SOFTWARE REQUIREMENT SPECIFICATION (SRS)

MINDCONNECT: A MENTAL HEALTH APPLICATION BRIDGING YOUTH AND THERAPISTS IN MALAYSIA

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Software : MindConnect: A Mental Health Application Bridging Youth and Therapists

in Malaysia

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1. INTRODUCTION

MindConnect: A Mental Health Application Bridging Youth and Therapists in Malaysia is a mobile and web application system which aims to provide users with an interactive experience in seeking help and support for their mental health concerns. For the mobile-based application, the primary users are youths aged between 15 to 40 years old who are seeking support for their mental health conditions, whether diagnosed or not, and the secondary users are screened, licensed therapists who provide clinically-sound support to these youths via therapy appointments. Other features and functionalities to supplement the therapy appointment module are also included for youths such as a mental health screening assessment, emergency hotlines page, mood tracker page and an interactive AI Chatbot. Licensed therapists are also given the ability to manage their patients (youths) and therapy appointment bookings. On the other hand, the web application is used by the system administrator who oversees data management such as management of user information, real-time appointment bookings and management of the youths' mood history. The admin is also in charge of screening the therapists to ensure legitimacy of their provided credentials (license number) according to the Malaysian Society of Clinical Psychology.

1.1 PURPOSE

The purpose of this Software Requirements Specification (SRS) is to provide a clear and comprehensive description of the MindConnect application. This document describes in detail information to understand the requirements, features, interfaces, constraints and use cases. Assumptions and dependencies will also be thoroughly outlined in this SRS document. The interfaces that are covered in this SRS are for youths (users), therapists (users) and system administrator (admin). It also explains how the mobile and web application must perform in order to meet both internal and external requirements. This SRS is intended for all stakeholders, which consists of the users, developers, and testers of the system. The document will refer to other relevant documents for further elaboration where necessary.

1.2 PROBLEM STATEMENT

There are certain problems that have been identified which has prompted the development of this MindConnect application. Among them is the primary problem of limited accessibility to mental health services as most facilities are skewed towards specialist care for the severely affected. Moreover, those living in remote or underserved areas are especially burdened with more adverse socioeconomic conditions and reduced access to mental healthcare as many mental health facilities are targeted towards more urban areas.

Furthermore, underutilization of technology in mental health services also poses a problem. While mobile applications have shown promise in addressing mental health issues on a global scale, Malaysia's local scene still lacks creative solutions aimed at the youth demographic. Existing mobile applications may not fully cater to the varied needs of young people looking for mental health care and support, especially in terms of "where to start" without feeling overwhelmed.

Another problem to be considered is the low mental health literacy and persistent social stigma, especially among Malaysian youths. This is because many youths in Malaysia lack sufficient knowledge on mental health issues, leading to stigmatization. This includes both public and self-stigma, which leads to a reluctance to come forward for help, treatment, or intervention. This reinforces the need for a solution that not only provides support but also actively works towards reducing stigma.

Lastly, the development of the MindConnect application aims to solve the lack of comprehensive mental health support in Malaysia. While there are locally available mental health applications, they do not provide a comprehensive strategy for treating mental health issues. Hence, this application aims to rectify this problem by encouraging youths to seek help early in their mental health journey, nurturing a sense of self-awareness and encouraging accountability to effectively combat the rise in mental health disorders.

1.3 REFERENCES

IEEE Std 830 – 1993, IEEE Standard for Software requirements specification IEEE 830

1.4 DOCUMENT OVERVIEW

This document consists of four sections:

- Section 1 contains the purpose, problem statement, reference, and document overview of the MindConnect application.
- ii. Section 2 provides an overview of the functionality of the application, in which it describes the informal requirements and is used to establish context for the technical requirements specification in the next section.
- iii. Section 3 defines the software requirements and describes in technical terms the details of the functionality of the application. It is primarily written for the designers, developers, and testers of the website for verification and validation purposes.
- iv. Section 4 contains definitions, acronyms, and abbreviations used in this document.

2. OVERALL DESCRIPTION

2.1 OVERALL DESCRIPTION

The purpose of this section is to provide an overview of the MindConnect application, including its general product perspective, system interfaces, user interfaces, software interfaces, product functions, user characteristics, constraints, assumptions, and dependencies made in order to define the necessary requirements. The graphical user infterface (GUI) of the system will be at Appendix B.

2.1.1 Product Perspective

MindConnect is a mobile and web-based application which aims to bridge the gap between youth and therapists in Malaysia. To access the mobile application, users are required to use a mobile device (smartphone). The mobile application will work on both Android and iOS devices. To access the web application, users are required to use a computer or laptop. Internet connection is required for the user to access the system on both mobile and web applications. The mobile-based application is developed for youths-in-need and licensed therapists. Youths are able to register accounts to access features such as taking a mental health screening, viewing a list of available therapists, scheduling therapy sessions, accessing emergency hotline numbers in times of crisis, tracking their daily mood, and interacting with an AI Chatbot. On the other hand, therapists are also able to create accounts to access and manage their patients' (youths) details as well as therapy appointment bookings. In terms of the web-based application developed for the system administrator, they shall be able to oversee the overall system, manage all user data, manage therapy appointment bookings as well as manage the youths' mood database. The MindConnect application should provide functionality as described further in the Specific Requirements under Section 3. It should be noted, however, that this is version 1.0 of the SRS document, so it will only cover features of the mobile-based application which involves youth and therapists.

2.1.2 System Interfaces

As the MindConnect application is developed for both mobile and web usage, the system interfaces for the application are as follows:

 This mobile application is compatible with all Android mobile devices and tablets, as well as iPhone and iPad. The following details the supported versions accordingly:

Table 1: List of Supported Android and iOS Versions for Mobile Application

Android Mobile/Tablet	Version: Android 10 or higher
iPhone/iPad	Version: iOS 13 or higher

ii. This web application requires the following operating system (OS) and browsers:

Table 2: List of Supported Operating System and Browsers for Web Application

Windows	Operating System: Windows 10
	Browser: Latest version of Google Chrome / Microsoft Edge / Mozilla Firefox

2.1.3 User Interfaces

MindConnect will have a user-friendly and aesthetically pleasing interface for all users of the application. The content of each user interface will be dependent on the type of user and the requirements specified for the user (refer to Section 3, Specific Requirements). The user interface (UI) for the mobile application users (youth and therapists) is colour-coded, with the youth primarily in green and the therapist in blue. Designs for all users (youth, therapist, system administrator) will depend on each module's features and necessary functionalities. In the admin's case of being a web-based application, the system will be designed to adapt and respond to various screen sizes and orientations. This is to ensure a consistent user experience and quality of the system.

2.1.4 Software Interfaces

The following outlines the various software interfaces that are required in developing the MindConnect application.

Table 3: Software Interfaces for Mobile and Web Application Development

Software	Details
Operating System (Laptop)	Windows 10, 64-bit
Programming Language (Backend)	Dart
Programming Framework (Frontend)	Flutter
Development Tools	Visual Studio Code
	Android Studio
Database	Firebase
Design	Canva
	Figma
AI Chatbot Integration	• Rasa

Table 4: Details of Software Interfaces for Operating System

Name	Microsoft Windows 10
Mnemonic	Windows 10
Description	Microsoft Windows is highly known as an operating
	system and a group of graphical operating system
	families developed by the company Microsoft.
Version Number	Windows 10 64-bit operating system
Source	https://www.microsoft.com/en-au/software-
	download/windows10

Table 5: Details of Software Interfaces for Programming Language (Backend)

Name	Dart
Mnemonic	Dart
Description	Dart is a client-optimized language for developing
	fast apps on any platform. Its goal is to offer the
	most productive programming language for multi-
	platform development, paired with a flexible
	execution runtime platform for app frameworks.
Version Number	Version 2.19.6
Source	https://dart.dev/get-dart

Table 6: Details of Software Interface for Programming Framework (Frontend)

Name	Flutter				
Mnemonic	Flutter				
Description	Flutter is Google's free and open-source UI				
	framework for creating native mobile applications.				
	Released in 2017, Flutter allows developers to build				
	mobile applications for both iOS and Android with a				
	single codebase and programming language.				
Version Number	Version 3.7.12				
Source	https://docs.flutter.dev/				

