MANIPAL
ACADEMY of HIGHER EDUCATION
(Institution of Eminence Deemed to be University)

MiniProject: EasyGo

Web Technology Lab Semester V

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Certificate

This is to certify that **Akash Yadav** (**200968184**), **Aveek Nandy** (**200968202**), **Rayyan Iqbal** (**200968 243**), **Shivesh Chandra** (**200968 230**), **Yash Sinha** (**200968 140**), and **Yashaswi Aryan** (**200968 186**) have successfully completed a mini project titled

"EasyGo" and have rightly bought forth the competencies and skill sets they gained during the duration of the course - Web Tech Lab (DSE 3163) and thereby resulting in the culmination of this project.

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Introduction

EasyGo is the mental health care website that provides services for students who need support with their mental health or want to understand more about their mental health well-being.

Motivation

A study conducted in 2017 found out that 37% of Indian students suffer from depression and this number has increased significantly after pandemic. A major reason for this being students not able to discuss important aspects of their life with their parents, friends or elders either they are embarrassed or are unable to identify the source itself. Often such students try to google up answers on sites like Quora which gives very vague answers. We thus came up with a concept to build a student only site to address such issues. Providing an all-in-one place to get help instantly.

Objective

- Creating a blog-based site to allow qualified psychiatrists & experienced professionals to write about certain problems prevailing among students and their solutions.
- Creating dedicated chat rooms where people facing similar issues can talk it out anonymously.
- Creating an appointment portal for students who feel like talking to psychiatrists personally.
- Creating of chatbot to increase the accessibility of different utilities of website.

Members & Roles

- Akash Yadav & Raayan Iqbal: appointment section (user: registration & login, admin & doctor login & appointments) {backend}
- Shivesh Chandra & Yashaswi Aryan: Group chat {backend}
- Aveek Nandy: chat bot {backend}
- Yash Sinha & Yashaswi Aryan: frontend

Software Requirements

1. **HTML**

   The Hyper Text Markup Language or HTML is the standard markup language for documents designed to be displayed in a web browser.

2. **CSS**

   Cascading Style Sheets is a style sheet language used for describing the presentation of a document written in a markup language such as HTML

3. **JavaScript**

   JavaScript, often abbreviated as JS, is a programming language that is one of the core technologies of the World Wide Web. As of 2022, 98% of websites use JavaScript on the client side for webpage behaviour.

4. **NodeJS**

   Node.js is an open-source, cross-platform, back-end JavaScript runtime environment that runs on a JavaScript Engine and executes JavaScript code outside a web browser,

5. **PHP**

   PHP is a server scripting language, and a powerful tool for making dynamic and interactive Web pages. PHP is a widely-used, free, and efficient alternative to competitors such as Microsoft's ASP.

6. Xampp

XAMPP is one of the widely used cross-platform web servers, which helps developers to create and test their programs on a local webserver.

7. Dialogflow

Dialogflow is a natural language understanding platform that makes it easy to design and build a conversational user interface. For question and answering system, it offers a knowledge connector to the knowledge base so that it can generate the responses based on the list of question-answer pairs. At the point of writing, this connector is still a beta feature.

8. SQL

SQL is a domain-specific language used in programming and designed for managing data held in a relational database management system, or for stream processing in a relational data stream management system.

9. VS Code

VS Code, is a source-code editor made by Microsoft with the Electron Framework, for Windows. Features include support for debugging, syntax highlighting, intelligent code completion, snippets, code refactoring, and embedded Git.

Synopsis

Modules

- Home Page (contains Blogs, About-Us, as well as Contact Us Section)
- Login/Sign-Up Page
- Group Chatting Page
- Chat Bot

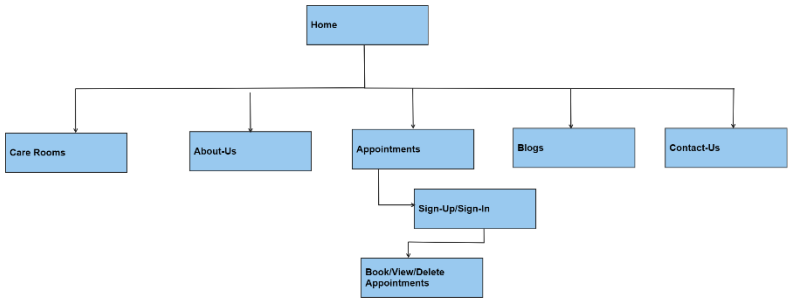
Project Methodology: Waterfall Model

The Waterfall methodology — also known as the Waterfall model — is a sequential development process that flows like a waterfall through all phases of a project (analysis, design, implementation, and development), with each phase completely wrapping up before the next phase begins.

