Product Design

Team 36

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Introduction

We have to create a mobile application based on the Amita care website, ie, https://www.amitacare.com/.
The user should first log in/Register with his credentials.
The user can get a preliminary diagnosis based on his symptoms using the Knidian (Symptom Checker) AI
Our app allows the user to book a therapy session, choose the Therapist/Doctor by looking at profiles of all the available doctors, and choose the one best suited for their needs.
Moreover, If the user has provided his ABHA number at registration , his preliminary diagnosis and appointment are added to his medical history stored in the government database

System Overview

The app is used by users to get a preliminary diagnosis , and book appointments with their preferred therapist.

Design Overview

System interfaces

User Interface

The user needs to first log in/Register with his credentials.

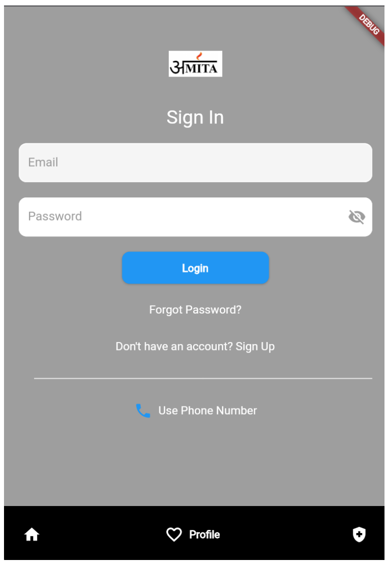
The user can then get a preliminary diagnosis based on his symptoms using the Knidian (Symptom Checker) AI if he wants. The AI returns the ailment the user is most likely to have based on the symptoms and a recommendation regarding how to proceed further.

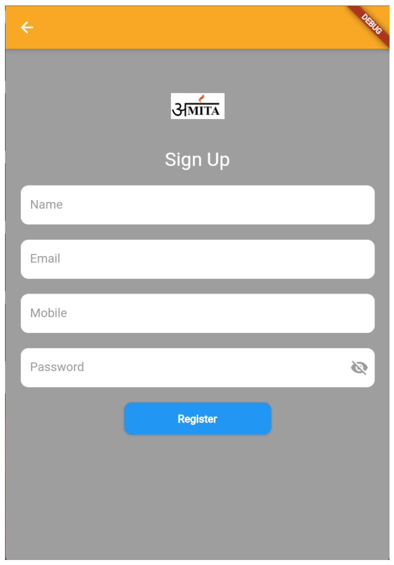
Our app allows the user to book a session with the user's choice of Therapist/Doctor. The user can look at the profiles of all the available doctors, and choose the one best suited for their needs.

If the user has provided his ABHA number at the time of registration, his preliminary diagnosis and appointment are added to his medical history stored in the government database.

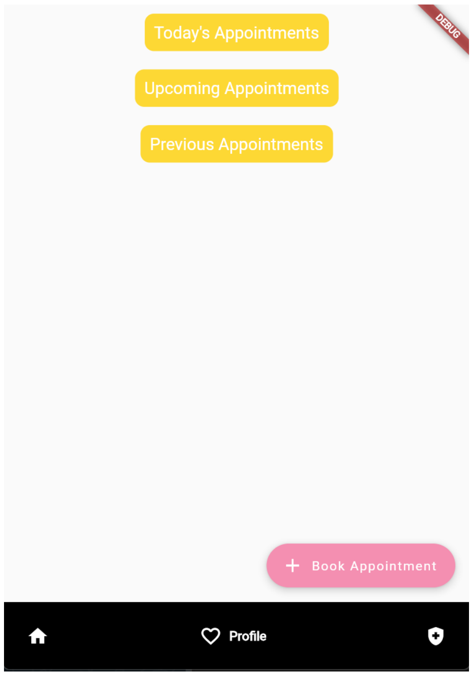
Some screenshots of the User face:

LOGIN/REGISTER PAGE

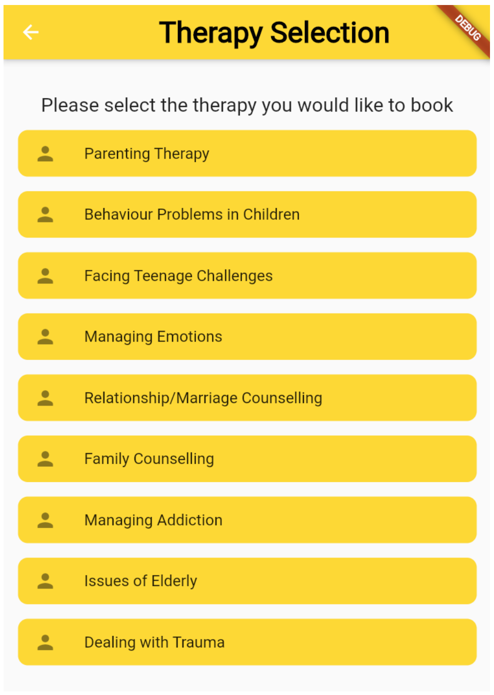




HOME PAGE

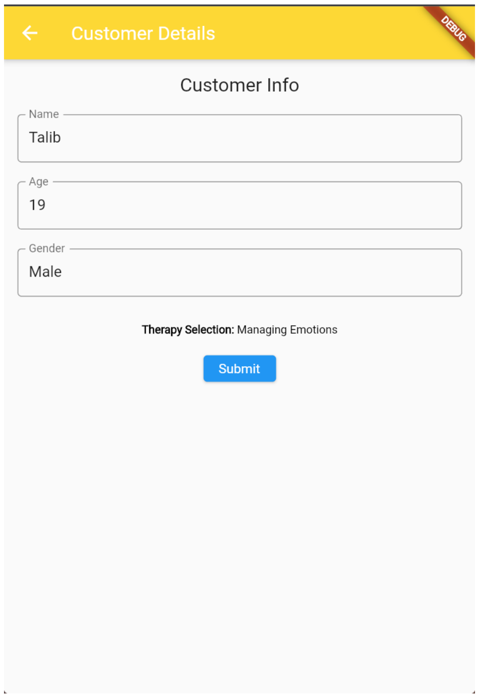


BOOKINGS PAGES



Please select the therapy you would like to book

- Parenting Therapy
- Behaviour Problems in Children
- Facing Teenage Challenges
- Managing Emotions
- Relationship/Marriage Counselling
- Family Counselling
- Managing Addiction
- Issues of Elderly
- Dealing with Trauma

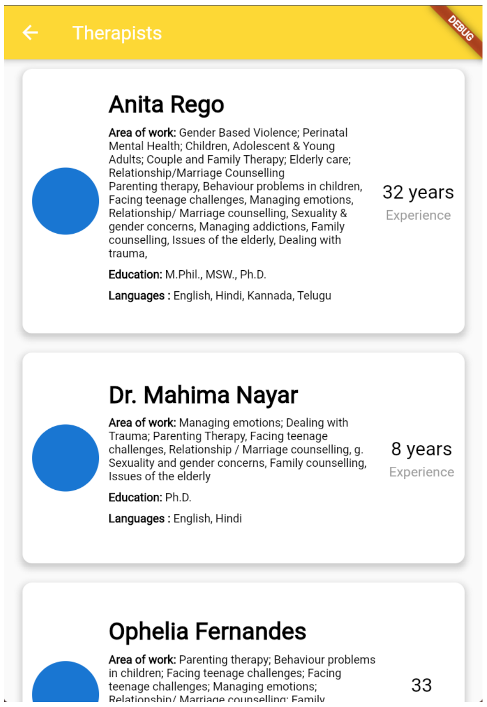


Customer Info

Name	Talib
Age	19
Gender	Male

Therapy Selection: Managing Emotions

DOCTORS INFORMATION PAGE:



Therapists

Anita Rego

Area of work: Gender Based Violence; Perinatal Mental Health; Children, Adolescent & Young Adults; Couple and Family Therapy; Elderly care; Relationship/Marriage Counselling
Parenting therapy, Behaviour problems in children, Facing teenage challenges, Managing emotions, Relationship/ Marriage counselling, Sexuality & gender concerns, Managing addictions, Family counselling, Issues of the elderly, Dealing with trauma,

Education: M.Phil., MSW., Ph.D.