Table 7: Details of Software Interface for Development Tools

Name	Visual Studio Code
Mnemonic	VS Code
Description	Visual Code is an opened source text editor developed by Microsoft.
Version Number	Version 1.86
Source	https://code.visualstudio.com/docs/

Name	Android Studio
Mnemonic	Android Studio
Description	Android Studio is Google's official IDE for Android
	app development and includes an emulator that
	simulates and replicates various Android devices.
Version Number	Android Studio Electric Eel 2022.1.1 Patch 2
Source	https://developer.android.com/studio

Table 8: Details of Software Interface for Database

Name	Firebase
Mnemonic	Firebase
Description	Firebase is Google's all-in-one platform for mobile and web app development, providing services like
	real-time databases and authentication.
Version Number	Version 13.0.2
Source	https://firebase.google.com/

Table 9: Details of Software Interface for Design

Name	Canva
Mnemonic	Canva
Description	Canva is a user-friendly graphic design platform for
	creating professional visuals with a simple and
	intuitive drag-and-drop interface.
Version Number	-
Source	https://www.canva.com/
Name	Figma
Mnemonic	Figma
Description	Figma is a collaborative design and prototyping tool
	that enables teams to create, share, and iterate on
	digital designs in real-time.
Version Number	-
Source	https://www.figma.com/

Table 10: Details of Software Interface for AI Chatbot Integration

Name	Rasa
Mnemonic	Rasa
Description	Rasa is an open-source conversational AI platform
	that facilitates the development of chatbots and
	virtual assistants with natural language processing
	capabilities.
Version Number	Version 3.6.16
Source	https://rasa.com/docs/

2.2 Product Functions

The following tables describe the major functions of the MindConnect application, according to the type of application and users respectively.

Table 11: MindConnect Modules – Mobile Application

Module	Feature	List of	Description	Accessible
	ID	Features		Role
Registration	F01	Register	To allow the user to register an account	Youth,
			with some credential information.	Therapist
Login	F02	Login	To allow the user to log in to their	Youth,
			registered account by filling in their	Therapist
			email and password.	
User Profile	F03	Manage	To allow the user to view and update	Youth,
		Profile	their profile information.	Therapist
		Information		
Mental	F04	Take	To allow the user to take a mental	Youth
Health		Mental	health assessment to self-check the	
Screening		Health	severity of their symptoms using a DASS	
		Assessment	(Depression, Anxiety, Stress Scale) test.	
View	F05	View List of	To allow the user to view and filter a list	Youth
Therapist		Therapists	of registered licensed therapists as well	
			as their detailed information.	

Schedule	F06	Schedule	To allow the user to schedule a therapy	Youth
Therapy		Therapy	session with their preferred therapist	
Session		Session	according to available dates, mode of	
			session (virtual or face-to-face) and	
			time slots.	
Therapy	F07	View	To allow the user to view confirmed	Therapist
Bookings		Confirmed	therapy bookings and the list of	
		Therapy	patients (youth) assigned to them.	
		Bookings		
Emergency	F08	View List of	To allow the user to view a list of	Youth
Hotlines		Emergency	emergency hotlines' contact numbers.	
		Contact		
		Numbers		
Mood	F09	Track Daily	To allow the user to track their mood	Youth
Tracker		Mood	and view their mood history.	
AI Chatbot	F10	Interact	To allow the user to interact with the AI	Youth
		with AI	Chatbot to enquire about the features	
		Chatbot	and functions of the app, view therapy	
			session reminder and provide feedback.	

Table 12: MindConnect Modules – Web Application

Module	Feature	List of	Description	Accessible	
	ID	Features		Role	
Login	F01	Login	To allow admin to log in to their	System	
			specific account by filling in ID and	Administrator	
			password.		
Youth	F02	Manage	To allow admin to view, update,	System	
Account		Youth	and/or remove the youth's profile	Administrator	
Management		Profile	information.		
		Information			
Therapist	F03	Manage	To allow admin to view, verify,	System	
Account		Therapist	update, and/or remove the	Administrator	
Management		Profile	therapist's profile information.		
		Information			

Real-Time	F04	Manage	To allow admin to view and	System
Appointment		Therapy	manage (update and/or remove)	Administrator
Booking		Bookings	therapy session appointment	
			bookings.	
Mood	F05	Manage	To allow admin to view and	System
Tracker		Youth	manage the user's (youth) mood	Administrator
Database		Mood	history.	
		History		

2.3 User Characteristics

There are three types of users who have access to the MindConnect application, including youth, therapists, and system administrator. The following table explains each user of the application in detail.

Table 13: User Characteristics of MindConnect Application

User	Description	Required Knowledge
Youth	Regular users aged between 15 to 40 years	Basic knowledge in using a
	old seeking help for their mental health	mobile application.
	concerns or conditions.	
Therapist	Licensed therapists registered at least under	Basic knowledge in using a
	the Malaysian Society of Clinical Psychology.	mobile application.
System	Admin responsible for managing users' data	Basic knowledge and skill in
Administrator	including their information, mood history and	operating a web application
	real-time therapy appointment bookings.	as well as managing and
		monitoring user data.

2.4 Constraints

The development and implementation of the MindConnect application are subject to certain constraints, as follows:

- i. The application shall require a stable internet connection to access the functionalities and features of the application.
- ii. The application is only available on the latest operating systems (refer to System Interfaces under section 2.1.2).
- iii. The application shall allow users to view the mobile-based application on the latest Android and iOS devices only.
- iv. The application shall allow users to view the web-based application on Google Chrome, Microsoft Edge, and Mozilla Firefox browsers only.
- v. The application must have database security that complies with relevant laws and requirements to ensure user confidentiality.
- vi. The application requires therapists to be licensed and registered under the Malaysian Society of Clinical Psychology to ensure validity of their credentials.
- vii. The development of the application should be completed within the allocated timeline and available resources.

2.5 Assumptions and Dependencies

The following details the assumptions and dependencies for the MindConnect application.

2.5.1 Assumptions

- i. The application shall have a database to access and store user information.
- ii. The application shall be designed to be responsive to function properly on various screen sizes as it should be accessible by users on a variety of devices and browsers.
- iii. The application should be compatible with the specified hardware configurations and operating systems.
- iv. Users must have access to and be connected to a stable Internet connection to access the full features and functionalities of both the mobile and web application.
- Users must have the latest operating system and compatible web browsers (Google
 Chrome, Safari, Microsoft Edge or Mozilla Firefox) on their computer, tablet or
 mobile devices to access the application.
- vi. Users of the website must have basic knowledge in English language.
- vii. Users must be digitally literate and have basic knowledge in using mobile and web applications.

2.5.2 Dependencies

- i. The application shall be developed and executed in a manner that minimizes downtime and provides constant performance as users of the application will have expectations regarding its availability and uptime.
- ii. The application should be updated and maintained over time; thus, it should be developed in a modular and scalable method to make it simpler to add new features and make adjustments accordingly.
- iii. The application shall be hosted in a secure environment to operate effectively and to protect sensitive user information.
- iv. The application shall have a robust database management system for data storage and retrieval which is to be updated in case of changes in the database schema.
- v. The application should be updated accordingly if there are any changes to regulations of compliance standards.

3. SPECIFIC REQUIREMENTS

This section of the SRS should contain all the software requirements to a level of detail sufficient to enable designers to design a system to satisfy those requirements, and testers to test that the system satisfies those requirements. Throughout this section, every stated requirement should be externally perceivable by users, operators, or other external systems. These requirements should include at a minimum a description of every input (stimulus) into the system, every output (response) from the system, and all functions performed by the system in response to an input or in support of an output.

3.1 External Interface Requirements

This section outlines the external interface requirements which includes the user interface, hardware interface and software interface requirements of the MindConnect application. The interfaces are classified and grouped by their features. As this is version 1.0 of the SRS document, only features of the mobile application which involves youth and therapists are covered in this section.