- Analysis
    - Design
        - Implementation
            - Development

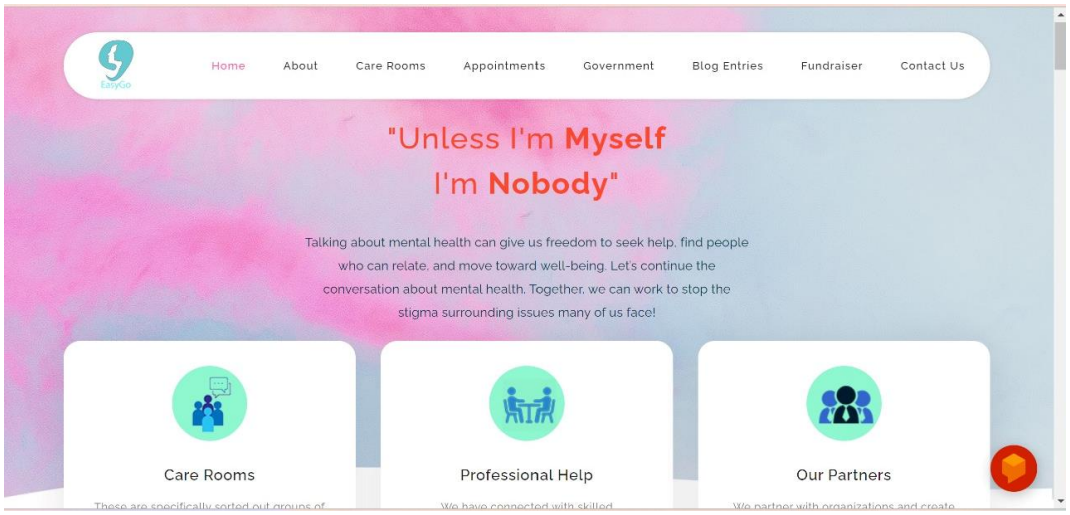
Process Models

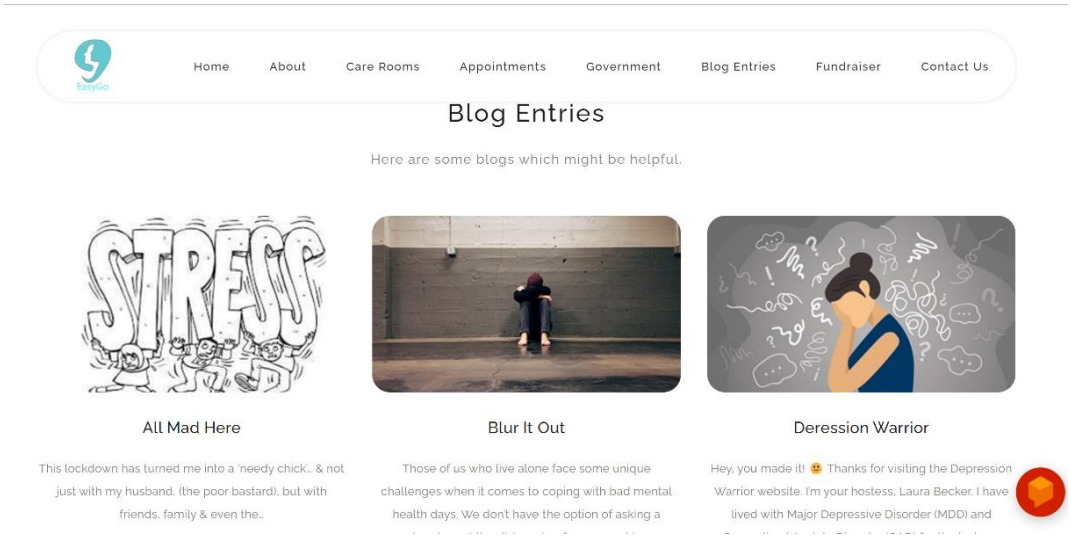
General Flow Diagram



Frontend

Upon extensive searching we have implemented infinite & parallax scrolling UX pattern where content is continuously added to the page as a user scrolls. Taking help from pre-existing templates for format references. We have used bootstrap as a CSS framework for clean, minimal, and elegant interface. Ours is responsive webpage and it can be accessed on devices with different screen size.





Backend

We have done most of the testing by local hosting the project on Xampp. Upon sign-up/login by user can access the list of psychiatrists and