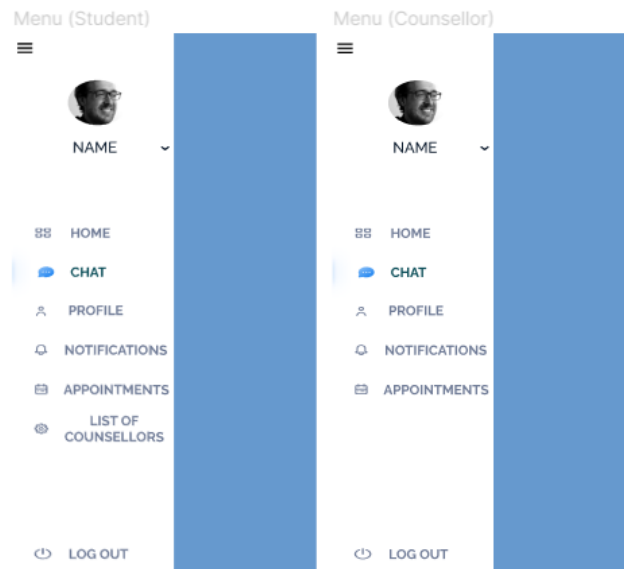


Figure 4.37 Navigation Menu

## 7) Social Media Platform

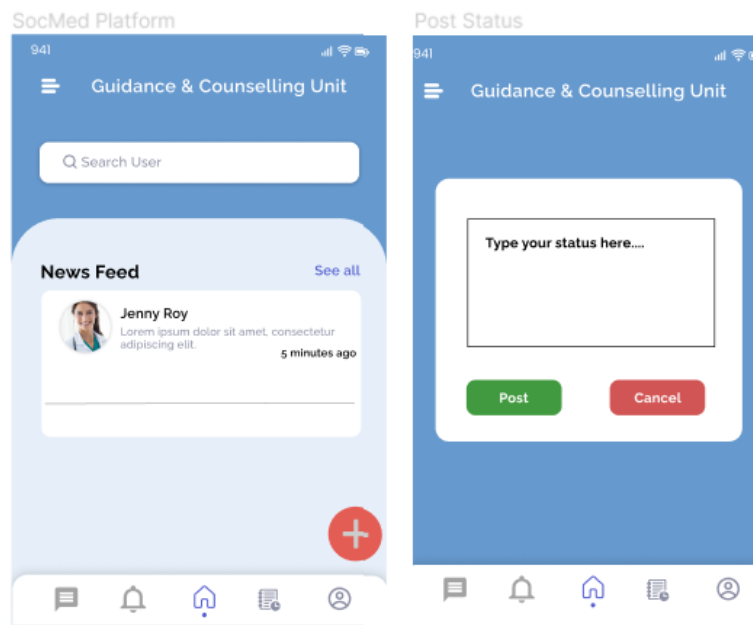


Figure 4.38 Social Media Platform



## 8) List of Counsellors

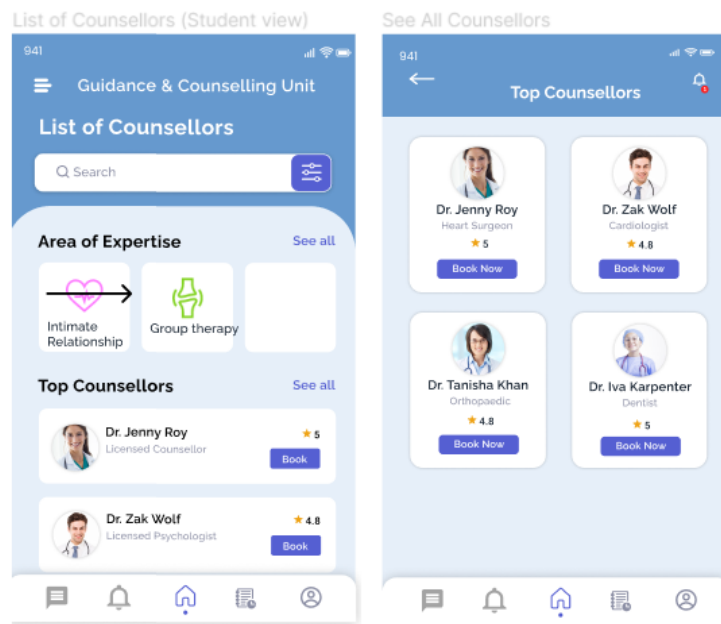


Figure 4.39 List of Counsellors

## 9) Book Appointment

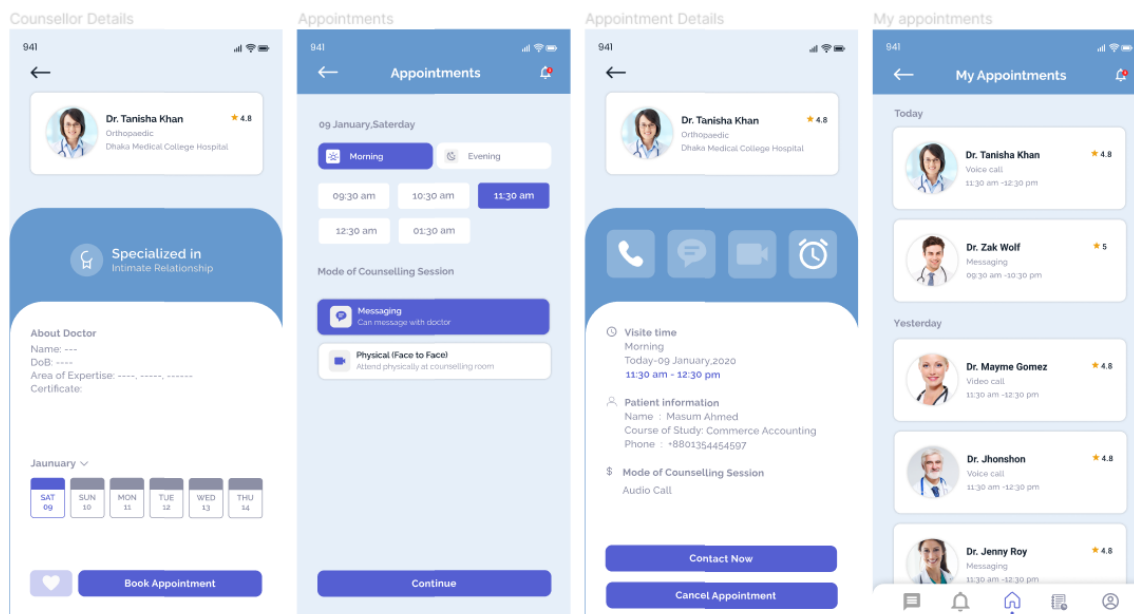


Figure 4.40 Book Appointment

10) Chat

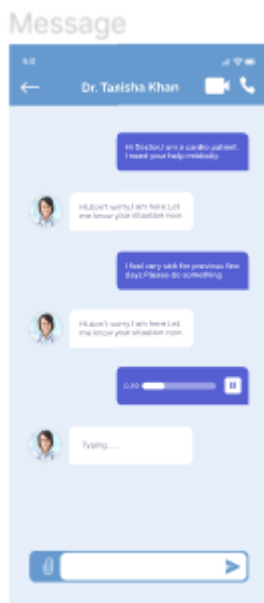


Figure 4.41 Chat

11) Write Review

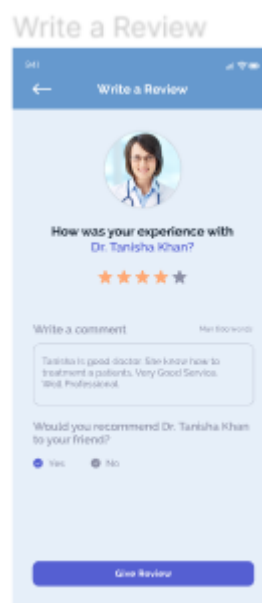


Figure 4.42 Write Review

12) Appointment Request

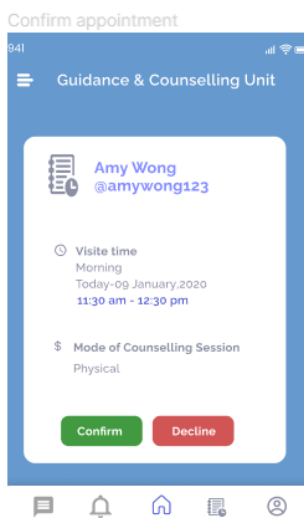


Figure 4.43 Appointment Request

13) View Notification

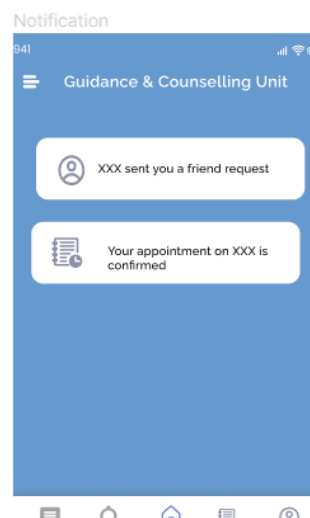


Figure 4.44 View Notification

Table 4.27 Components Design

## 4.6 Systems Components Interaction Operations

### Log In, Sign Up, Verification and Reset Password:

 <p>The login screen features a blue header with a back arrow and the title 'Login'. Below is a white card with a tree illustration and a person on a swing. The text 'WELCOME' is centered. There are input fields for 'Email' and 'Password' with a visibility toggle. A 'SIGN IN' button is at the bottom. A link 'Forgot password?' is next to the password field. At the very bottom, a link 'Dont have an account?' is present.</p>	 <p>The sign up screen is identical to the login screen but includes a 'SIGN UP' button and a link 'Already have an account?' at the bottom.</p>	 <p>The email verification screen has a blue header with a back arrow and the title 'Email Verification'. It prompts the user to 'Get Your Code' and 'Please enter the 4 digit code sent to your email address.' Below are four input boxes containing the digits '5', '4', '8', and '6'. A 'Resend' link is provided. A 'Verify and Proceed' button is at the bottom.</p>
<p>User enters credentials to sign in OR User clicks “Don’t have an account” to sign up OR User clicks “Forgot Password” to reset password</p>	<p>User chose to sign up an account</p>	<p>System prompts user to enter verification code that is sent to their registered email</p>