3.1.1 User Interfaces

3.1.1.1 User Interface: Registration (Youth, Therapist)

Table 14: User Interface for Registration (Youth, Therapist)

Requirement ID	REQ_F101 Version 1.0					
Item	Registration					
Description	Users shall be able to register account.	Users shall be able to register their information into the database to create an account.				
Purpose	To register user's information	into the database.				
User	Youth	Therapist	Valid	Not		
Format	Name: Text	Name: Text	Range	applicable		
	Email Address: Email	Email Address: Email				
	Password: Masked text field					
	Gender: Option button Gender: Option button					
	Date of Birth: Date picker Organisation: Text					
	Postcode: Text License Number: Text					
		Work Postcode: Text				
Related I/O	None					
Author	Nur Alisa Zarina Binti Nazmi					

3.1.1.2 User Interface: Login (Youth, Therapist)

Table 15: User Interface for Login (Youth, Therapist)

Requirement ID	REQ_F201	Version	1.0
Item	Login		
Description	Users shall input their login credentials to access their N	MindConn	ect account.
Purpose	Registered users can securely log in to their account an of the application.	d access a	ll features
Format	Email Address: Email	Valid	Not
	Password: Masked text fields	Range	applicable
Related I/O	REQ_F101		
Author	Nur Alisa Zarina Binti Nazmi		

3.1.1.3 User Interface: User Profile (Youth, Therapist)

Table 16: User Interface for User Profile (Youth, Therapist)

Requirement ID	REQ_F301 Version 1.0				
Item	User Profile				
Description	Users shall be able to view and	d update their profile informat	ion.		
Purpose	To allow logged in users to view	wand update their profile info	rmation in	the system.	
User	Youth	Therapist	Valid	Not	
Format	Name: Text	Name: Text	Range	applicable	
	Email Address: Email	Email Address: Email			
	Password: Masked text field				
	Gender: Option button Gender: Option button				
	Date of Birth: Date picker Organisation: Text				
	Postcode: Text License Number: Text				
		Work Postcode: Text			
Related I/O	REQ_F201				
Author	Nur Alisa Zarina Binti Nazmi				

3.1.1.4 User Interface: Mental Health Screening (Youth)

Table 17: User Interface for Mental Health Screening (Youth)

Requirement ID	REQ_F401	Version	1.0
Item	Mental Health Screening		
Description	Users shall be able to take a 21-question DASS test and results after successfully	receive te	est score
Purpose	To allow logged in users an accessible and interactive m current mental and emotional state.	ethod to a	ssess their
Format	Test Description: Text Test Questions: Radio buttons (Form) Submit: Button	Valid Range	Not applicable
Related I/O	REQ_F201		
Author	Nur Alisa Zarina Binti Nazmi		

3.1.1.5 User Interface: View Therapists (Youth)

Table 18: User Interface for View Therapists (Youth)

Requirement ID	REQ_F501	Version	1.0	
Item	View Therapists			
Description	Users shall be able to view a list of available therapists, as well as search and filter according to concern, view therapist profile details and choose their preferred therapist.			
Purpose	To allow logged in users to view, search, filter and choo	se a thera	pist	
	according to their concern or otherwise.			
Format	Search Bar: Input field	Valid	Not	
	Display therapist details	Range	applicable	
	View Details: Button			
	Display therapist profile details			
	Book Therapist: Button			
Related I/O	REQ_F201, REQ_F601			
Author	Nur Alisa Zarina Binti Nazmi			

3.1.1.6 User Interface: Schedule Therapy Session (Youth, Therapist)

Table 19: User Interface for Schedule Therapy Session (Youth, Therapist)

Requirement ID	REQ_F601	Version	1.0	
Item	Schedule Therapy Session			
Description	Users shall be able to schedule a therapy session by choosing a date, mode and time slot, which is confirmed by the chosen therapist.			
Purpose	To allow logged in users to schedule a therapy session with their preferred therapist at available date, mode and time.			
Format	Select Date: Date picker Select Mode: Option buttons Select Time Slot: Option buttons Book Therapy: Button	Valid Range	Not applicable	
Related I/O	REQ_F201, REQ_F501			
Author	Nur Alisa Zarina Binti Nazmi			

3.1.1.7 User Interface: Therapy Bookings (Therapist)

Table 20: User Interface for Therapy Bookings (Therapist)

Requirement ID	REQ_F701	Version	1.0
Item	Therapy Bookings		
Description	Users shall be able to view confirmed therapy booking patients (youth) accordingly.	s and view	the list of
Purpose	To allow logged in users to successfully view the confine bookings and list of patients (youth).	med thera	ру
Format	Display therapy appointment booking details Display patient details	Valid Range	Not applicable
Related I/O	REQ_F201, REQ_F601		
Author	Nur Alisa Zarina Binti Nazmi		

3.1.1.8 User Interface: Emergency Hotlines (Youth)

Table 21: User Interface for Emergency Hotlines (Youth)

Requirement ID	REQ_F801	Version	1.0
Item	Emergency Hotlines		
Description	Users shall be able to view a list of emergency hotlines emergency hotline numbers listed.	and contac	ct any of the
Purpose	To allow logged in users to view and contact the emerg	gency hotli	nes listed.
Format	Organisation Logo: img.jpg	Valid	Not
	Organisation Name: Text	Range	applicable
	Organisation Contact Number: Text		
Related I/O	REQ_F201		
Author	Nur Alisa Zarina Binti Nazmi		

3.1.1.9 User Interface: Mood Tracker (Youth)

Table 22: User Interface for Mood Tracker (Youth)

Requirement ID	REQ_F901	Version	1.0
Item	Mood Tracker		
Description	Users shall be able to track their daily mood and view a tracked mood.	history of	their
Purpose	To allow logged in users to track and view history of the	eir moods.	
Format	List of Moods: img.jpg, text Track: Button Display Mood History Data	Valid Range	Not applicable
Related I/O	REQ_F201		
Author	Nur Alisa Zarina Binti Nazmi		

3.1.1.10 User Interface: AI Chatbot (Youth)

Table 23: User Interface for AI Chatbot (Youth)

Requirement ID	REQ_F1001	Version	1.0	
Item	AI Chatbot			
Description	Users shall be able to interact with an AI Chatbot to enquire about the features and functions of the app, view therapy session reminder, and provide feedback.			
Purpose	To allow logged in users to interact with the AI Chatbot successfully.			
Format	Query: Text (youth)	Valid	Not	
	Response: Text (chatbot)	Range	applicable	
	Send: Button			
Related I/O	REQ_F201			
Author	Nur Alisa Zarina Binti Nazmi			

3.1.2 Hardware Interface

Not Applicable.

3.1.3 Software Interface

MindConnect has specific requirements and constraints related to its software interface. The following are required in order for the application to run as expected:

- i. This application requires users to be connected to a stable internet connection, whether via mobile data or Wi-Fi, to ensure access to its features and functionalities.
- ii. The mobile-based application should be compatible with a wide both Android and iOS devices, including mobile devices (smartphones) and tablets.
- iii. This application should have an interactive and user-friendly interface.

3.2 Software Product Features

This section will elaborate on the details of the functional requirements of MindConnect application, starting with the overall requirements which are shown through use cases.

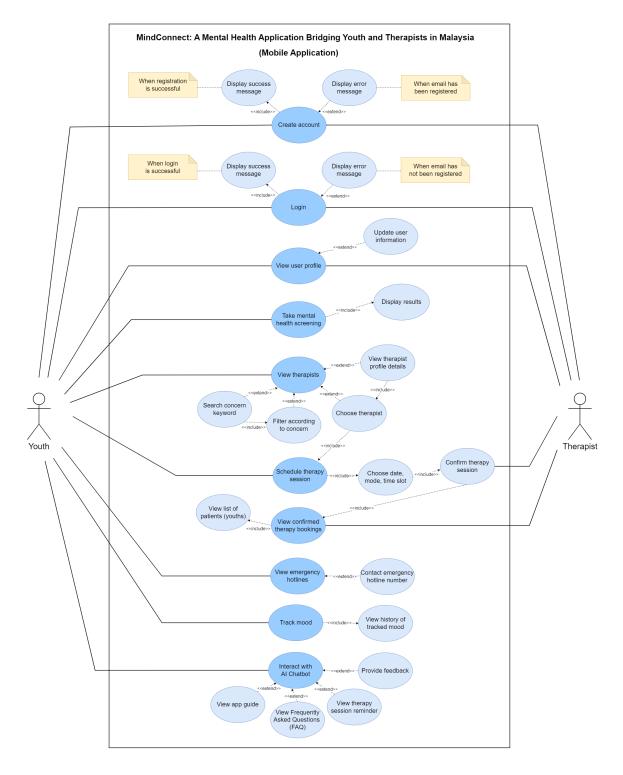


Figure 1: Overall Use Case Diagram of MindConnect (Mobile Application)

The following use case diagram shows the planned features and functionalities of the web application system targeted towards the system administrator (admin). It shows the overall system, and will be elaborated on its functionalities further in the updated SRS in FYP2.