can request for appointment. This project helps psychiatrists manage schedules of their appointments with students. The main components of backend for our website involves:

- Appointments

  The appointment section utilizes SQL for database, PHP for database connectivity, storing and extraction of user's, doctor's data & appointments. This section has 3 sides:

  - **Admin**

Admins can:

- Add, delete, or edit psychiatrists
- Schedule new sessions, remove sessions
- View student details
- View booking of students

- **Psychiatrists:**

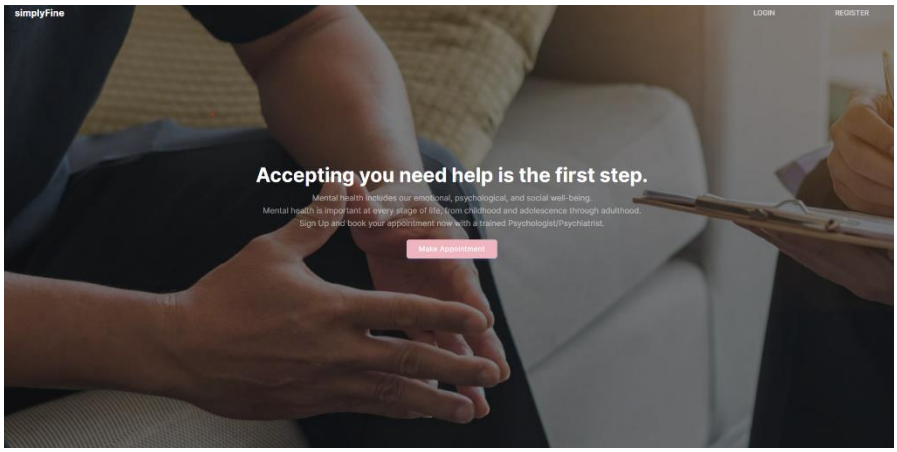
  Psychiatrists can:

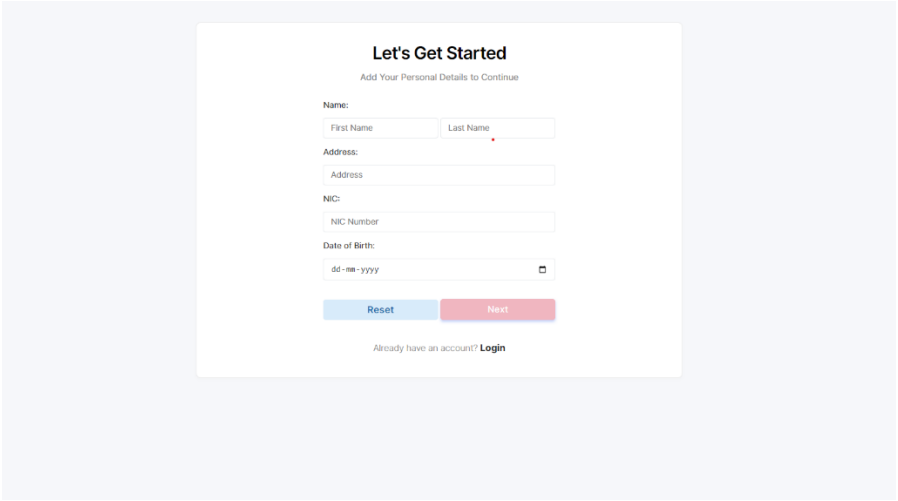
  - View their appointments
  - View detail of students
  - Delete account
  - Edit account settings