 <p>The screen is titled 'Sign up option for diff user' and 'SIGN UP AS...'. It offers two options: 'Counsellor' with a person icon and 'Student' with a student icon.</p>	 <p>The account setup screen is titled 'Account Setup' and features a plus icon in a circle. It contains input fields for 'Full Name', 'Username', 'Phone Number', and 'Date of Birth' (with separate fields for day, month, and year). A 'Next' button is at the bottom.</p>	 <p>The screen is titled 'Account Setup (Student)' and 'Signing up as Student...'. It includes dropdown menus for 'Faculty' and 'Course of study', and a 'Year of Study' section with 'Year' (1) and 'Semester' (2) options. A 'Next' button is at the bottom.</p>
<p>User selects sign up option to be counsellor or student</p>	<p>User fills up all the general information fields and adds a profile picture</p>	<p>User selected student, user fills up all the relevant student information fields</p>

<p>User selected counsellor, user fills up all the relevant counsellor information fields</p>	<p>User chose “Forgot Password”, user enters the registered email</p>	<p>User fills in new password and presses “Verify and Proceed” to confirm the changes</p>

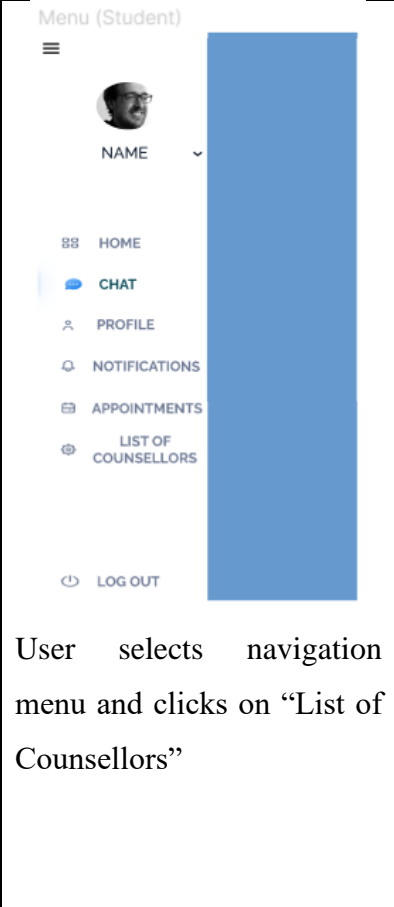
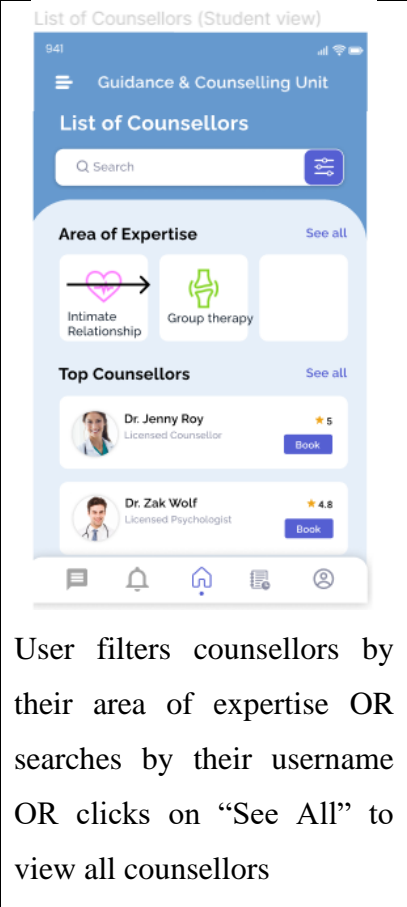
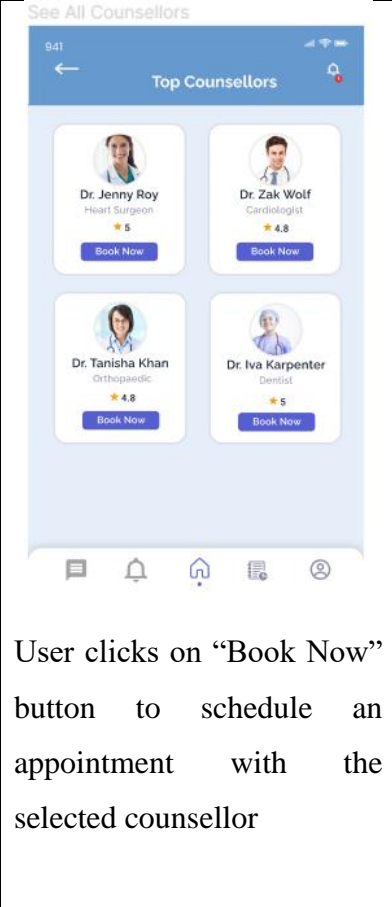
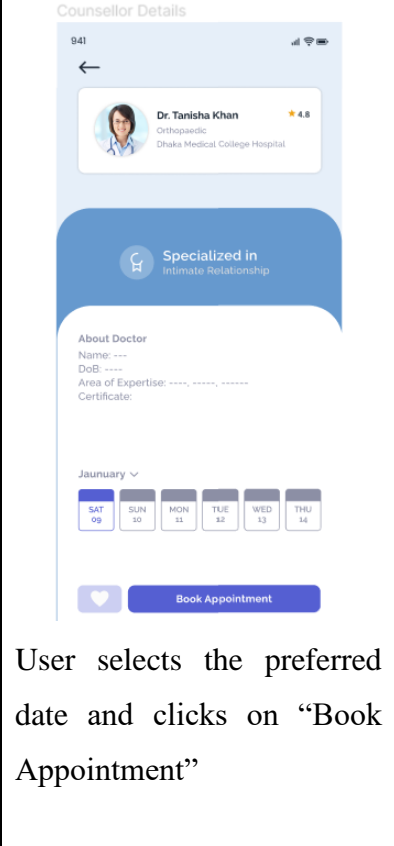
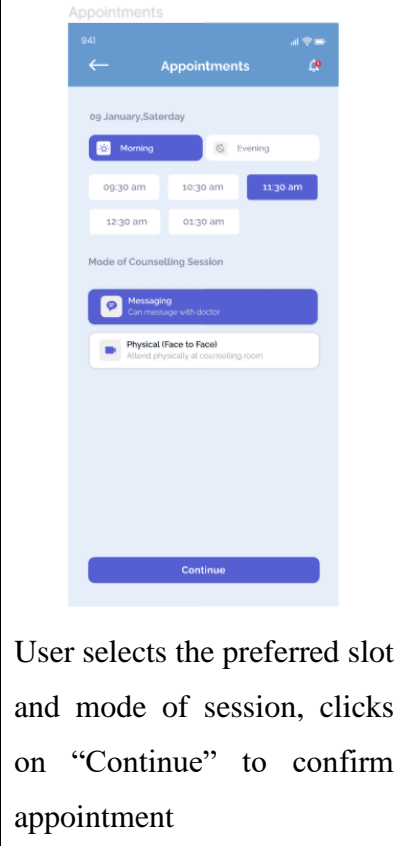
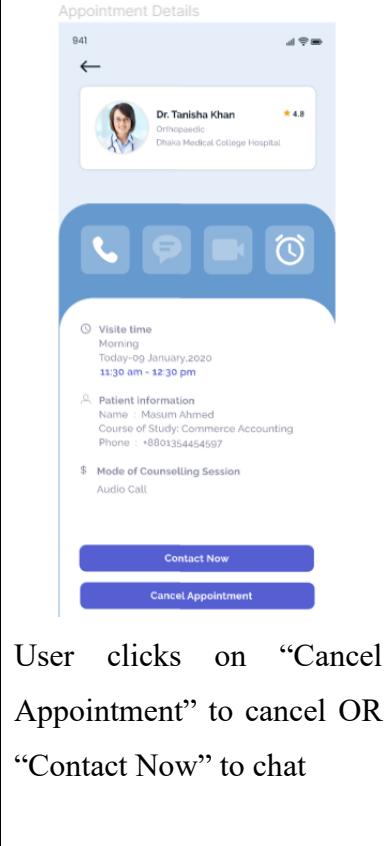
Table 4.28 Log In, Sign Up, Verification, Reset Password

**Homepage/Social Media Platform (News Feed):**

<p>User clicks + button OR User input keyword in the search bar to search for registered users</p>	<p>User clicked + button, User input texts in the field, User clicks “Post” button to post or “Cancel” to return to homepage</p>	<p>User clicks on “Profile” icon, navigates to own profile, User clicks on “Edit” icon to edit profile details</p>