Languages : English, Hindi, Kannada, Telugu

32 years
Experience

Dr. Mahima Nayar

Area of work: Managing emotions; Dealing with Trauma; Parenting Therapy, Facing teenage challenges, Relationship / Marriage counselling, g. Sexuality and gender concerns, Family counselling, Issues of the elderly

Education: Ph.D.

Languages : English, Hindi

8 years
Experience

Ophelia Fernandes

Area of work: Parenting therapy; Behaviour problems in children; Facing teenage challenges; Facing teenage challenges; Managing emotions; Relationship/ Marriage counselling; Family

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APIs

1) GET userRegistration(name, email, password, mobile):

Creates a new account with the specified parameters.

Returns True OR False.

2) POST forgotPassword(email):

Sends a forgot password email to the user

3) POST LoginCredentials(username,password):

Used for authentication of the user and also returns the AUTH token which is further used throughout the application to fetch details.

4) GET getCustomer():

Fetches the customer details using the auth token.

5) GET getAppointments():

Fetches the appointments booked for the logged in user,

Returns 3 types of appointments, Past, Today and Future appointments.

6) GET getTherapist(specialisation):

At the bookings panel, we fetch the specific therapists that are specialized in the field selected by the user.

7) GET getTherapistInfo(therapist_id):

After the specialization selection, we need to fetch the information of these specialized therapists for the user to choose from.

Returns the Name, Picture, Experience and a short bio.

8) GET getTherapistSlots(therapist_id):

After the therapist selection we fetch the available slots for an appointment booking.

Return the slots in Google Calendar Format.

9) POST applyCoupon(obj):

Used to apply discount or other offers on the payment gateway.

10) POST bookAppointment(name,user_id,age,sex,email,therapist,slot):

After successful status code from the payment gateway, the appointment is booked.

Model

UML diagram -
https://lucid.app/lucidchart/ac2c9b65-e971-4e66-a35c-41b1da622e0c/edit?viewport_loc=201%2C399%2C1664%2C846%2C0_0&invitationId=inv_da7b8d80-e905-4c86-b457-c32087886f05

Authentication	Class state ● Authorizes the user. Class behaviour ● Able to logout and login the user
TherapistBox	Class state ● Stores the information of the therapist in boxes like name, work, education, language, experience.
Appointment	Class state ● Stores the details of the appointment like type, date, purpose, user, customer name, age, gender, number of sessions, created date.
Therapist	Class state ● Stores name, age, gender and specialisation of the therapist Class behaviour ● Fetch Therapist data, build therapy list
Knidian	Class state ● To open the Knidian symptom checker on the application
Register	Class state ● To register for the new user. Stores name, email, mobile, password. Class behaviour ● Checks if user is already registered
Reset	Class state ● Used to reset the data

	Class behaviour ● Checks the mail, checks if it has been reset
Profile	Class state ● Checks for the profile and displays it
Login	Class state ● Stores email and password from the input Class behaviour ● Checks authorization and logins
Appointment	Class state ● Saves upcoming and previous appointments
MobileLogin	Class state ● saves otp sent and input otp from user Class behaviour ● Verifies OTP, gets OTP
User	Class state ● Saves user information like name, email, number, education, address, occupation, married, dob, gender, password.
HomePage	Class state ● Stores and displays the homepage data- login and knidian symptom checker
TherapySelection	Class state ● Stores all different types of therapy and their data to be selected from the user
Customer	Class state ● Stores name, age, gender of the customer
Knidian	Class state ● Redirects to ABHA creation webpage
Landing	Class state ● To get back to home page