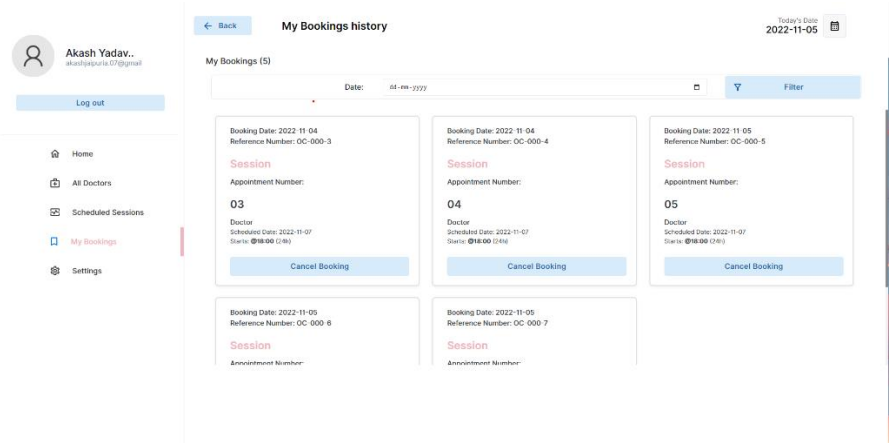
- **Students**

  Students are main end user and have following capabilities:

  - Create their own accounts
  - View their bookings
  - Edit/ Delete their account







Database

Database Schema

Admin(Email-id, Password)

Student(studid, studmail, studname, studpswd, studaddress, studnic, studdob, studtel)

Doctor(docid, docmail, docname, docpswd, docnic, doctel, speciality)

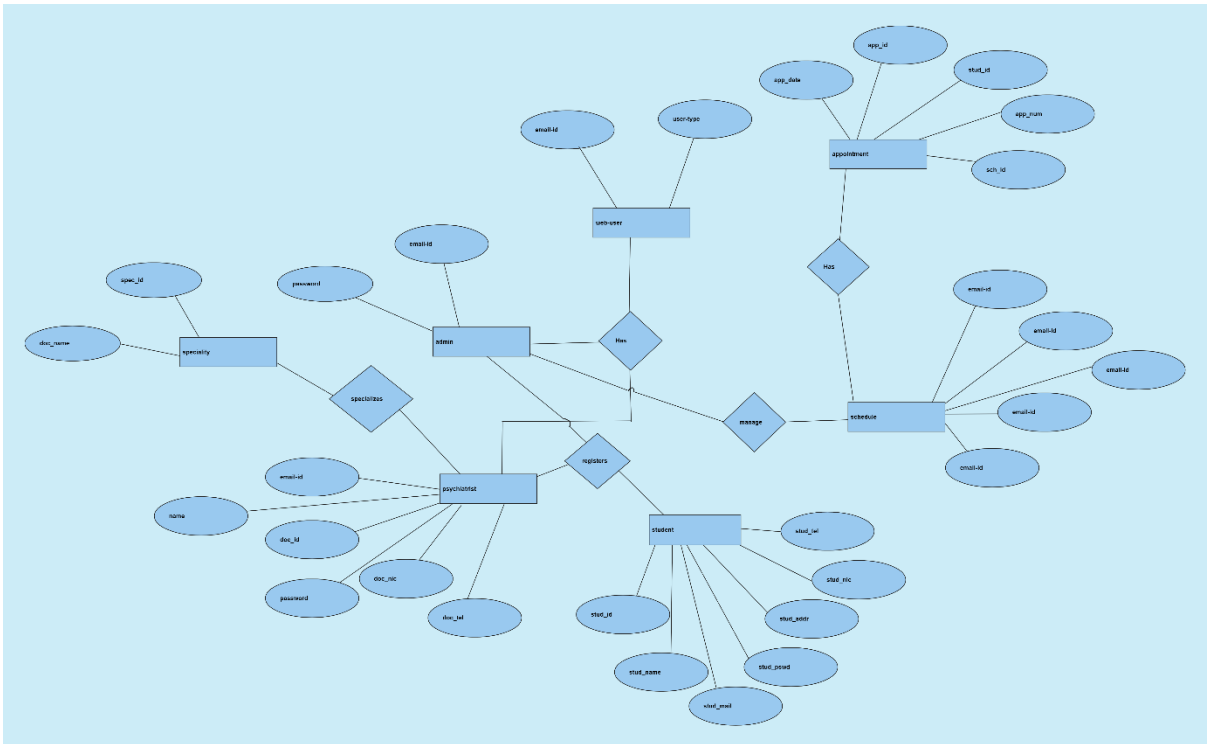
WebUser(email-id, user_type) {user_type: a, t, p}