Table 4.29 Homepage/Social Media Platform

## Book An Appointment:

 <p>Menu (Student)</p> <p>NAME</p> <p>HOME</p> <p>CHAT</p> <p>PROFILE</p> <p>NOTIFICATIONS</p> <p>APPOINTMENTS</p> <p>LIST OF COUNSELLORS</p> <p>LOG OUT</p>	 <p>List of Counsellors (Student view)</p> <p>Guidance &amp; Counselling Unit</p> <p>List of Counsellors</p> <p>Q Search</p> <p>Area of Expertise</p> <p>Intimate Relationship</p> <p>Group therapy</p> <p>Top Counsellors</p> <p>Dr. Jenny Roy</p> <p>Licensed Counsellor</p> <p>Dr. Zak Wolf</p> <p>Licensed Psychologist</p>	 <p>See All Counsellors</p> <p>Top Counsellors</p> <p>Dr. Jenny Roy</p> <p>Heart Surgeon</p> <p>Dr. Zak Wolf</p> <p>Cardiologist</p> <p>Dr. Tanisha Khan</p> <p>Orthopaedic</p> <p>Dr. Iva Karpenter</p> <p>Dentist</p>
<p>User selects navigation menu and clicks on “List of Counsellors”</p>	<p>User filters counsellors by their area of expertise OR searches by their username OR clicks on “See All” to view all counsellors</p>	<p>User clicks on “Book Now” button to schedule an appointment with the selected counsellor</p>
 <p>Counsellor Details</p> <p>Dr. Tanisha Khan</p> <p>Orthopaedic</p> <p>Dhaka Medical College Hospital</p> <p>Specialized in Intimate Relationship</p> <p>About Doctor</p> <p>Name: ---</p> <p>DoB: ---</p> <p>Area of Expertise: ---, ---, ---</p> <p>Certificate: ---</p> <p>January</p> <p>SAT 09</p> <p>SUN 10</p> <p>MON 11</p> <p>TUE 12</p> <p>WED 13</p> <p>THU 14</p> <p>Book Appointment</p>	 <p>Appointments</p> <p>09 January, Saturday</p> <p>Morning</p> <p>Evening</p> <p>09:30 am</p> <p>10:30 am</p> <p>11:30 am</p> <p>12:30 am</p> <p>01:30 am</p> <p>Mode of Counselling Session</p> <p>Messaging</p> <p>Can message with doctor</p> <p>Physical (Face to Face)</p> <p>Attend physically at counselling room</p> <p>Continue</p>	 <p>Appointment Details</p> <p>Dr. Tanisha Khan</p> <p>Orthopaedic</p> <p>Dhaka Medical College Hospital</p> <p>Call</p> <p>Chat</p> <p>Video</p> <p>Alarm</p> <p>Visite time</p> <p>Morning</p> <p>Today-09 January,2020</p> <p>11:30 am - 12:30 pm</p> <p>Patient Information</p> <p>Name : Mussum Altmed</p> <p>Course of Study: Commerce Accounting</p> <p>Phone : +8801354454697</p> <p>Mode of Counselling Session</p> <p>Audio Call</p> <p>Contact Now</p> <p>Cancel Appointment</p>
<p>User selects the preferred date and clicks on “Book Appointment”</p>	<p>User selects the preferred slot and mode of session, clicks on “Continue” to confirm appointment</p>	<p>User clicks on “Cancel Appointment” to cancel OR “Contact Now” to chat</p>

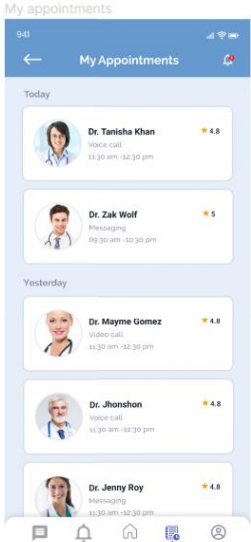
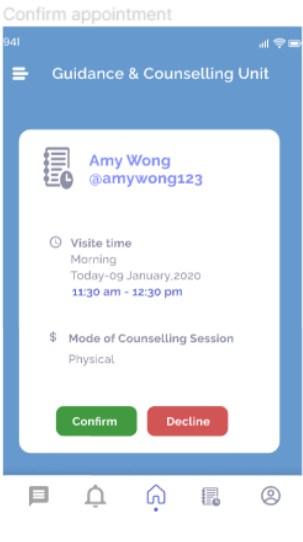
		
<p>User clicks on “Appointment” icon to view list of appointments</p>	<p>User (Counsellor) clicks on “Confirm” button to confirm an appointment OR “Decline” to reject an appointment</p>	

Table 4.30 Student Book An Appointment

**Notification, Chat and Review:**

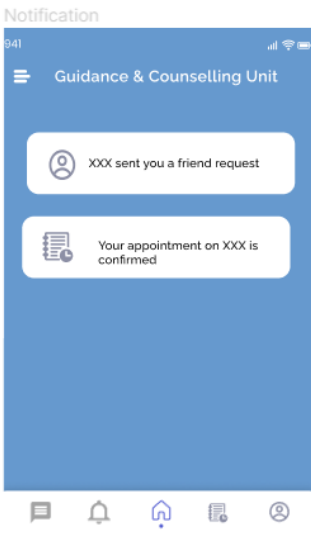
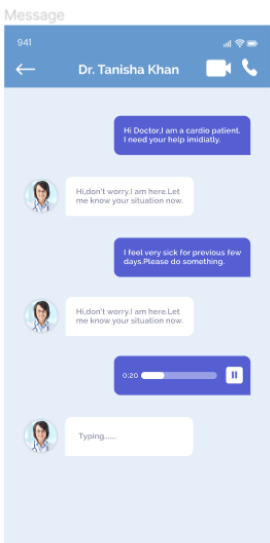
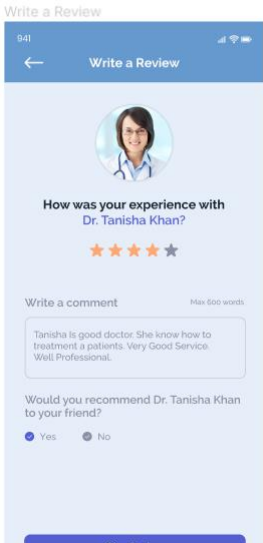
		
<p>User clicks on notification “bell” icon</p>	<p>User inputs text messages and clicks send icon</p>	<p>User rates stars, inputs comment in the text field, and selects radio button, then clicks “Submit” button</p>

Table 4.31 Notification, Chat, Review

#### 4.7 Database Details

Entity	Attributes	Type	Description
user	id	int (11)	primary key of user entity
	email	varchar (100)	email of the user
	name	varchar (100)	name of the user
	username	varchar (200)	username of the user
	password	varchar (1000)	hash value of the account's password
	role	varchar (1)	role of the user account 0 – counsellor 1 – student
	phone_number	varchar (15)	phone number of the user
	birthdate	varchar (100)	date of birth of the user
	code	varchar (25)	verification code of the user account
	photo	varchar (1000)	storage path to user profile picture
	rating	float	review ratings of user (counsellor)
student	student_id	int (100)	foreign key, primary key of user entity
	faculty	varchar (1000)	faculty of the user
	course	varchar (1000)	course of the user
	year_of_study	varchar (1000)	year of study of the user
counsellor	counsellor_id	int (100)	foreign key, primary key of user entity
	qualification	varchar (1000)	qualification of the user
	certificate	varchar (1000)	certification obtained by the user
	area_of_expertise	varchar (1000)	area of expertise of the user
pwdreset	pwdResetid	int (11)	surrogate key of password reset
	pwdResetEmail	text	email of the user

	pwdResetSelector	text	1-time credentials password reset selector
	pwdResetToken	longtext	1-time credentials password reset token
	pwdResetExpires	text	expiry time of the 1-time credentials reset
password_history	email	text	email of the user
	password	text	hash value of the account's password
	pwd_date	text	date of the password creation
newsfeed	id	int (11)	foreign key, primary key of user entity
	username	varchar (1000)	username of user
	pic	varchar (1000)	storage path to user profile picture
	content	varchar (10000)	text field of the status
	time	varchar (100)	timestamp of the status posted
follows	follower_id	int (11)	user id of the follower
	following_id	int (11)	user id of the following user
appointments	appt_id	int (11)	primary key of appointments entity
	counsellor_id	int (11)	user id of counsellor
	patient_id	int (11)	user id of student
	appt_date	varchar (100)	date of appointment
	appt_zone	varchar (100)	zone of appointment (morning/afternoon)
	appt_time	varchar (100)	time of appointment
	appt_mode	varchar (100)	mode of appointment (online chat/physical)
	appt_status	int (11)	status of appointment 1 – rejected 2 – confirmed



chat	chat_id	int (11)	primary key of chat entity
	counsellor_id	int (11)	user id of counsellor
	patient_id	int (11)	user id of student
	chat_json	longtext	JSON array of chat messages
notifications	id	int (11)	foreign key, primary key of user entity
	status	varchar (100)	type of notification (follow or appointment)
	content	varchar (100)	text content of the notification displayed on the screen
rating	rating_id	int (11)	primary key of rating entity
	counsellor_id	int (11)	user id of counsellor
	rating	int (11)	number of stars rated
	remarks	varchar (1000)	text comment of review
	recommend	int (11)	recommendation 1 – recommended 2 – not recommended

*Table 4.32 Database Details*

## CHAPTER 5 SYSTEM IMPLEMENTATION

### 5.1 Technologies and Tools Involved

#### 5.1.1 Hardware Setup

Laptop Model: ASUS VivoBook A510U-FEJ139T

System	Specifications
Operating System (OS)	Windows 10 (version 1909)
System type	64-bit. x64-based processor
Processor	Intel® Core™ i5-8250U
Graphic Processing Unit (GPU)	NVIDIA GeForce MX130 GDDR5 2GB
Memory (RAM)	8.00GB

*Table 5.1 Laptop Specification*

#### 5.1.2 Software Setup

##### a) Visual Studio Code

Visual Studio Code, in short, VS Code is an editor of source code that supports a wide range of programming languages C++, C, Java, JavaScript, HTML, CSS, and PHP [16]. Besides, Visual Studio Code supports a variety of extensions that are available through a central repository called VS Code Marketplace. This includes editor enhancements as well as language support that is not built in with the editor initially [16]. VS Code is used as the main integrated development environment (IDE) for this project.