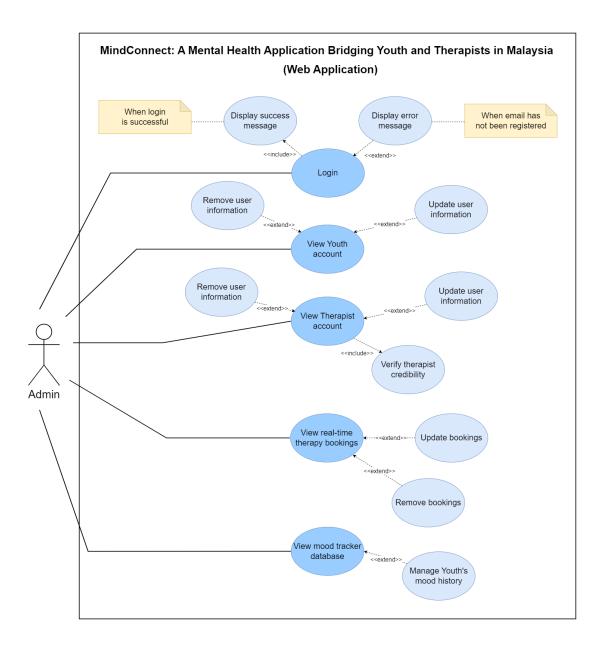


Figure 2: Overall Use Case of MindConnect (Web Application)

3.2.1 Functional Requirements

3.2.1.1 Registration

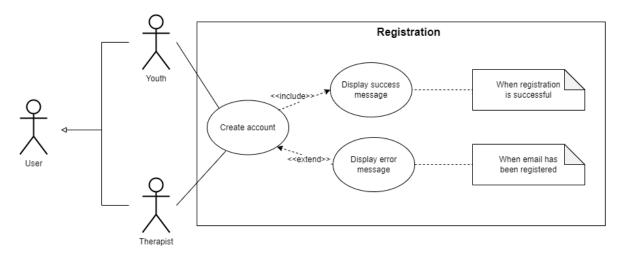


Figure 3: Use Case Diagram of Registration

Table 24: Functional Requirements of Registration

Functional Requirement ID	Description	Priority	Author
FREQ_001	If the user's email address is not registered yet, the system shall allow the user to create an account.	High	Nur Alisa Zarina
FREQ_002	The system shall provide the user with the ability to enter the specified credential information in the registration form.	High	Nur Alisa Zarina
FREQ_003	If the user has completed the form successfully with no missing information, the system shall allow the user to click the "Register" button to complete the create account process successfully.	High	Nur Alisa Zarina
FREQ_004	If there is missing user input or the user does not enter valid information in any of the registration form fields, the system shall display error messages accordingly.	High	Nur Alisa Zarina

Table 25: Use Case Specification of Registration

Han Cana Nama	D = =:=4	Disales and Disales	Display		
Use Case Name		Register account, Display success message, Display error message			
Use Case ID	UC_010, UC_011, UC_012				
Description	The Re	egistration use case allows the user to	create an account.		
Actor	Youth	, Therapist			
Precondition	The us	ser's email address is not registered y	et and is on registration page.		
Postcondition	The us	ser is successfully registered.			
Scenario Name	Step	Action			
Main Flow		Youth	Therapist		
	1	User inputs their registration details:	User inputs their registration details:		
		- Name	- Name		
		- Email Address - Email Address			
		- Password - Password			
		- Gender	- Gender		
		- Date of Birth	- Organisation		
		- Postcode	- License Number		
			- Work Postcode		
	2	System verifies user input.			
	3	System displays the success messag	e "Your registration is complete".		
Alternate Flow	-				
Exception Point -	1.1	User inputs an existing registered email in the system.			
Email has already registered	1.2	System displays error message "The email is already in use" and requests user to input their registration details again.			
	1.3	Back to main flow Step 1.			
Rules	i. ii.	All user details are required. Email address is valid.			

3.2.1.2 Login

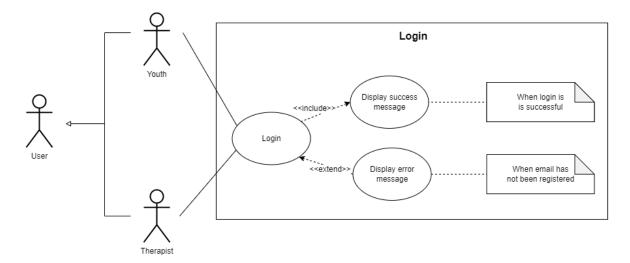


Figure 4: Use Case Diagram of Login

Table 26: Functional Requirements of Login

Functional Requirement ID	Description	Priority	Author
FREQ_005	If the user has registered successfully, the system shall allow the user to log in to their account by entering their registered email address and password in the space given.	High	Nur Alisa Zarina
FREQ_006	If the user has completed the form with no missing input, the system shall allow the user to click the "Log In" button to complete the login process successfully.	High	Nur Alisa Zarina
FREQ_007	If there is missing user input or the user does not entervalid email address, the system shall display error messages accordingly.	High	Nur Alisa Zarina

Table 27: Use Case Specification of Login

Use Case Name	Login, Verify password, Display log in error, Reset password		
Use Case ID	UC_020, UC_021, UC_022, UC_023		
Description	The Login use case allows the user to log in and get access to all the features of the application.		
Actor	Youth, Therapist		
Precondition	Email address must be registered into the system and user is in login page.		
Precondition	The user is successfully logged in.		
Scenario Name	Step	Action	
Main Flow	1	User inputs valid email address and password.	
	2	System verifies email and password.	
	3	System displays the success message "User is logged in!".	
Alternate Flow	-		
Exception Point –	1.1	Correct email address and password is required.	
User input incorrect	1.2	System displays error message and requests user to input their	
email address or		log in details again.	
password	1.3	Back to main flow Step 1.	
Rules	The user input email address that has been registered.		

3.2.1.3 User Profile

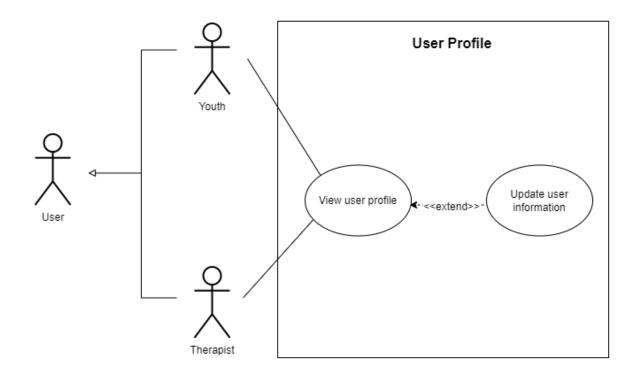


Figure 5: Use Case Diagram of User Profile

Table 28: Functional Requirements of User Profile

Functional Requirement ID	Description	Priority	Author
FREQ_008	The system shall allow the user to view their user profile details.	High	Nur Alisa Zarina
FREQ_009	The system shall allow the user to update their user information by clicking on any text field and clicking on the "Save Changes" button.	High	Nur Alisa Zarina
FREQ_010	The system shall display a success pop-up message if the user's update is successful.	High	Nur Alisa Zarina
FREQ_011	The system shall store the updated user information into the database.	High	Nur Alisa Zarina

Table 29: Use Case Specification of User Profile

Use Case Name	View user profile, Update user information		
Use Case ID	UC_030, UC_031		
Description	The User Profile use case allows the user to view and update their user profile information.		
Actor	Youth, Therapist		
Precondition	The user must be on the Profile page.		
Postcondition	The user's profile information is successfully updated.		
Scenario Name	Step	Action	
Main Flow	1	User shall go to the profile page to view their profile details.	
Alternate Flow	-		
Extension Point – User wants to	1.1	User updates their profile information by clicking on any text field and clicks on the "Save Changes" button.	
update their profile information	1.2	System displays the success message "Changes saved successfully".	
	1.3	Back to main flow Step 1.	
Rule	User must be logged in to their account.		