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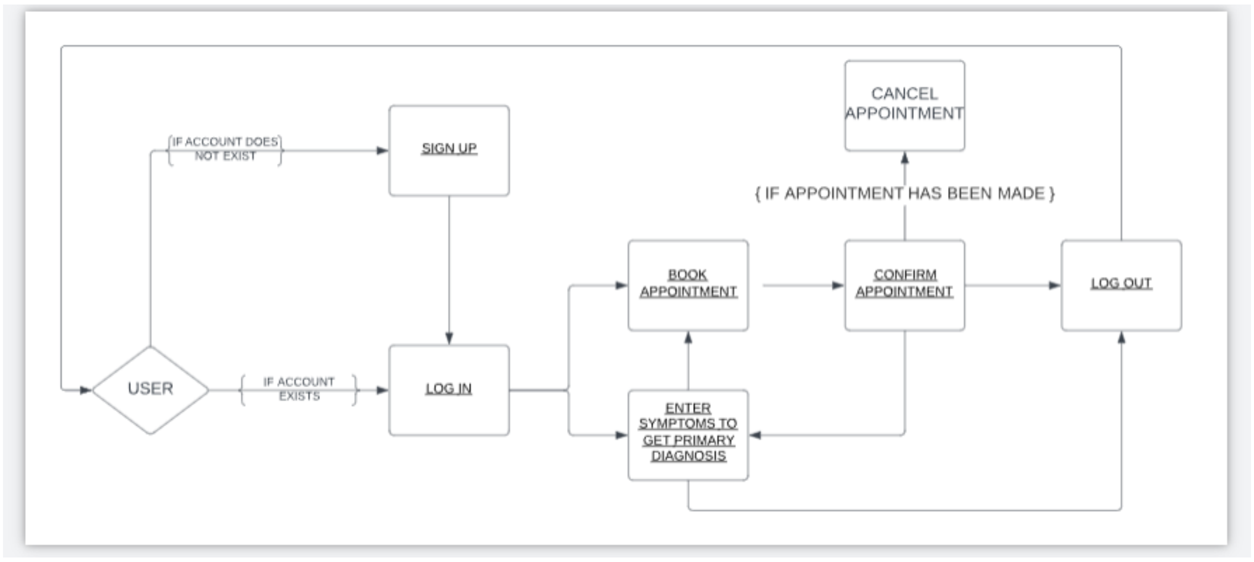
Sequence Diagram(s)

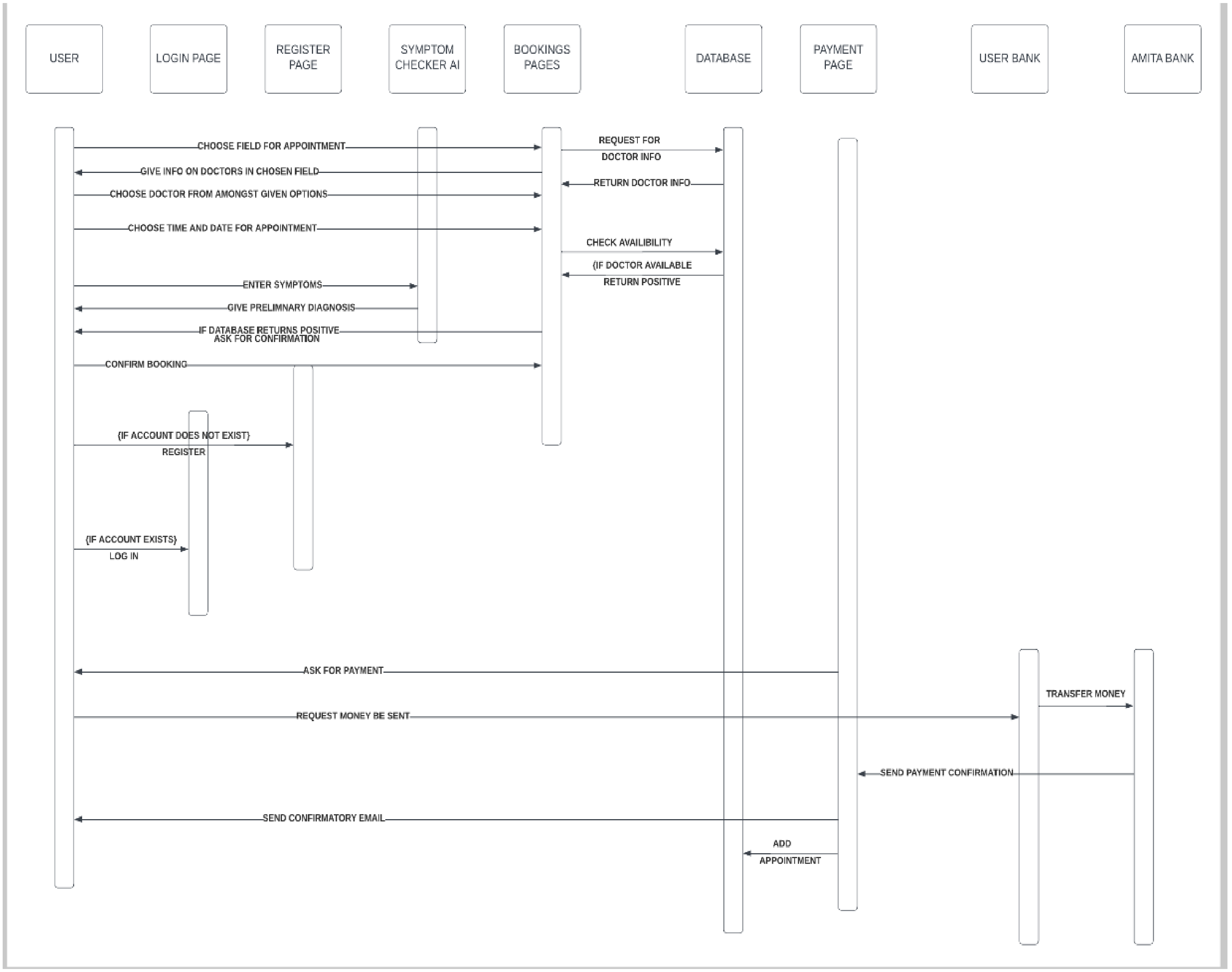
Use cases for the project are:

1. User signs up/login
2. User enters symptoms
3. The app generates a primary prognosis
4. App books an appointment with a healthcare professional
5. User cancels an appointment
6. User logs out.

Flow Diagram :


CANCEL APPOINTMENT
IF ACCOUNT DOES NOT EXIST
SIGN UP
{ IF APPOINTMENT HAS BEEN MADE }
BOOK APPOINTMENT
CONFIRM APPOINTMENT
LOG OUT
USER
IF ACCOUNT EXISTS
LOG IN
ENTER SYMPTOMS TO GET PRIMARY DIAGNOSIS

Sequence Diagram :


USER
LOGIN PAGE
REGISTER PAGE
SYMPTOM CHECKER AI
BOOKINGS PAGES
DATABASE
PAYMENT PAGE
USER BANK
AMITA BANK
CHOOSE FIELD FOR APPOINTMENT
REQUEST FOR DOCTOR INFO
GIVE INFO ON DOCTORS IN CHOSEN FIELD
RETURN DOCTOR INFO
CHOOSE DOCTOR FROM AMONGST GIVEN OPTIONS
CHOOSE TIME AND DATE FOR APPOINTMENT
CHECK AVAILIBILITY
{IF DOCTOR AVAILABLE RETURN POSITIVE
ENTER SYMPTOMS
GIVE PRELIMNARY DIAGNOSIS
IF DATABASE RETURNS POSITIVE ASK FOR CONFIRMATION
CONFIRM BOOKING
{IF ACCOUNT DOES NOT EXIST} REGISTER
{IF ACCOUNT EXISTS} LOG IN
ASK FOR PAYMENT
TRANSFER MONEY
REQUEST MONEY BE SENT
SEND PAYMENT CONFIRMATION
SEND CONFIRMATORY EMAIL
ADD APPOINTMENT

Design Rationale

1) **Change of project**

At the start of the course, we were given the project to make a "Sign Language Translator" which aimed to create an on-the-go ML model which would process signs and interpret the meaning to the doctor(in the appointment or otherwise) right away.

After a few weeks of research and consideration our project was replaced with the undermentioned due to the Lack of Training data on Signs, especially the Indian Sign Language (ISL) and the time constraints which

2) **Choice of Stack for the App**

Initially we decided to go with a React Native + Mongo Stack which we had to ditch later after a few weeks of research and after considering the advantages of Flutter Development over React Native.

3) **Backend for the application**

We initially started out the backend with our dummy database which was due to a miscommunication with the client, later cleared and we got access to the Original Database making the application more production ready.

The final design is created in a mutual agreement and upon careful consideration of the time scope and the functionalities to be implemented.

It is better than the previous design, due to the planning and the methodologies followed in this sprint.

We have decided on a central control flow upon which further development is queued on the Version Control being used (GitLab), making the testing and integration phase easier than an ambiguous set of ideas.