##### b) XAMPP

XAMPP is a free and open-sourced cross-platform web server solution stack package which includes the Apache HTTP Server, and interpreters for PHP and Perl scripts [17]. In this project, XAMPP acts as a local host that also supports the creation and manipulation of databases such as MySQL and servers like SMTP.

##### c) Visual Paradigm Online

Visual Paradigm Online is a website that supports requirement management, business process modelling and data modelling which updates real-time [18]. This website provides various sets of templates for flow charts and UML Diagrams to visualize the project overview. The charts

and diagrams can be stored on cloud storage such as Google Drive and exported in different file formats. Visual Paradigm Online is used to design this project's flow chart, use case and activity diagrams.

#### d) Figma

Figma is a web-based graphic editor and prototype tool which is compatible for both macOS and Windows [19]. It focuses for user experience and interface design with an emphasis on real-time collaboration. Meaning to say, Figma supports multi-users working on the same design and updates real-time as it is stored on cloud. The collaborators will be able to design their application layout and its components then connect them according to modules which allows the clients to navigate from one module to another like an overview prototype on how the actual application functions. Figma is used to design the project's wireframes and storyboard.

#### e) Canva

Canva, a graphic design platform that also offers a wide variety of templates and design ideas for different purposes, was used to create the project's system block diagram and poster.

## 5.2 Setting and Configuration

To deploy the system, it is required to import the SQL script into a database created in XAMPP phpMyAdmin, with the same name "FYP\_Psych". Next, to send verification emails to the users, the built-in SMTP connection in XAMPP is required to be configured as follows:

- 1) Create an app password using a Gmail account
- 2) Search and configure the php.ini and sendmail.ini files in XAMPP folder in the C drive
- 3) In the php.ini file, look for [mail function] and change the details as follows:

```
[mail function]
SMTP=smtp.gmail.com
smtp_port=587
sendmail_from=fyp123counselling@gmail.com
sendmail_path="\"C:\xampp\sendmail\sendmail.exe\" -t"
```

- 4) In the sendmail.ini file, look for [sendmail] and change the details as follows:

```
[sendmail]
smtp_server=smtp.gmail.com
smtp_port=587
smtp_ssl=auto
error_logfile=error.log
debug_logfile=debug.log
auth_username=fyp123counselling@gmail.com
auth_password=hmxuefwceongwfmw
force_sender=fyp123counselling@gmail.com
```

- 5) Fill up the credentials accordingly in the config.php file

```
<?php
//----- DATABASE RELATED CONNECTIONS -----

$db_servername = 'localhost';
$db_username = 'root';
$db_password = '';
$db_name = "fyp_psych";

$conn = new mysqli($db_servername, $db_username, $db_password, $db_name);

if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}

$MAIL_OBJ = new stdClass();
$MAIL_OBJ->mail_name = 'fyp123counselling@gmail.com';
$MAIL_OBJ->mail_host = 'smtp.gmail.com';
$MAIL_OBJ->mail_username = 'fyp123counselling@gmail.com';
$MAIL_OBJ->mail_password = 'hmxuefwceongwfmw';
$MAIL_OBJ->mail_port = 587;
$MAIL_OBJ->mail_domain = 'http://localhost/FYP_psych/';
$MAIL_OBJ->mail_from = 'fyp123counselling@gmail.com';
?>
```