3.2.1.4 Mental Health Screening

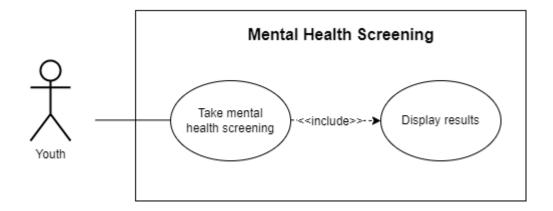


Figure 6: Use Case Diagram of Mental Health Screening

Table 30: Functional Requirements of Mental Health Screening

Functional Requirement ID	Description	Priority	Author
FREQ_012	The system shall allow the user to take a mental health screening test to assess their current mood and emotional state.	High	Nur Alisa Zarina
FREQ_013	If the user successfully selects answers for all 21 questions of the DASS (Depression, Anxiety, Stress Scale) test, the system shall allow the user to click on the "Submit" button.	High	Nur Alisa Zarina
FREQ_014	The system shall calculate the user's scores and redirect them to the results page and display the user's test scores.	High	Nur Alisa Zarina
FREQ_015	If the user does not select an answer for one or more questions, the system shall display an error message and remain on the same page.	High	Nur Alisa Zarina

Table 31: Use Case Specification of Mental Health Screening

	•			
Use Case Name	Take mental health screening, Display results			
Use Case ID	UC_040, UC_041			
Description	screening t	The Mental Health Screening use case allows the user to take a mental health screening test to assess their current mental and emotional state. Results for the screening test will also be displayed to the user.		
Actor	Youth			
Precondition	The user m	ust be on the DASS Test page.		
Postcondition	The user successfully receives test score results based on the screening test.			
Scenario Name	Step Action			
Main Flow	1	User shall go to the mental health screening page (DASS Test) to take a 21-question DASS (Depression, Anxiety, Stress Scale) test.		
	2	System verifies user input and calculates the user's scores.		
	3	System displays the results for the test scores.		
Alternate Flow	-			
Rules	i. User must be logged in to their account.			
	ii. User must answer all questions to proceed to results page.			

3.2.1.5 View Therapists

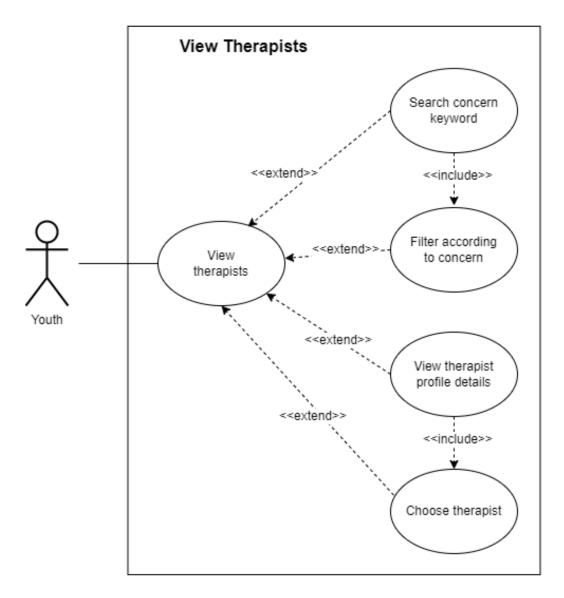


Figure 7: Use Case Diagram of View Therapists

Table 32: Functional Requirements of View Therapists

Functional Requirement ID	Description	Priority	Author
FREQ_016	The system shall allow the user to view a list of available registered licensed therapists.	High	Nur Alisa Zarina
FREQ_017	The system shall display brief details of each therapist including their picture, name, license number, organization, and specialization.	High	Nur Alisa Zarina
FREQ_018	The system shall allow the user to search for a concern keyword in the search bar.	High	Nur Alisa Zarina
FREQ_019	If the user inputs a concern keyword into the search bar that matches with the therapist's specialization tag, the system shall display a filtered list of therapists according to the user's search bar input.	High	Nur Alisa Zarina
FREQ_020	The system shall allow the user to click on the "View Details" button on each therapist to view the selected therapist's full profile details.	High	Nur Alisa Zarina
FREQ_021	The system shall allow the user to view further information on each therapist including their picture, name, license number, specialization, organization, languages and about blurb.	High	Nur Alisa Zarina
FREQ_022	If the user wishes to proceed to schedule a therapy session, the system shall allow the user to choose their preferred therapist by clicking on the "Book Therapist" button.	High	Nur Alisa Zarina

Table 33: Use Case Specification of View Therapists

Use Case Name	View thera	apists, Search keyword, Filter according to concern, View	
	therapist profile details, Choose therapist		
Use Case ID	UC_050, UC	C_051, UC_052, UC_053, UC_054	
Description	The View Therapists use case allows the user to view a list of available therapists. This use case also allows the user to search and filter according to concern, view therapist profile details and choose their preferred therapist.		
Actor	Youth		
Precondition	The user m	ust be on the first Schedule Therapy page.	
Postcondition	The user ca	on view, search, filter and choose a therapist according to their otherwise.	
Scenario Name	Step	Action	
Main Flow	1	User shall go to the Schedule Therapy page to view the list of available therapists.	
Alternate Flow	-		
Extension Points –	1.1	User can search for a concern in the search bar.	
User wants to search			
concern keyword,	1.2	System displays a filtered list of therapists according to input.	
User wants to filter according to concern			
Extension Points – User wants to view	1.3	User can click on the "View Details" button to view therapist profile details.	
therapist profile			
details,	1.4	User can choose their preferred therapist by clicking on the "Book Therapist" button.	
User wants to choose therapist		BOOK METAPISE DULLOM.	
Rules	User must b	pe logged in to their account.	

3.2.1.6 Schedule Therapy Session

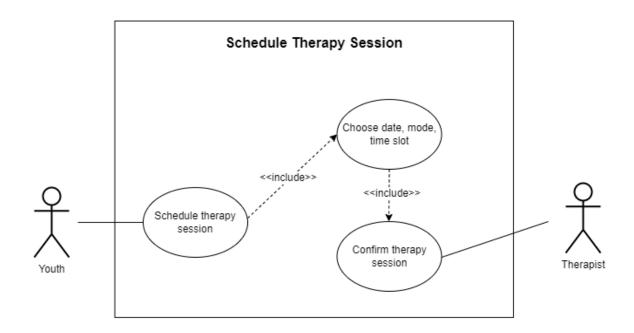


Figure 8: Use Case Diagram of Schedule Therapy Session

Table 34: Functional Requirements of Schedule Therapy Session

Functional Requirement ID	Description	Priority	Author
FREQ_023	If the user has selected their preferred therapist, the system shall allow the user to select a date, mode, and time slot for the therapy session according to the therapist's availability.	High	Nur Alisa Zarina
FREQ_024	The system shall allow the user to select any available date within the next 30 days.	High	Nur Alisa Zarina
FREQ_025	The system shall allow the user to select two types of mode for the therapy session which are virtual or face-to-face.	High	Nur Alisa Zarina
FREQ_026	The system shall allow the user to select any available time slot listed for their session.	High	Nur Alisa Zarina
FREQ_027	The system shall allow the user to confirm their therapy session request by clicking on the "Book Therapy Session" button.	High	Nur Alisa Zarina

FREQ_028	If the user has selected their preferred date, mode, and time slot successfully, the system shall display a success pop-up message with the confirmed therapy session details.	High	Nur Alisa Zarina
FREQ_029	If the user has not selected one or more of the required options (date, mode, time slot), the system shall display an error pop-up message.	High	Nur Alisa Zarina
FREQ_030	The system shall allow the therapist to confirm the therapy session details.	High	Nur Alisa Zarina

Table 35: Use Case Specification of Schedule Therapy Session

Use Case Name	Schedule therapy session, Choose date, mode, time slot, Confirm therapy session			
Use Case ID	UC_060, UC	UC_060, UC_061, UC_062		
Description	The Schedule Therapy Session use case allows youth to schedule a therapy session by choosing a date, mode and time slot, which is confirmed by the chosen therapist.			
Actor	Youth, The	rapist		
Precondition	The user m	ust have chosen a therapist and is on the last Schedule Therapy page.		
Postcondition	The user su	The user successfully confirms a therapy session.		
Scenario Name	Step Action			
Main Flow	1	1 User selects a date, mode, and time slot for the therapy session.		
	2	2 System verifies user input.		
	3	Therapist confirms the therapy session details.		
	4 System confirms the therapy session.			
Alternate Flow	-			
Rules	i. User must be logged in to their account.			
	ii. User must have chosen a therapist.			
	iii. All detai	s (date, mode, time slot) are required.		