Appointment(appid, studid, appnum, schid, appdate)

Schedule(schid, docid, schdate, schtime, nop)

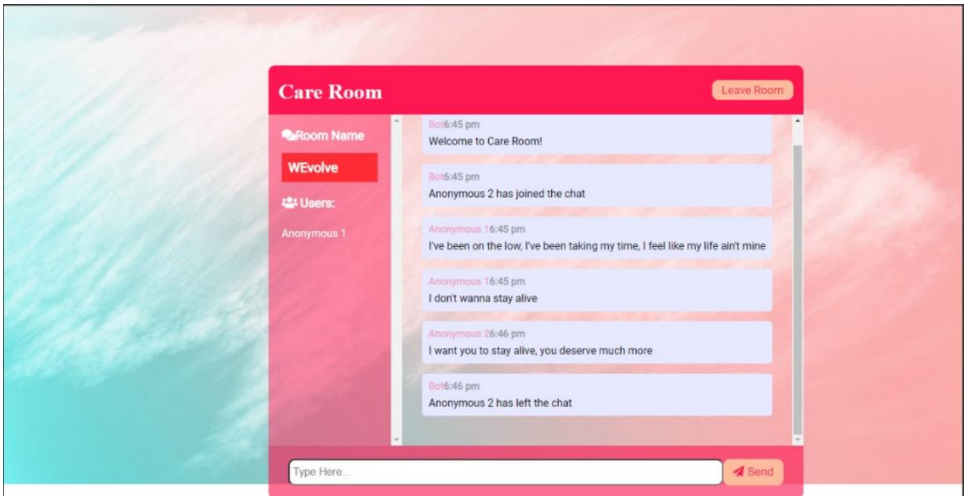
Specialities(id, name)