- 6) Restart XAMPP control panel

### 5.3 System Operation

**Student:**

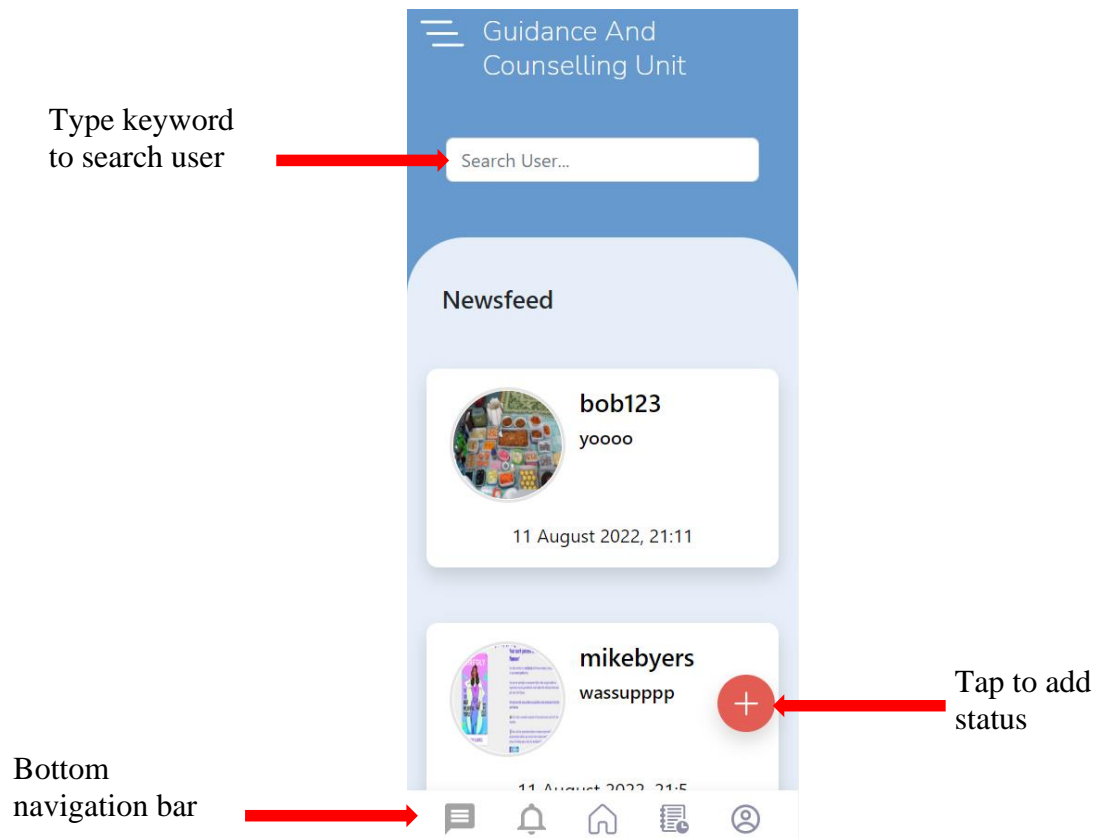


Figure 5.1 User Manual: Student Homepage



Figure 5.2 User Manual: Navigation Menu

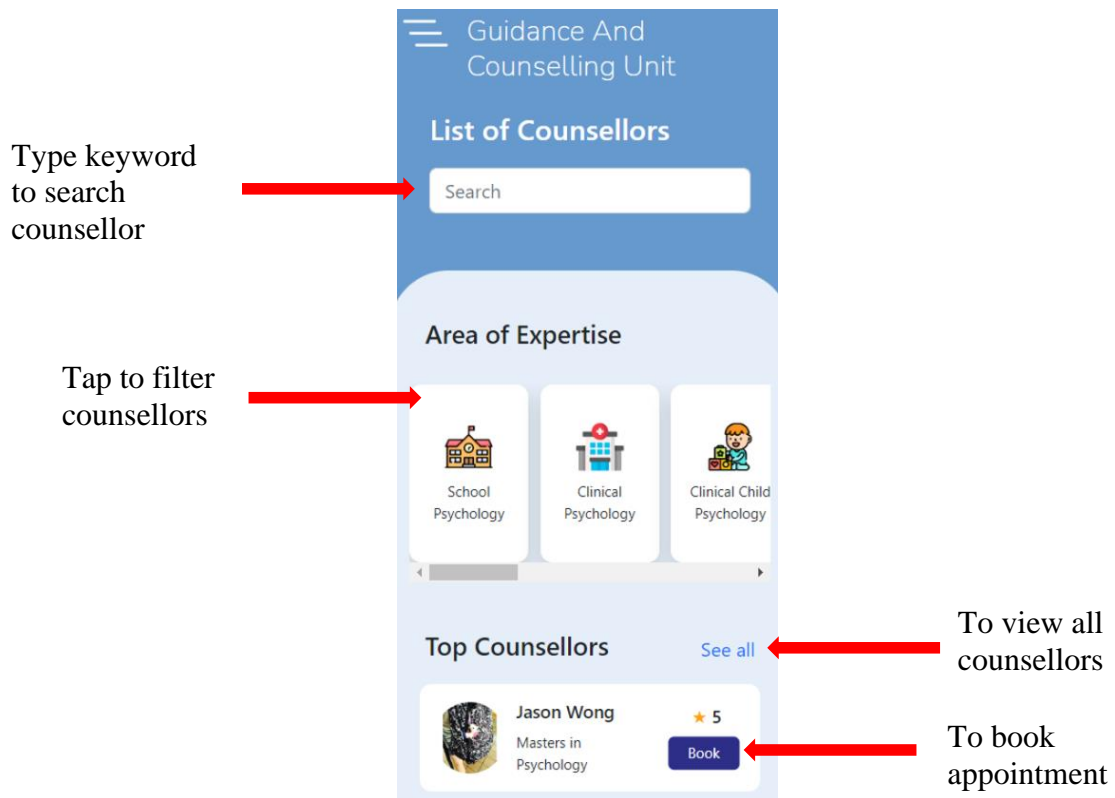


Figure 5.3 User Manual: List of Counsellors

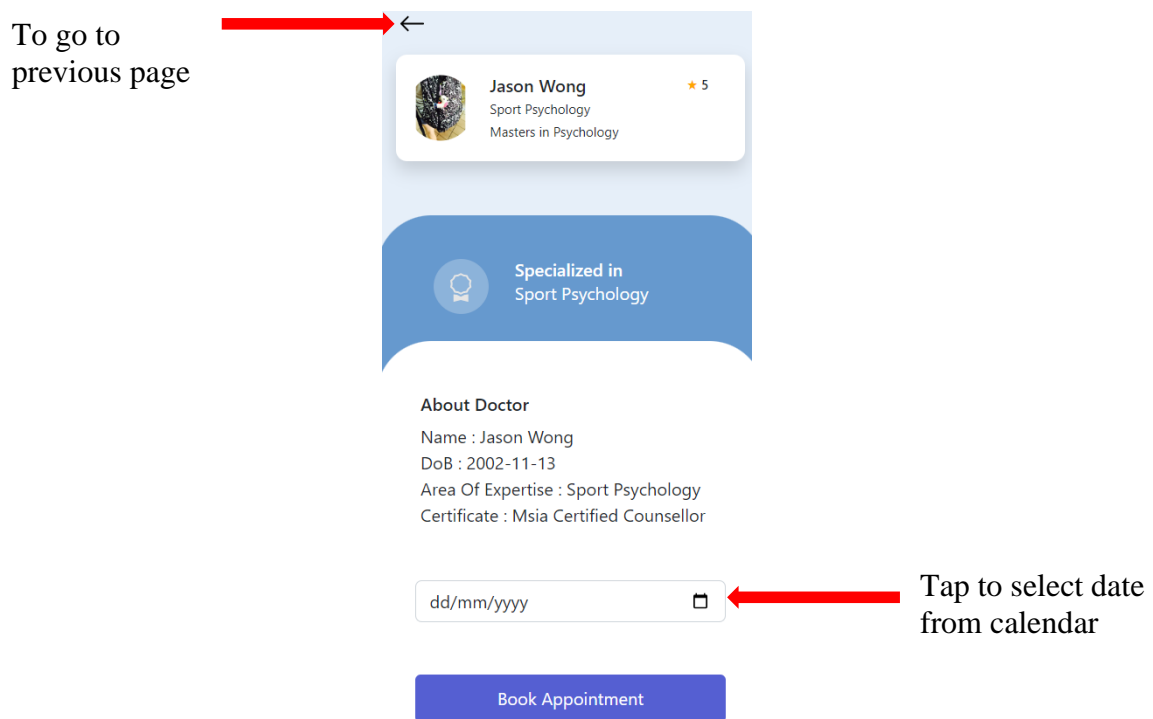


Figure 5.4 User Manual: Counsellor Details

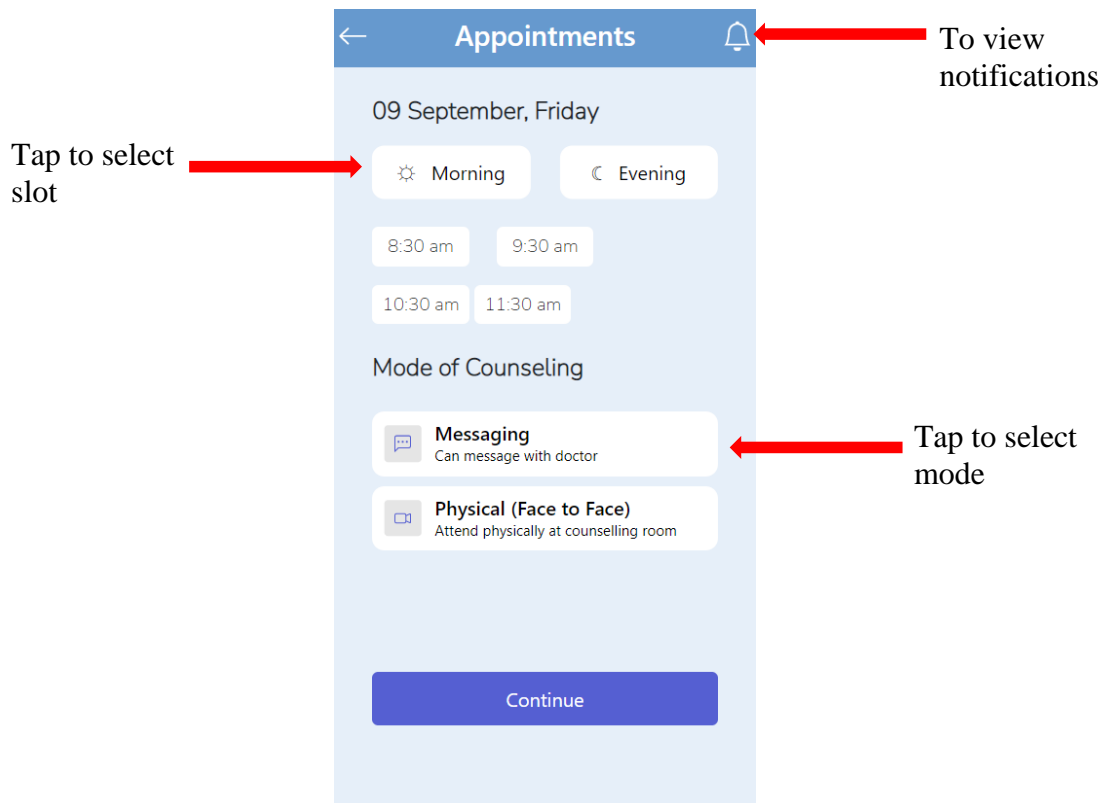


Figure 5.5 User Manual: Book Appointment

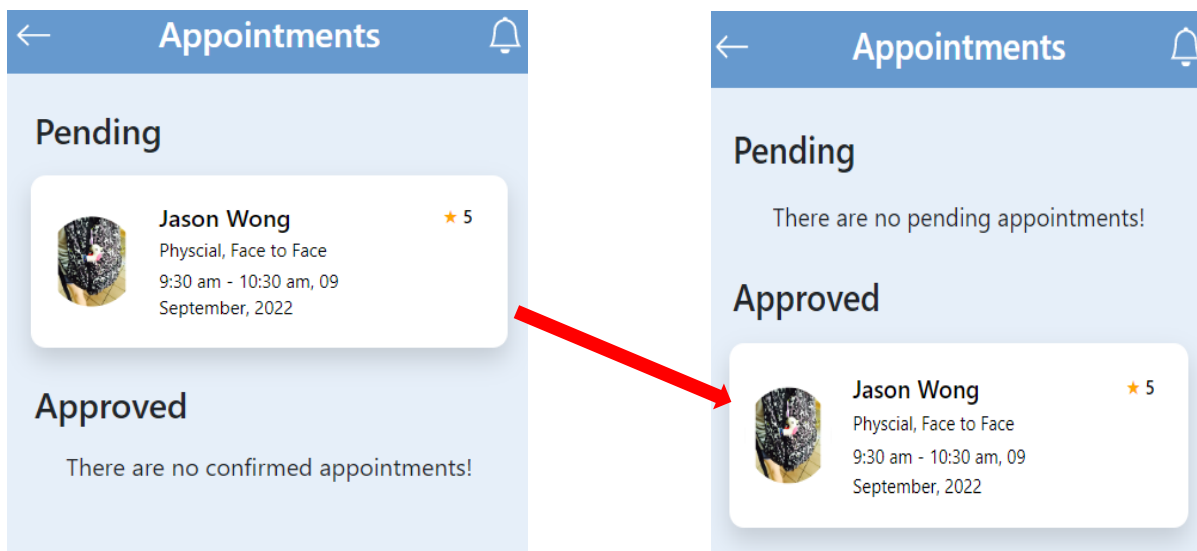


Figure 5.6 List of Appointments

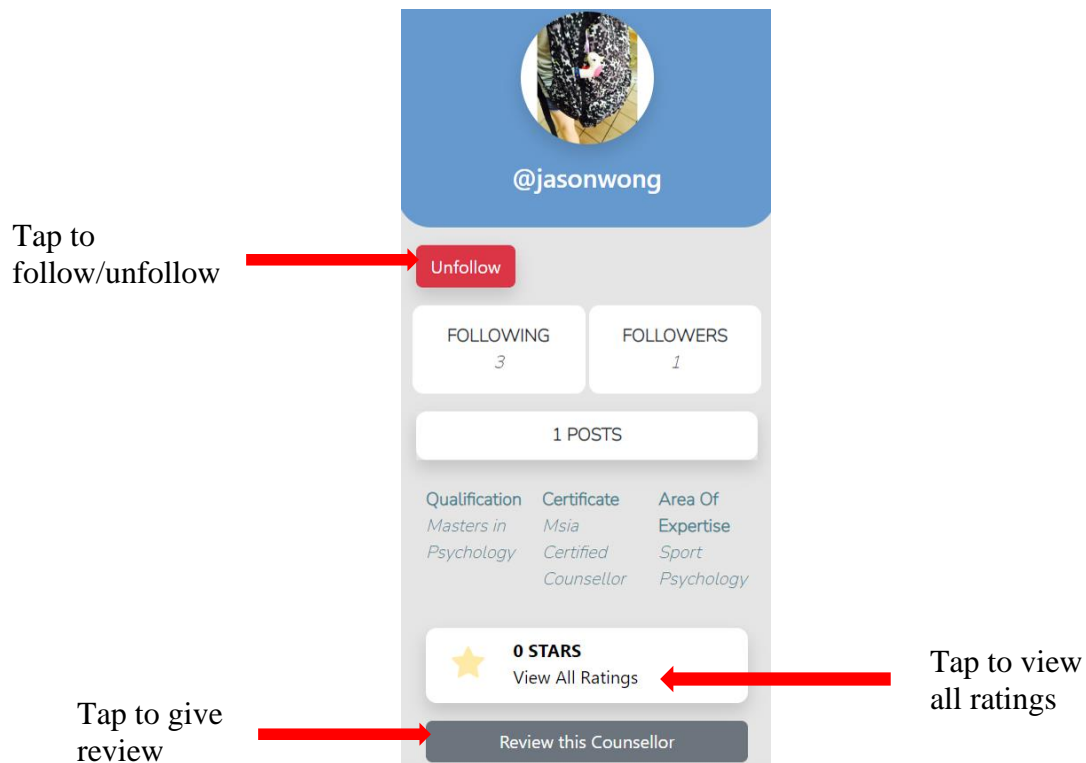


Figure 5.7 View Counsellor Profile

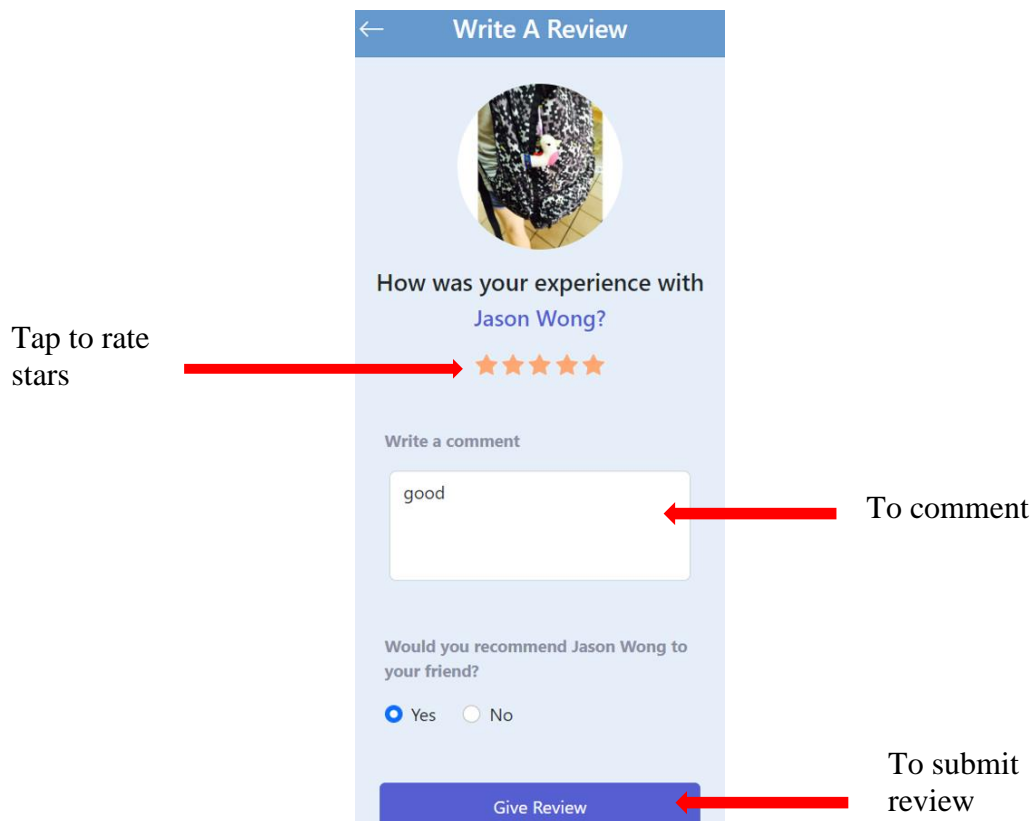
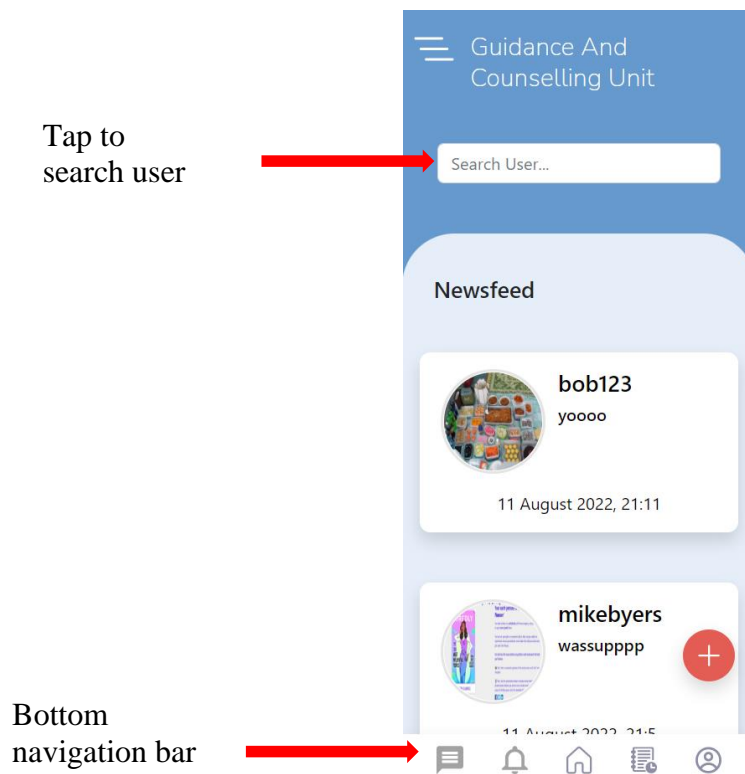


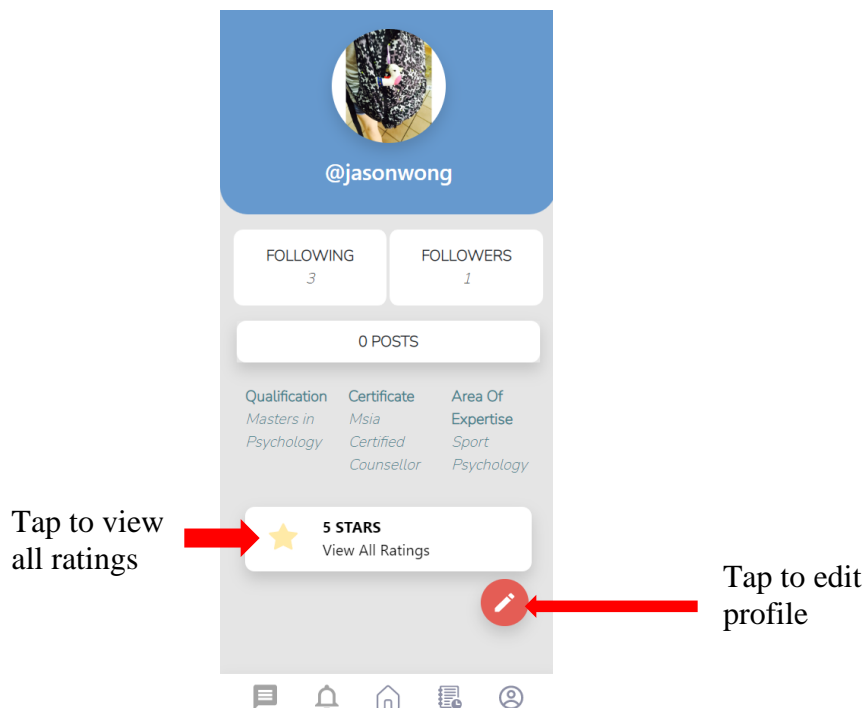
Figure 5.8 Write Review