3.2.1.7 Therapy Bookings

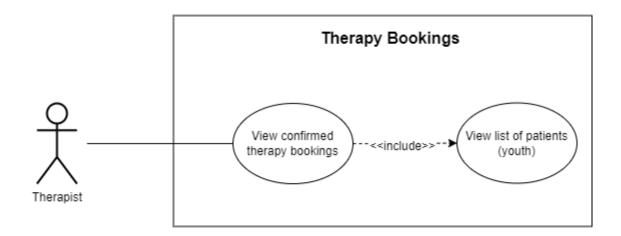


Figure 9: Use Case Diagram of Therapy Bookings

Table 36: Functional Requirements of Therapy Bookings

Functional Requirement ID	Description	Priority	Author
FREQ_031	The system shall allow the user to view a detailed list of confirmed therapy bookings.	High	Nur Alisa Zarina
FREQ_032	The system shall allow the user to view a detailed list of patients (youth) that are assigned to the user.	High	Nur Alisa Zarina

Table 37: Use Case Specification of Therapy Bookings

Use Case Name	View confirmed therapy bookings, View list of patients (youth)		
Use Case ID	UC_070, UC	C_071	
Description	· ·	The Therapy Bookings use case allows the user to view confirmed therapy bookings and view the list of patients (youth) accordingly.	
Actor	Therapist		
Precondition	The user m	ust be on the Therapy Bookings page.	
Postcondition	The user successfully views the confirmed therapy bookings and list of patients (youth).		
Scenario Name	Step Action		
Main Flow	1 User shall go to the therapy bookings page to view confirmed therapy bookings.		
	2 System displays a list of confirmed therapy bookings and patients (youths) that are assigned to the user.		
Alternate Flow	-		
Rules	User must be logged in to their account.		

3.2.1.8 Emergency Hotlines

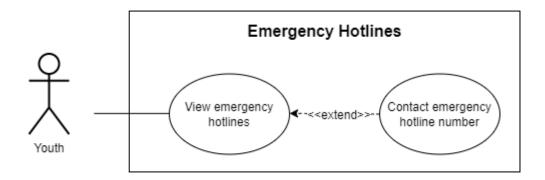


Figure 10: Use Case Diagram of Emergency Hotlines

Table 38: Functional Requirements of Emergency Hotlines

Functional Requirement ID	Description	Priority	Author
FREQ_033	The system shall allow the user to view a list of emergency hotlines that provide mental health assistance in Malaysia.	High	Nur Alisa Zarina
FREQ_034	The system shall display details for each organization such as logo, name, and contact number.	High	Nur Alisa Zarina
FREQ_035	The system shall allow the user to click on any contact number for direct emergency contact.	High	Nur Alisa Zarina
FREQ_036	If the user clicks on any emergency contact number, the system shall redirect the user to the native mobile phone dialing page.	High	Nur Alisa Zarina

Table 39: Use Case Specification of Emergency Hotlines

Use Case Name	View emergency hotlines, Contact emergency number		
Use Case ID	UC 080, UC 081		
Use case ID	00_080, 00	081	
Description	_	ency Hotlines use case allows the user to view a list of emergency	
	hotlines an listed.	d allows the user to contact any of the emergency hotline numbers	
Actor	Youth		
Precondition	The user m	ust be on the Emergency Hotlines page.	
Postcondition	The user can view and contact the emergency hotlines listed.		
Scenario Name	Step Action		
Main Flow	1	User shall go to the Emergency Hotlines page to view a list of emergency hotlines that provide mental health assistance in Malaysia.	
Alternate Flow	-		
Extension Point	1.1	User clicks on any emergency hotline number.	
- User wants to	1.2	System redirects the user to the native phone dialing page.	
contact emergency			
hotline number			
Rule	User must b	oe logged in to their account.	

3.2.1.9 Mood Tracker

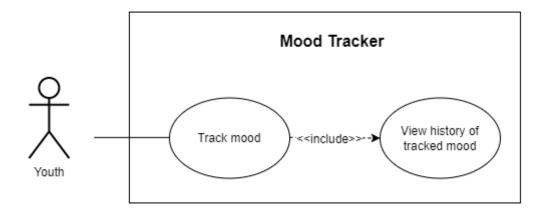


Figure 11: Use Case Diagram of Mood Tracker

Table 40: Functional Requirements of Mood Tracker

Functional Requirement ID	Description	Priority	Author
FREQ_037	The system shall display a visually appealing list of moods to track which includes an emoji and mood description.	High	Nur Alisa Zarina
FREQ_038	The system shall allow the user to click on any of the listed moods to track their daily mood.	High	Nur Alisa Zarina
FREQ_039	The system shall display a visualization of the user's tracked mood history.	High	Nur Alisa Zarina
FREQ_040	If the user clicks on any of the listed mood, the system shall update user's mood history database and visualization accordingly.	High	Nur Alisa Zarina

Table 41: Use Case Specification of Mood Tracker

Use Case Name	Track mood	Track mood, View history of tracked mood		
Use Case ID	UC_090, UC	UC_090, UC_091		
Description		The Mood Tracker use case allows the user to track their mood and view a history of their tracked mood.		
Actor	Youth			
Precondition	The user m	ust be on the Mood Tracker page.		
Postcondition	The user ca	n track and view history of their moods.		
Scenario Name	Step	Step Action		
Main Flow	 User shall go to the Mood Tracker page to track their daily mood. System verifies user input. 			
	3	System displays an updated history of the user's tracked moods.		
Alternate Flow	-			
Rules	i. User must be logged in to their account. ii. User must track their mood to view a history of their tracked mood.			

3.2.1.10 AI Chatbot

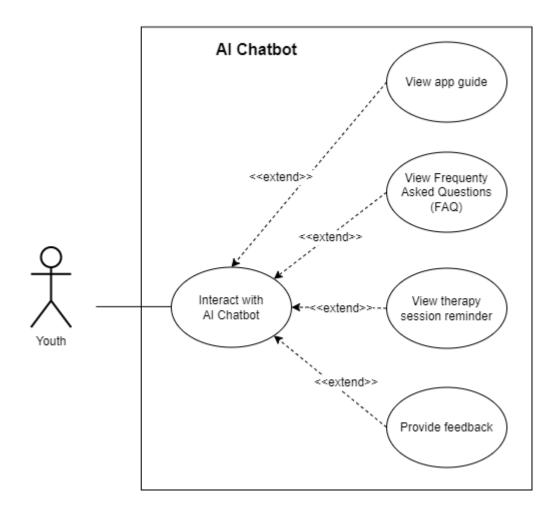


Figure 12: Use Case Diagram of AI Chatbot

Table 42: Functional Requirements of AI Chatbot

Functional Requirement ID	Description	Priority	Author
FREQ_041	The system shall allow the user to interact with the chatbot by entering prompts in the text field provided and clicking the "Send" button.	High	Nur Alisa Zarina
FREQ_042	If the user prompts the chatbot to view the app guide, the system shall generate a chatbot response with an app guide tutorial.	High	Nur Alisa Zarina
FREQ_043	If the user prompts the chatbot to view frequently asked questions (FAQ), the system shall generate a chatbot response with a list of FAQ accordingly.	High	Nur Alisa Zarina
FREQ_044	If the user prompts the chatbot to view their therapy session reminder, the system shall generate a chatbot response with the user's upcoming therapy session details, if any.	High	Nur Alisa Zarina
FREQ_045	If the user prompts the chatbot to provide feedback on the app, the system shall generate a chatbot response with a thank you message and stores the user's feedback in the system's database.	High	Nur Alisa Zarina

Table 43: Use Case Specification of AI Chatbot

Use Case Name	Interact with AI Chatbot, View appguide, View Frequently Asked Questions (FAQ), View therapy session reminder, Provide feedback			
Use Case ID	UC_100, UC_101, UC_102, UC_103, UC_104			
Description	The AI Chatbot use case allows the user to interact with an AI Chatbot to enquire about the features and functions of the app, view therapy session reminder, and provide feedback.			
Actor	Youth			
Precondition	The user m	ust be on the AI Chatbot page.		
Postcondition	The user ca	n interact with the AI Chatbot successfully.		
Scenario Name	Step	Action		
Main Flow	1	User shall go to the AI Chatbot page to interact with the chatbot.		
Alternate Flow	-			
Extension Point	1.1	User prompts the chatbot to view the app guide.		
User wants to view app guide	1.2	System generates a chatbot response with an app guide.		
Extension Point	1.3	User prompts the chatbot to view frequently asked questions (FAQ).		
User wants to view FAQ	1.4	System generates a chatbot response with a list of FAQ.		
Extension Point	1.5	User prompts the chatbot to view their therapy session reminder.		
- User wants to view therapy session reminder 1.6 System generates a chatbot response with the use therapy session details.		System generates a chatbot response with the user's upcoming therapy session details.		
Extension Point	1.7	User prompts the chatbot to provide feedback on the app.		
User wants to provide feedback	1.8	System generates a chatbot response with a thank you message and stores the user's feedback.		
Rule	User must b	pe logged in to their account.		

