Design Document

Chatbot for Mental Health

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Version *1.0*

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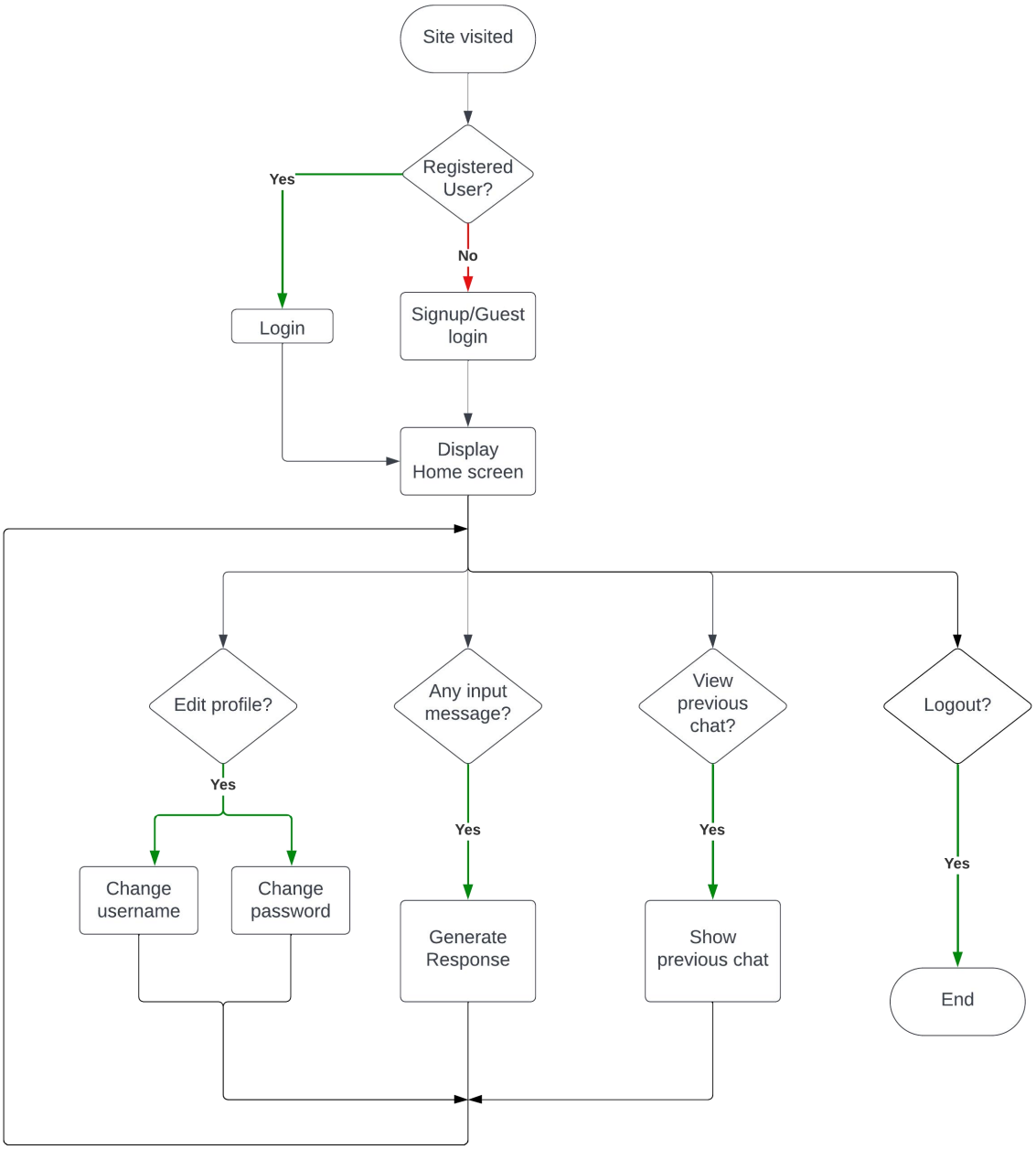
Summary:

This document deals with the complete design of our Mental Health Chatbot website. In this document, we will elaborate on the design of the application, covering elements such as the user interface, technical implementation, non-functional requirements. Additionally, we'll offer insights into the primary goals and intentions of our users when utilizing the application, guiding them in utilizing it effectively for mental health support.