ER Model



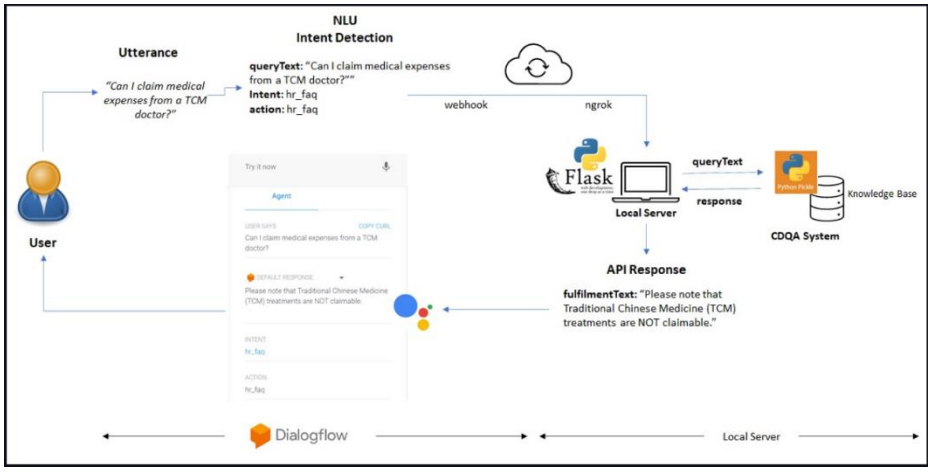
- *Group Chat*

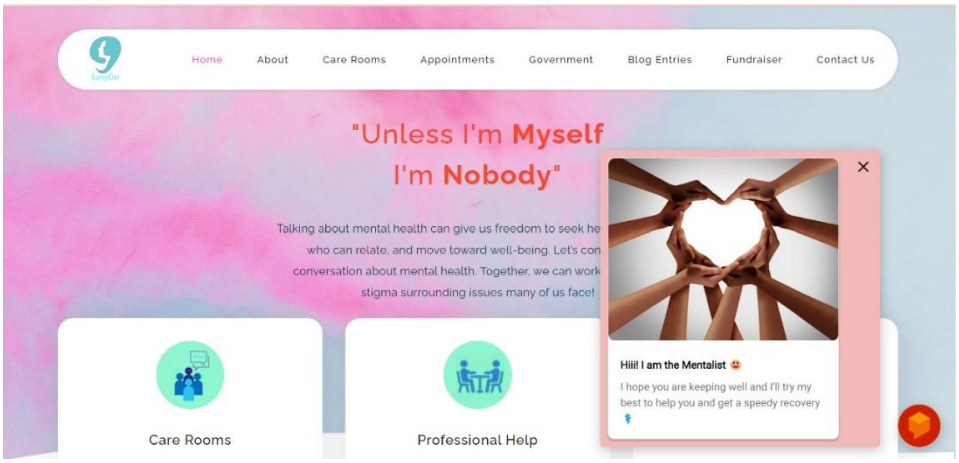
We have created a real-time chat app using Node.js which enables real-time, bidirectional, and event-based communication, Express (for routing) and Socket.io (web sockets) with Vanilla JS for the frontend. The index page gives asks for username & room to join which redirects to chat interface. Several clients can join the same chat room see which others have joined, left, or wrote a message in the chat room. The group chat feature doesn't require an extra database connectivity which makes it lightweight, fast and ensure our primary goal of privacy among students.



- *Chat Bot*

Each time a user enters a query into the chatbot, the Dialogflow will send the query to the local server via webhook and ngrok. The model in the local server selects the closest matching response from the knowledge base and then returns the most likely response to the query. This response is then sent back to the user in Dialogflow.





Conclusion

This platform can become an incredible convenience for students as it brings together qualified psychiatrists and experienced professionals. The chatting accessibility can make students a bit eased out listening and talking out their hearts contents with other students without feeling embarrassed about it. We have tried extensively to group all available resources like blogs, government portals, and emergency contacts so that students don't have to wander on the internet. Much work can still be done on this project and in the future we hope this project can cater needs to problems of new generations.

Future Works

- To implement review system for psychiatrists which students can look up before booking session with the doctor.

- Implementing machine learning algorithms to block and monitor group chat for potential spam, hate-speech, and bullying.
- Creating one-one chatting session between two anonymous students upon request.
- Creating automated bot with enhanced capabilities like problem-detection which can redirect student to dedicated chat room or psychiatrists if needed or raise alert for potential suicidal symptoms in a user.

Acknowledgement

We would like to thank Asst. Prof Tojo Thomas sir and Asst. Proj Akshay Bhatt sir for their continuous support and guidance during entire phase of the project not just helped us to complete the project in stipulated time but also made us brainstorm challenges to existing solutions. It was a great learning experience.

References

- ***W3Schools***

  W3Schools is a tutorials website, but they are more brief and reference-like. They also have dedicated reference pages for most web development languages.

  Reference links:

  - https://www.w3schools.com/tags/default.asp

  - HTML Reference: https://www.w3schools.com/tags/
  - CSS Reference: https://www.w3schools.com/cssref/index.php
  - JavaScript Reference: https://www.w3schools.com/jsref/
  - PHP Reference: https://www.w3schools.com/php/
  - Node.js: https://www.w3schools.com/nodejs/

- ***DevDocs***

  This reference is really great and in-depth, but also easy to skim and find what you need.

  Reference links:

  - https://developer.mozilla.org/enUS/docs/Web/HTML/Reference

- ***freeCodeCamp Guides***

  freeCodeCamp guides are made by the community, for the community. They have a GitHub repository where you can actually contribute! The layout is also very nice - similar to W3Schools, it has a sidebar with all the different pages. However, ***every single language*** is in that sidebar, meaning navigations is really simple.

  Reference links:

  - https://www.freecodecamp.org/