3.3 Performance Requirements

The following table displays the list of performance requirements of the MindConnect app.

Table 44: Performance Requirements

Quality Requirement ID	Description	Priority	Actor
QREQ_PR001	The system shall have an average response rate of less than 2 seconds.	High	Nur Alisa Zarina
QREQ_PR002	The system shall be able to load each page within 3 seconds.	o load each High Nur Alisa Zarina	
QREQ_PR003	The system should have an average response time of less than 5 seconds when saving data.	Moderate	Nur Alisa Zarina

3.4 Usability Requirements

The following table outlines the list of usability requirements of the MindConnect app.

Table 45: Usability Requirements

Quality Requirement ID	Description	Priority	Actor
QREQ_UR001	The system shall provide a user-friendly interface with clear navigation and intuitive design.		Nur Alisa Zarina
QREQ_UR002	The system shall have a responsive design to ensure a consistent user experience across various screen sizes and devices.	lesign to ensure a consistent user experience across various screen sizes	
QREQ_UR003	The system shall use a font style and size that is easy to read for the user.	High	Nur Alisa Zarina
QREQ_UR004	The system shall provide helpful and informative error messages in case of invalid inputs or system errors.	High Nur Alisa Zarina	
QREC_UR005	The system should appear consistent in its functionality and design by using similar features and layouts across the application.	Moderate	Nur Alisa Zarina

Requirements Traceability 3.5

The following table summarizes the relationship between the MindConnect application's user interface, functional requirements, and use cases.

Table 46: Requirements Traceability Matrix

User Requirement ID	Functional Requirement ID	Use Case ID	Functionality	Role
REQ_F101	FREQ_001	UC_010	Registration	Youth, Therapist
	FREQ_002	UC_011		
	FREQ_003	UC_012		
	FREQ_004			
REQ_F201	FREQ_005	UC_020	Login	Youth, Therapist
	FREQ_006	UC_021		
	FREQ_007	UC_022		
		UC_023		
REQ_F301	FREQ_008	UC_030	User Profile	Youth, Therapist
	FREQ_009	UC_031		
	FREQ_010			
	FREQ_011			
REQ_F401	FREQ_012	UC_040	Mental Health	Youth
	FREQ_013	UC_041	Screening	
	FREQ_014			
	FREQ_015			
REQ_F501	FREQ_016	UC_050	View Therapists	Youth
	FREQ_017	UC_051		
	FREQ_018	UC_052		
	FREQ_019	UC_053		
	FREQ_020	UC_054		
	FREQ_021			
	FREQ_022			

250 500			Calcadala T	
REQ_F601	FREQ_023	UC_060	Schedule Therapy Session	Youth, Therapist
	FREQ_024	UC_061	30331011	
	FREQ_025	UC_062		
	FREQ_026			
	FREQ_027			
	FREQ_028			
	FREQ_029			
	FREQ_030			
REQ_F701	FREQ_031	UC_070	Therapy Bookings	Therapist
	FREQ_032	UC_071		
REQ_F801	FREQ_033	UC_080	Emergency Hotlines	Youth
	FREQ_034	UC_081		
	FREQ_035			
	FREQ_036			
REQ_F901	FREQ_037	UC_090	Mood Tracker	Youth
	FREQ_038	UC_091		
	FREQ_039			
	FREQ_040			
REQ_F1001	FREQ_041	UC_100	Al Chatbot	Youth
	FREQ_042	UC_101		
	FREQ_043	UC_102		
	FREQ_044	UC_103		
	FREQ_045	UC_104		

4. DEFINITIONS, ACRONYMS AND ABBREVIATION

DEFINITIONS

System Administrator A user or person who is responsible for managing the web

application of system.

Youth A person who is currently within the age range of 15 to 40

years old in Malaysia.

Therapist A healthcare professional trained in providing care to those

suffering from mental health disorders.

Operating System It is the program that, after being initially loaded into the

computer by a boot program, manages all the other

application programs in a computer.

Android An operating system developed by Google and widely used

by a variety of mobile phone manufacturers.

Chatbot A computer program designed to simulate conversation

with human users.