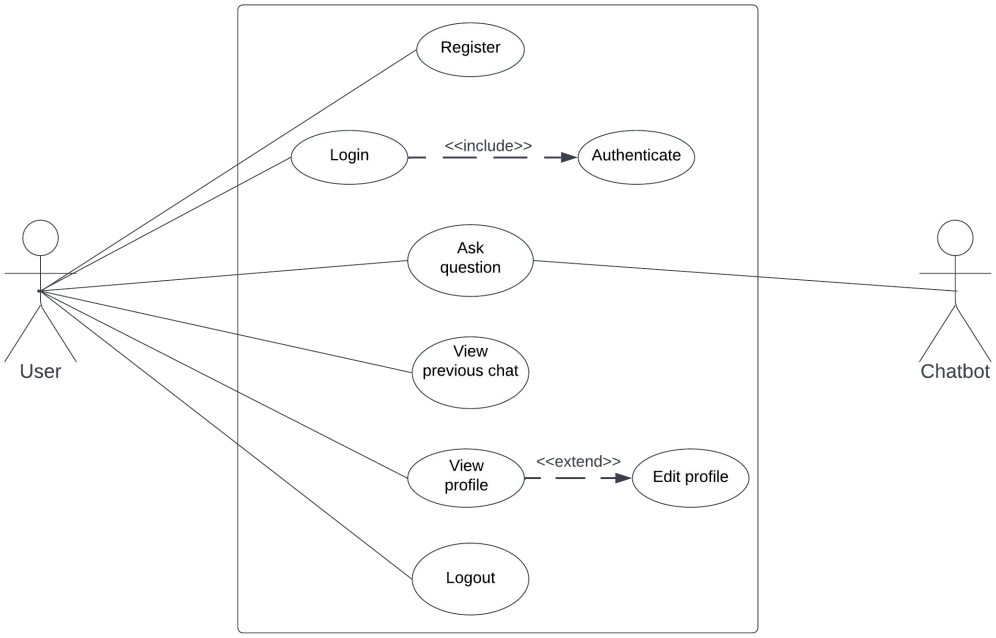
Our mental health chatbot is designed to be a valuable resource for individuals seeking support and information about mental well-being. Users can assess their mental health status through a series of frequently asked questions, receive empathetic responses to their queries, and benefit from a secure chat history storage feature for continuity. This comprehensive design aims to provide an accessible and supportive tool, ensuring that users can easily access and utilize mental health resources without the need for third-party applications or external sources.

High Level Design:

Flowchart : Below is the flow chart of our program -



Use Case : Below is the use case diagram and its text description



Text Description

U1: Register : Using this use case, the user can register into the application by providing the respective details.

Scenario 1: **Mainline sequence**

1. User: Select ‘Register’ option.

2. System: Display prompt to enter username, mail and password.

3. User: Enter the required details.

4 : System: Display the user’s home page.

Scenario 2: At step 4 of mainline sequence 4 :

System: Displays the message that the login details already exist.

U2: Login : Using this use case, the user can login into the application by providing the login credentials.

Scenario 1: Mainline sequence

1. User: Select ‘User login’ option.

2. System: Display prompt to enter id and password.

3. User: Enter the login details.

4 : System: Display the user’s home page.

Scenario 2: At step 4 of mainline sequence 4 :

System: Displays the message that the login details are invalid.

U3: Ask question : Using this use case, the user can chat with the chatbot.

Scenario : Mainline sequence

1. User: Gives a input to the chatbot in the text input.

2. System: Generates an appropriate response to the user input

U4 : View previous chat : Using this use case, the user can view his previous chats.

Scenario : Mainline sequence

1. User: Clicks on one of his previous chats

2. System: Retrieves the chat from database and displays on the screen

U5: View Profile : Using this use case, the user can view his personal details.