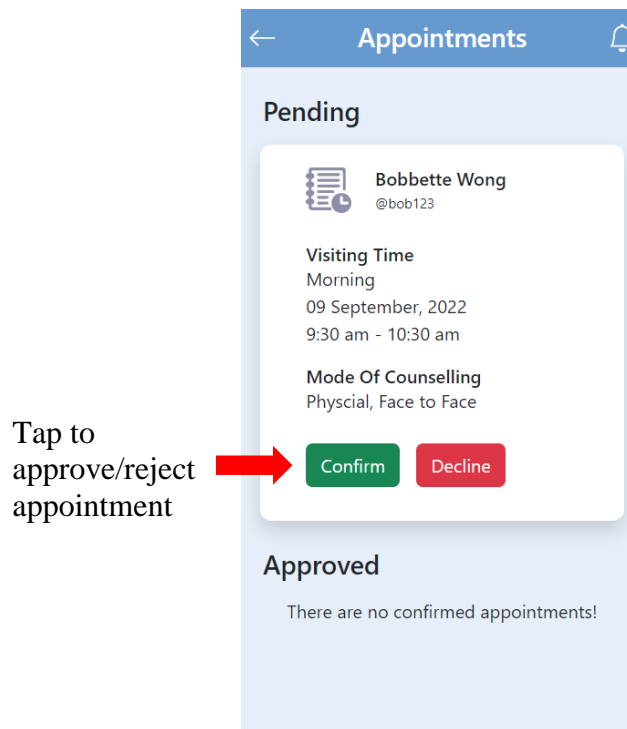
**Counsellor:**



*Figure 5.9 User Manual: Counsellor Homepage*



*Figure 5.10 User Manual: Edit Profile*



*Figure 5.11 User Manual: Appointment Details*

## CHAPTER 6 SYSTEM EVALUATION AND DISCUSSION

### 6.1 System Testing and Performance Metrics

System testing is used to ensure that the implemented and deployed system's functionalities meet and satisfy all the expected requirements. For this project, functional testing is performed to test the system's functional requirements. Functional testing normally involves black box testing, which is also known as behavioural testing. This testing technique essentially involves testing systems without knowledge of the implementation details, code structure or internal paths.