ACRONYMS

IEEE Institute of Electrical and Electronic Engineers

SRS Software Requirement Specification

GUI Graphical User Interface

iOS iPhone Operating System

REQ Requirement

FREQ Functional requirement

QREQ Quality requirement

UC Use Case

APPENDIX A

Sequence Diagram

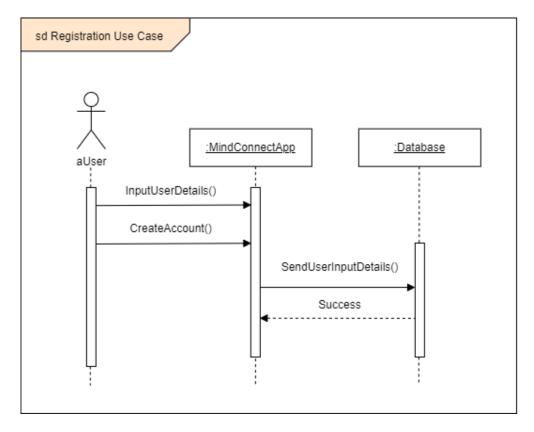


Figure 13: Sequence Diagram of Registration

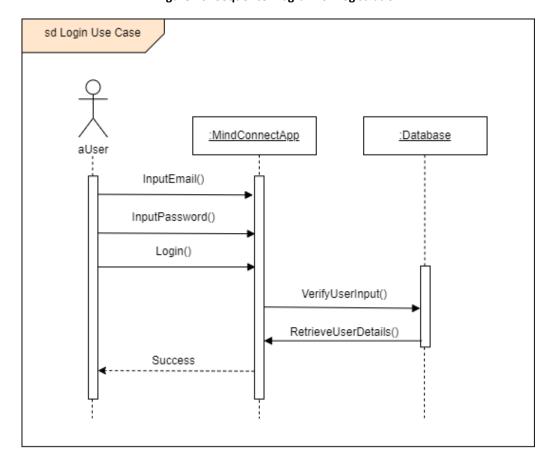


Figure 14: Sequence Diagram of Login

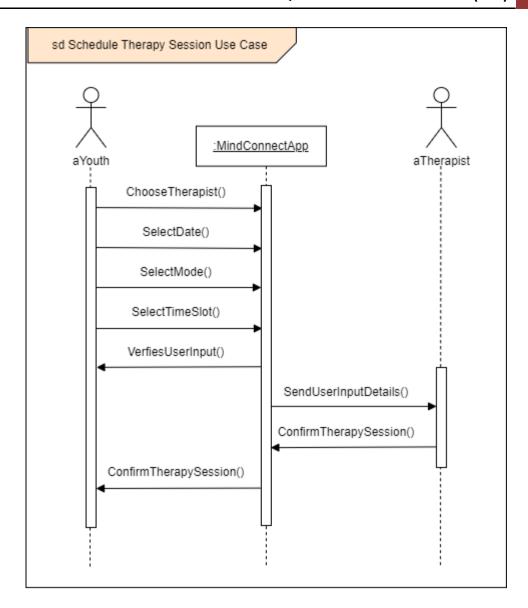


Figure 15: Sequence Diagram of Schedule Therapy Session

APPENDIX B

Graphical User Interface



Figure 16: GUI - Splash Screen

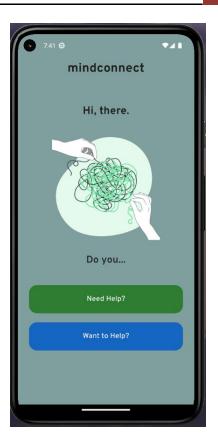


Figure 17: GUI – Introduction / Choice Page

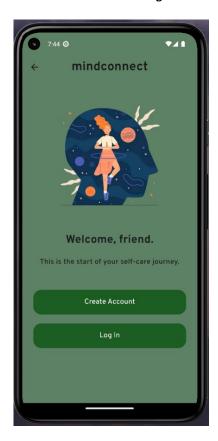


Figure 18: GUI – Youth: Landing Page

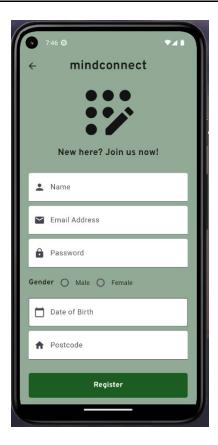


Figure 19: GUI - Youth: Registration Page

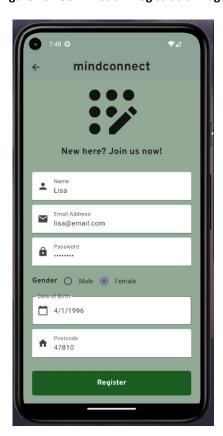


Figure 21: GUI – Youth: Registration (Input)

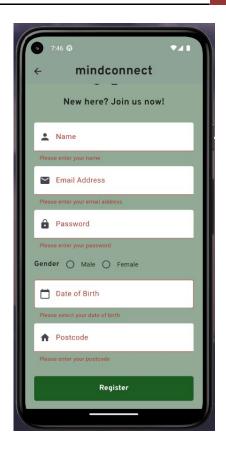


Figure 20: GUI - Youth: Registration (Error)

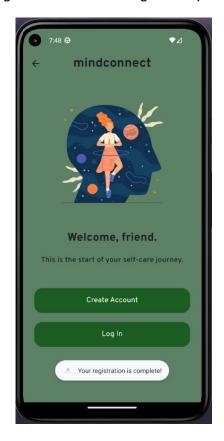


Figure 22: GUI – Youth: Registration (Success)

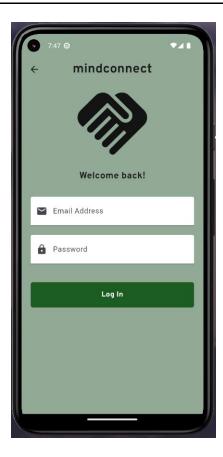


Figure 23: GUI – Youth: Login Page



Figure 25: GUI - Youth: Login (Input)



Figure 24: GUI - Youth: Login (Error)



Figure 26: GUI - Youth: Login (Success)



Figure 27: GUI – Youth: Home Page



Figure 28: GUI – Youth: User Profile



Figure 29: GUI - Youth: User Profile (Update Success)

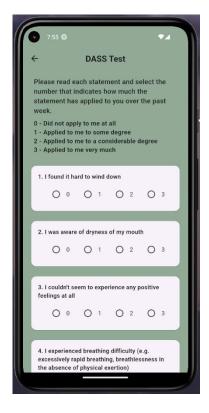


Figure 30: GUI –Youth: Mental Health Screening
Page

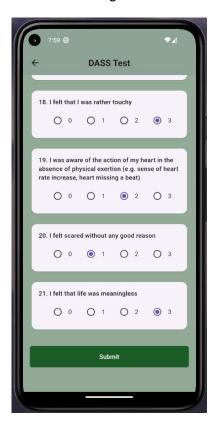


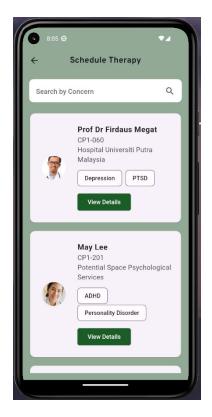
Figure 32: GUI – Youth: Mental Health Screening (Input)

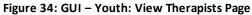


Figure 31: GUI – Youth: Mental Health Screening (Error)



Figure 33: GUI – Youth: Mental Health Screening (Results)





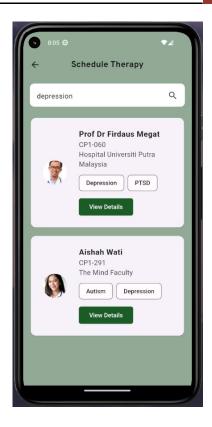


Figure 35: GUI – Youth: View Therapists (Search, Filter)



Figure 36: GUI - Youth: View Therapists (View Details, Choose Therapist)

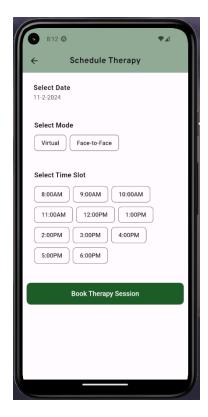


Figure 37: GUI – Youth: Schedule Therapy Session
Page

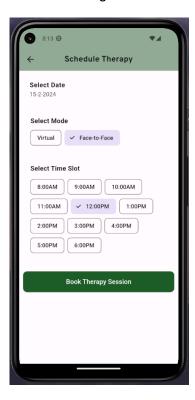


Figure 39: GUI – Youth: Schedule Therapy Session (Input)



Figure 38: GUI – Youth: Schedule Therapy Session (Error)



Figure 40: GUI – Youth: Schedule Therapy Session (Success)

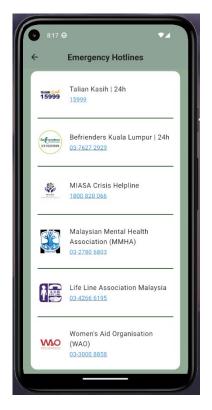




Figure 41: GUI – Youth: Emergency Hotlines Page

Figure 42: GUI - Youth: Mood Tracker Page



Figure 43: GUI – Youth: AI Chatbot Page

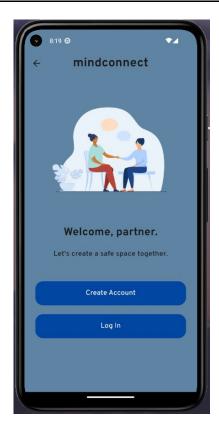


Figure 44: GUI – Therapist: Landing Page

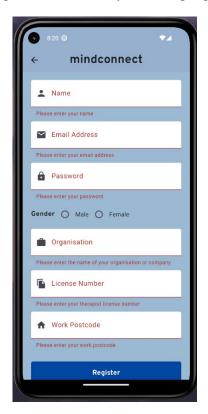


Figure 46: GUI - Therapist: Registration (Error)

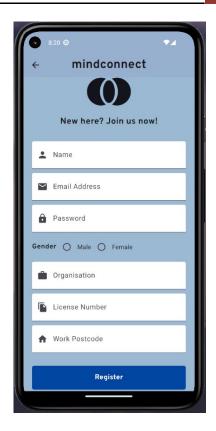


Figure 45: GUI – Therapist: Registration Page

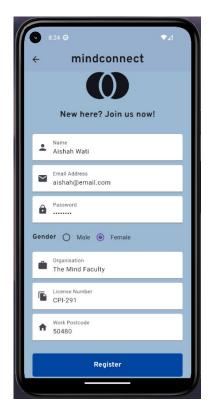


Figure 47: GUI - Therapist: Registration (Input)



Figure 48: GUI - Therapist: Registration (Success)



Figure 50: GUI – Therapist: User Profile Page



Figure 49: GUI – Therapist: Home Page

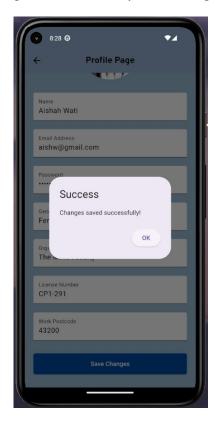


Figure 51: GUI – Therapist: User Profile (Update Success)