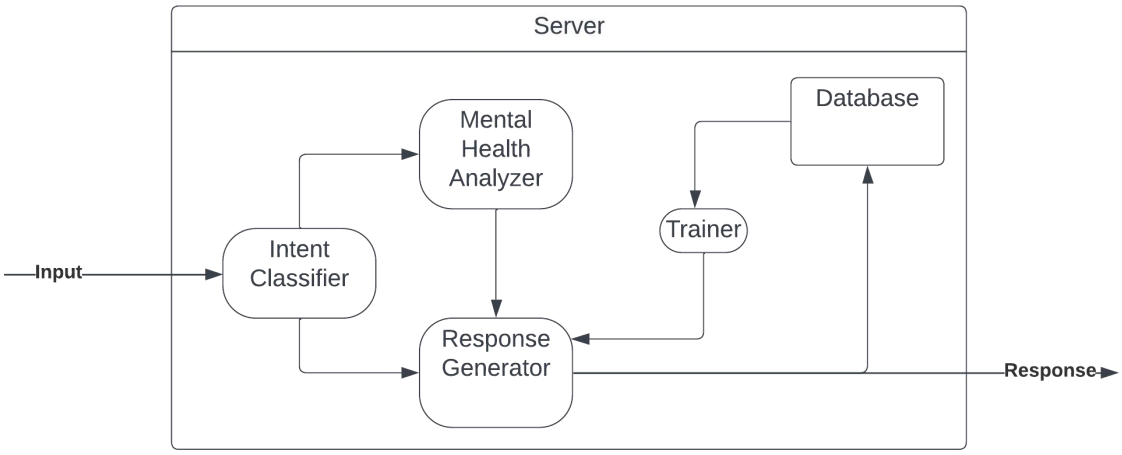
Scenario 1: Mainline sequence

1. User: Select ‘View Profile’ option.
2. System: Displays the personal details of the users.
3. User: Selects ‘Edit Profile’ option.
4. System: Displays the info that can be edited.
5. User: Modifies the info that is wrong.
6. System: Displays a message showing “Updated info successfully”.

Scenario 2: At step 3 of mainline sequence

3. User: Selects logout option.
4. System: Logs out the user out of the application.

Schematic Diagram of Server



Low Level Design

User Authentication

1. User Registration:

- Get the user details from the form.
- If the email ID already exists in the database, then pop up a message showing “account with this email ID already exists”.
- If the username already exists in the database, then pop up a message showing “account with this username already exists”.
- If both username and email ID are new then create a new object of user class using the details provided by the user and save the data of the user in the database.
- Pop up a message showing “Account created successfully” and redirect to the home page.

2. User Login:

- Get the details from the form.
- Verify username and password entered by user.
- If details entered by the users are correct then the user is redirected to the home page.
- Otherwise, it raises an error and displays “Invalid Credentials!” message and the user are redirected to the login page.

3. Forgot Password:

- If the user forgets the password, he can click on the forgot password.
- System asks the user to enter the email ID or username through which he has registered.

- Now the system sends an OTP to his registered email ID, with the help of this the user can reset the password.

Chatbot response

1. Intent Analyzer:

- Gets the user input.
- Analyzes the intent of the user whether he wants a diagnosis or want information
- Pass the user input to corresponding component.

2. Mental Health Analyzer:

- Asks the user a set of predefined questions.
- On the basis of the user response analyzes the mental health by checking against the data from database.
- Passes the user input to response generator.

3. Response Generator:

- Takes the user input and data from intent classifier and mental health analyzer.
- Generates a response based on the input.
- Stores the chat in the database with date and time stamp when user started the chat.

View previous chat

- Retrieves the chat from the database
- Shows the chat on the screen

Trainer

- Retrieves new chats from the database
- Sends it to the trainer module to train the chatbot

Questions:

Q. Why write a design document?
Ans. A design document is a description of how we plan to solve a problem. The main goal of a design document is to make a more efficient design of the software designed from the requirements gathered till now and gather feedback from others. This document will be used to aid in software development by providing the details for how the software should be built.

Q. What does it generally consist of?
Ans. Within the Software Design Document are narrative and graphical documentation of the software design for the project including use case models, sequence diagrams, collaboration models, object behaviour models, and other supporting requirement Information.

Q. What main information does the user/customer get during this document review?
Ans. Customers can get information regarding the overview of the software project, it's design along with the algorithms that were used during the implementation stages like LOGIN,
High level design i.e., flowchart, use class diagram, class diagram, sequence diagram which helps the user to access the main functions(features) that the project can perform. From the low-level design, the user can understand the functional algorithms which are used in the Software.

Q. What are the tools Used to Create Diagrams?
Ans. We used Lucid chart to create flowcharts & Diagrams Online and their respective links are provided below the diagrams.