### 6.2 Testing Setup and Result

Test Case	Description	Steps	Expected Outcome	Actual Outcome	Result
<b>Student</b>					
Login as student	User can login as student	1) Input credentials	Directed successfully to input verification code	Landed on input verification code page	Pass
Verify account	User can verify account	1) Input verification code	Directed successfully to homepage	Verified successfully and landed on homepage	Pass
Sign up as student	User can sign up as student	1) Input credentials 2) Login and verify account 3) Select account type 4) Upload profile picture 5) Input information 6) Input course of study 7) Input year of study	Sign up and log in successfully to homepage	Sign up and log in successfully	Pass
Reset password	User can reset password	1) Click on forgot password	Enter and reset new	Reset new password successfully	Pass

		2) Input registered email 3) Receive link via email to reset password 4) Enter new password	password successfully		
View notification	User can view notification	1) Click notification icon on bottom navigation bar	User can view list of notifications successfully	User can view list of notifications successfully	Pass
Post status	User can post status on news feed	1) Click on home icon 2) Click on + button 3) Input text in the field 4) Click post	User can post a status successfully on the news feed	User can post a status successfully on the news feed	Pass
Search user	User can search registered users	1) Click on search bar 2) Input keyword 3) Select a profile	User can search and navigate to another user profile successfully	User can search and navigate to another user profile successfully	Pass
Follow user	User can follow other registered users	1) Click on user's header 2) Click follow button	User follows another user	User follows another user	Pass
Unfollow user	User can unfollow other registered users	1) Click on user's header 2) Click unfollow button	User unfollows another user	User unfollows another user	Pass
View chat	User can view the list of chats	1) Click on chat icon on bottom navigation bar	User can view the list of chats	User can view the list of chats	Pass
Send chat	User can send chat to counsellor	1) Click on any chat record 2) Input message 3) Click send icon	User sends a message successfully	User sends a message successfully	Pass
View profile	User can view own profile	1) Click on profile icon on bottom navigation bar	User views its own	User views its own profile successfully	Pass

			profile successfully		
Edit profile	User can edit own profile details	1) Click edit button 2) Edit the details	User edits the profile details successfully	User edits the profile details successfully	Pass
View list of counsellors	User can view list of registered counsellors	1) Click on list of counsellors on navigation menu	User can view the list of registered counsellors successfully	User can view the list of registered counsellors successfully	Pass
Book appointment	User can book an appointment slot	1) Click on "Book" button 2) Pick a date 3) Select time 4) Select mode 5) Click continue	User can book an appointment successfully and can cancel before counsellor accepts	User can book an appointment successfully and can cancel before counsellor accepts	Pass
View review	User can view reviews of counsellors	1) Click on counsellor's header 2) Click on view all reviews	User can view reviews of counsellors	User can view reviews of counsellors	Pass
Give review	User can rate and review counsellors	1) Click on star rating 2) Input text in the field 3) Select radio button to recommend or unrecommend	User can submit the review successfully	User can submit the review successfully	Pass
View appointment	User can view list of pending and upcoming appointments	1) Click on appointment icon on the bottom navigation bar	User can view the list of appointments successfully	User can view the list of appointments successfully	Pass
<b>Counsellor</b>					
Login as counsellor	User can login as counsellor	Input credentials	Directed successfully to input verification code	Landed on input verification code page	Pass

Verify account	User can verify account	1) Input verification code	Directed successfully to homepage	Verified successfully and landed on homepage	Pass
Sign up as counsellor	User can sign up as counsellor	1) Input credentials 2) Login and verify account 3) Select account type 4) Upload profile picture 5) Input information 6) Input course of study 7) Input year of study	Sign up and log in successfully to homepage	Sign up and log in successfully	Pass
Reset password	User can reset password	1) Click on forgot password 2) Input registered email 3) Receive link via email to reset password 4) Enter new password	Enter and reset new password successfully	Reset new password successfully	Pass
View notification	User can view notification	1) Click notification icon on bottom navigation bar	User can view list of notifications successfully	User can view list of notifications successfully	Pass
Post status	User can post status on news feed	1) Click on home icon 2) Click on + button 3) Input text in the field 4) Click post	User can post a status successfully on the news feed	User can post a status successfully on the news feed	Pass
Search user	User can search registered users	1) Click on search bar 2) Input keyword 3) Select a profile	User can search and navigate to another user	User can search and navigate to another user	Pass

			profile successfully	profile successfully	
Follow user	User can follow other registered users	1) Click on user's header 2) Click follow button	User follows another user	User follows another user	Pass
Unfollow user	User can unfollow other registered users	1) Click on user's header 2) Click unfollow button	User unfollows another user	User unfollows another user	Pass
View chat	User can view the list of chats	1) Click on chat icon on bottom navigation bar	User can view the list of chats	User can view the list of chats	Pass
Send chat	User can send chat to student	1) Click on any chat record 2) Input message 3) Click send icon	User sends a message successfully	User sends a message successfully	Pass
View counsellor profile	User can view own profile	1) Click on profile icon on bottom navigation bar	User views its own profile successfully	User views its own profile successfully	Pass
Edit counsellor profile	User can edit own profile details	1) Click edit button 2) Edit the details	User edits the profile details successfully	User edits the profile details successfully	Pass
View counsellor review	User can view the reviews left on their profile	1) Click on profile icon on bottom navigation bar 2) Click on view all reviews	User can view the reviews left on their profile	User can view the reviews left on their profile	Pass
View appointment	User can view list of pending and upcoming appointments	1) Click on appointment icon on the bottom navigation bar	User can view the list of appointments successfully	User can view the list of appointments successfully	Pass
Accept appointment	User can accept appointment	1) Click on list of appointment 2) Click on accept button	User accepts the appointment successfully	User accepts the appointment successfully	Pass
Reject appointment	User can reject appointment	1) Click on list of appointment	User rejects the	User rejects the	Pass

		2) Click on decline button	appointment successfully	appointment successfully	
--	--	----------------------------	--------------------------	--------------------------	--

*Table 6.1 Functional Testing*

### 6.3 Project Challenges

One of the challenges that was faced during the development of this project is regarding Gmail SMTP policy changes that are set effective from 30<sup>th</sup> May 2022. XAMPP's built-in SMTP server is required to connect to Gmail, for sending the verification code via emails to the registered accounts for verification purposes. Before the policy changes, it used to support the use of third-party applications or devices with access to Google accounts. It used to only require enabling the "Less Secure App Access" on the Google account to establish the SMTP connection. Thus, all older resources that are based on the "Less Secure App Access" could not be referred and applied. Thankfully, an alternative was found to establish the connection that requires more secure authentication which is by creating an app password to authenticate.

Other than that, additional period is needed to properly structure the database and learn the backend language which is PHP. Thus, it is time consuming to research on similar projects and brush up on the fundamentals, as the developer is new to this framework.

### 6.4 Objectives Evaluation

Objective	Evaluation	Achievement
To analyze various existing offline counselling approaches and online mental health support application in the market in terms of their functionalities and drawbacks in providing counselling services.	This objective is achieved as literature review in Chapter 2 has covered a detailed analysis of various existing applications based on their functionalities and drawbacks.	Achieved
To design a website that can facilitate online counselling and manage relevant counselling documentation to aid the counselling process.	This objective is met as the users can track and document their appointment details and reviews of each counsellor.	Achieved
To develop an alternative online counselling approach and social mental health community as an	This objective is met as the social media platform is integrated to the system where the users can post status	Achieved



enhancement to the current traditional counselling approach.	and view the statuses posted by their following users on the news feed.	
--	---	--

*Table 6.2 Objectives Evaluation*

## **CHAPTER 7 CONCLUSION AND RECOMMENDATION**

### **7.1 Conclusion**

This project is a website that aims to provide a platform to synchronize and digitalize the basic counselling processes within UTAR Kampar's Guidance and Counselling Unit. This project is also proposed to further enhance the current traditional counselling approach by managing relevant counselling documentation such as appointment details to aid the counselling process. Apart from that, existing counselling approach in tertiary education like UTAR focuses on counselling process provided by the counsellor to the students. It is just as significant to build a social mental health community within the counselling units which enable students to engage in peer support and mutual respect to validate their intersection with mental health. Thus, a social media platform is integrated in this project to allow the users to follow each other and post statuses on the news feed. In short, this project serves as a simple enhancement solution to the current approach adopted by the UTAR Kampar's Guidance and Counselling Unit. To summarize, this project was developed in HTML, CSS, JavaScript and PHP using Visual Studio Code and relies on XAMPP local host phpMyAdmin, MySQL and Gmail SMTP. Lastly, the project was successfully carried out where all three of the project objectives are achieved as per discussed in the previous chapters with the adoption of Extreme Programming methodology.

### **7.2 Recommendation**

As the project adopts the agile methodology of Extreme Programming, there are several improvement and enhancements which can be made in the next incremental stage. In general, the existing website does not allow users to delete any data in the system, thus this delete function can be added for news feed status, list of notifications and chat rooms as an enhancement. Besides, for the social media platform, it is recommended that each status should allow their followers to interact by commenting, liking, or sharing the post. For security purposes, it is also recommended to add another user into the system, which is admin, that will verify the account creation and profiles of the counsellors to ensure that their qualifications are valid. Furthermore, it would be beneficial if the project can be implemented with audio or video call that would support online counselling on a full-scale approach to conduct all counselling processes online.

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## APPENDICES

### APPENDIX A: WEEKLY REPORTS

# FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

<b>Trimester, Year: Y4S1</b>	<b>Study week no.: 2</b>
<b>Student Name &amp; ID: Lok Xuan Wen &amp; 18ACB01205</b>	
<b>Supervisor: Ms Yap Seok Gee</b>	
<b>Project Title: Counselling Services Management and Social Application</b>	

#### 1. WORK DONE

[Please write the details of the work done in the last fortnight.]

Review and revise FYP1 materials and prototype

#### 2. WORK TO BE DONE

Refine project timeline, project plans and system designs

#### 3. PROBLEMS ENCOUNTERED

#### 4. SELF EVALUATION OF THE PROGRESS



Supervisor's signature



Student's signature

# FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

<b>Trimester, Year: Y4S1</b>	<b>Study week no.: 4</b>
<b>Student Name &amp; ID: Lok Xuan Wen &amp; 18ACB01205</b>	
<b>Supervisor: Ms Yap Seok Gee</b>	
<b>Project Title: Counselling Services Management and Social Application</b>	

## 1. WORK DONE

[Please write the details of the work done in the last fortnight.]

Revised project plans and system designs  
Align project report based on FYP2 guidelines

## 2. WORK TO BE DONE

Research on PHP framework, XAMPP and SMTP

## 3. PROBLEMS ENCOUNTERED

## 4. SELF EVALUATION OF THE PROGRESS



\_\_\_\_\_  
Supervisor's signature



\_\_\_\_\_  
Student's signature

# FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

<b>Trimester, Year: Y4S1</b>	<b>Study week no.: 6</b>
<b>Student Name &amp; ID: Lok Xuan Wen &amp; 18ACB01205</b>	
<b>Supervisor: Ms Yap Seok Gee</b>	
<b>Project Title: Counselling Services Management and Social Application</b>	

## 1. WORK DONE

[Please write the details of the work done in the last fortnight.]

Refactor prototype and develop appointment booking module  
Research on PHP, XAMPP and SMTP  
Establish SMTP connection with Gmail SMTP

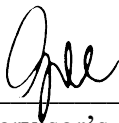
## 2. WORK TO BE DONE

Continue development process  
Draft documentation for FYP2 report

## 3. PROBLEMS ENCOUNTERED

Gmail SMTP changed its policy dated 31<sup>st</sup> May, required additional effort to seek for alternative solution to establish the connection

## 4. SELF EVALUATION OF THE PROGRESS



Supervisor's signature



Student's signature

# FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

<b>Trimester, Year: Y4S1</b>	<b>Study week no.: 8</b>
<b>Student Name &amp; ID: Lok Xuan Wen &amp; 18ACB01205</b>	
<b>Supervisor: Ms Yap Seok Gee</b>	
<b>Project Title: Counselling Services Management and Social Application</b>	

## 1. WORK DONE

[Please write the details of the work done in the last fortnight.]

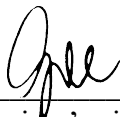
Meet up with supervisor to discuss project direction and report content organization  
Develop chat module

## 2. WORK TO BE DONE

Integrate all modules  
Perform testing

## 3. PROBLEMS ENCOUNTERED

## 4. SELF EVALUATION OF THE PROGRESS



Supervisor's signature



Student's signature



# FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

<b>Trimester, Year: Y4S1</b>	<b>Study week no.: 10</b>
<b>Student Name &amp; ID: Lok Xuan Wen &amp; 18ACB01205</b>	
<b>Supervisor: Ms Yap Seok Gee</b>	
<b>Project Title: Counselling Services Management and Social Application</b>	

## 1. WORK DONE

[Please write the details of the work done in the last fortnight.]

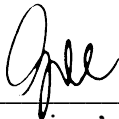
Complete system integration  
Refactor the modules and perform testing

## 2. WORK TO BE DONE

Finalize FYP2 report

## 3. PROBLEMS ENCOUNTERED

## 4. SELF EVALUATION OF THE PROGRESS



Supervisor's signature



Student's signature

# FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

<b>Trimester, Year: Y4S1</b>	<b>Study week no.: 12</b>
<b>Student Name &amp; ID: Lok Xuan Wen &amp; 18ACB01205</b>	
<b>Supervisor: Ms Yap Seok Gee</b>	
<b>Project Title: Counselling Services Management and Social Application</b>	

## 1. WORK DONE

[Please write the details of the work done in the last fortnight.]

Review and finalize project report

## 2. WORK TO BE DONE

Prepare presentation materials

## 3. PROBLEMS ENCOUNTERED

## 4. SELF EVALUATION OF THE PROGRESS



\_\_\_\_\_  
Supervisor's signature



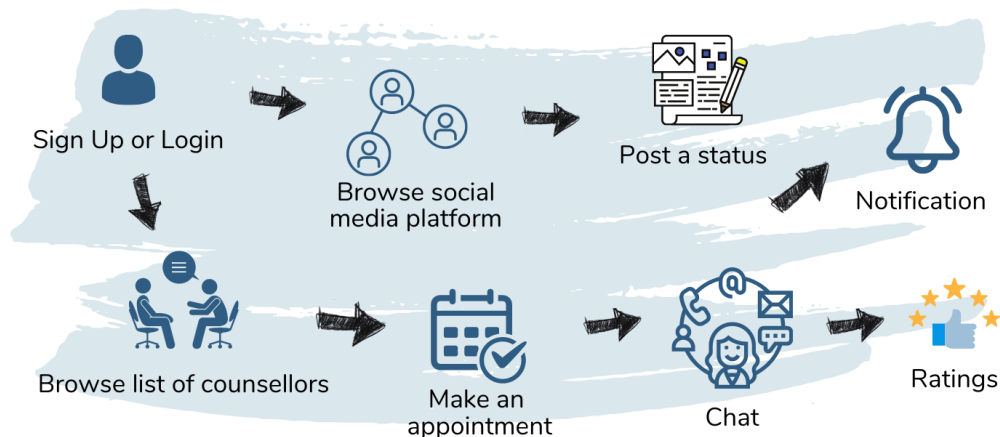
\_\_\_\_\_  
Student's signature

## POSTER



### INTRODUCTION

Have you ever wondered how would it be if offline counselling approaches are transformed and digitalized into one online platform? What if the online counselling platform is integrated with socializing feature as well? Walk yourself through counselling processes with ease and provide mutual peer support by using this application now!



#### OBJECTIVES

- To analyse various existing offline counselling approaches and online mental health support application
- To design a website that can manage the counselling processes documentation
- To develop an alternative online counselling approach and social mental health community

#### METHODS

- Developed using HTML, CSS, JavaScript, PHP on Visual Studio Code
- Adopted Extreme Programming (XP)
- Local host server on XAMPP, using MySQL & SMTP

Developed by: Lok Xuan Wen

Supervised by: Ms Yap Seok Gee

## PLAGIARISM CHECK RESULT

### Counselling Services Management and Social Application

#### ORIGINALITY REPORT

<b>3</b> %	<b>0</b> %	<b>1</b> %	<b>3</b> %
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

#### PRIMARY SOURCES

<b>1</b>	Soly Mathew Biju. "Agile Software Development", E-Learning and Digital Media, 2008 Publication	<1 %
<b>2</b>	Submitted to Kaunas University of Technology Student Paper	<1 %
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<b>Form Title : Supervisor's Comments on Originality Report Generated by Turnitin for Submission of Final Year Project Report (for Undergraduate Programmes)</b>			
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**FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY**

<b>Full Name(s) of Candidate(s)</b>	LOK XUAN WEN
<b>ID Number(s)</b>	18ACB01205
<b>Programme / Course</b>	BACHELOR OF INFORMATION SYSTEMS (HONS) INFORMATION SYSTEMS ENGINEERING
<b>Title of Final Year Project</b>	COUNSELLING SERVICES MANAGEMENT AND SOCIAL APPLICATION

<b>Similarity</b>	<b>Supervisor's Comments (Compulsory if parameters of originality exceeds the limits approved by UTAR)</b>
<b>Overall similarity index: <u>  3  </u> %</b>  <b>Similarity by source</b> Internet Sources: <u>  0  </u> % Publications: <u>  1  </u> % Student Papers: <u>  3  </u> %	
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Note Supervisor/Candidate(s) is/are required to provide softcopy of full set of the originality report to Faculty/Institute

***Based on the above results, I hereby declare that I am satisfied with the originality of the Final Year Project Report submitted by my student(s) as named above.***

\_\_\_\_\_  
Signature of Supervisor

Name: MS YAP SEOK GEE

Date: 5/9/2022

\_\_\_\_\_  
Signature of Co-Supervisor

Name: \_\_\_\_\_

Date: \_\_\_\_\_



**UNIVERSITI TUNKU ABDUL RAHMAN**

**FACULTY OF INFORMATION & COMMUNICATION TECHNOLOGY  
(KAMPAR CAMPUS)**

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Student Name	LOK XUAN WEN
Supervisor Name	MS YAP SEOK GEE

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