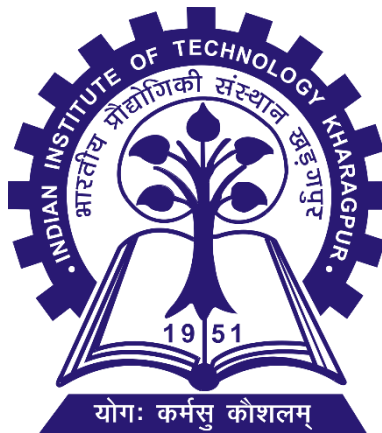# Computing LAB Project
(CS69201)
Design Document

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Table of Contents:

1. Project Description:

The intent of this project is to develop a rule based homeopathic diagnosis system where users select the list of multiple symptoms and the application should be able to produce set of medicines through rule-based approach for diagnosis.
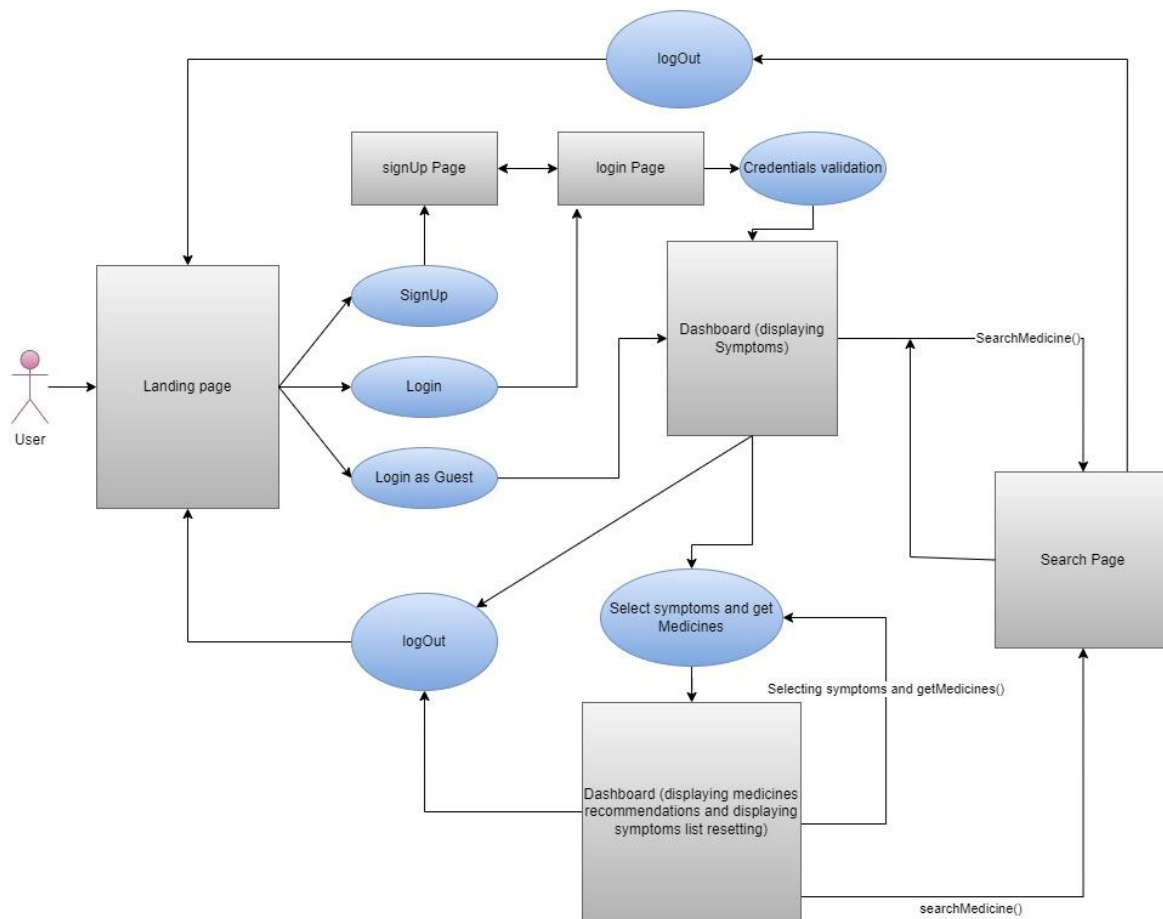
2. Conceptual Diagram:


Figure 1. Flow Diagram for the web Application

3. Design Details:

a) Landing Page:

The main page that is displayed over enter of URL is the Landing page of the web application where the user will be able to see the details about the application and ways to get into dashboard (place where actual functionality exists) through sign-up and login.

Contents of this page:

- **Body:** Login, Sign Up and Login as Guest
- **Footer:** General footer (same for rest all pages)
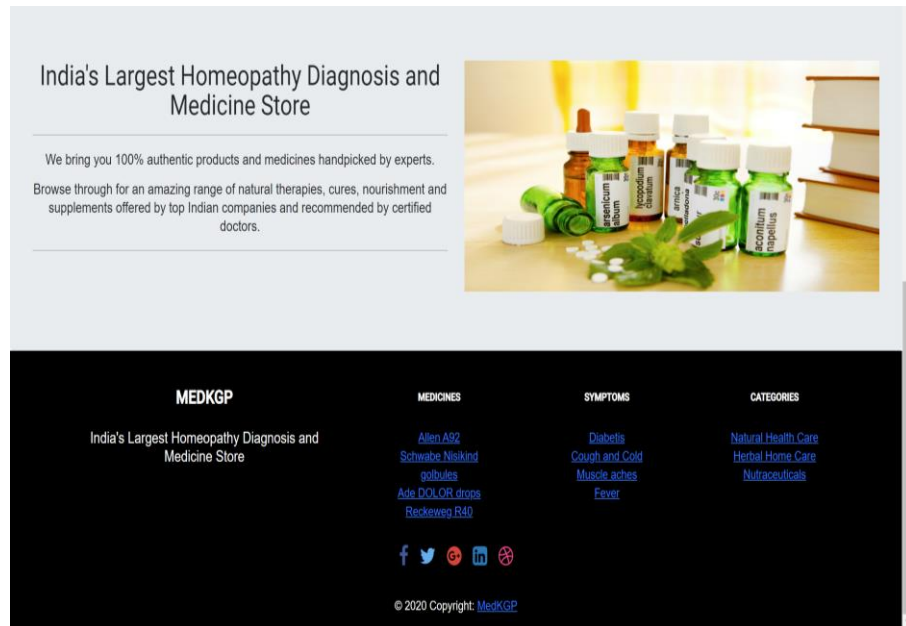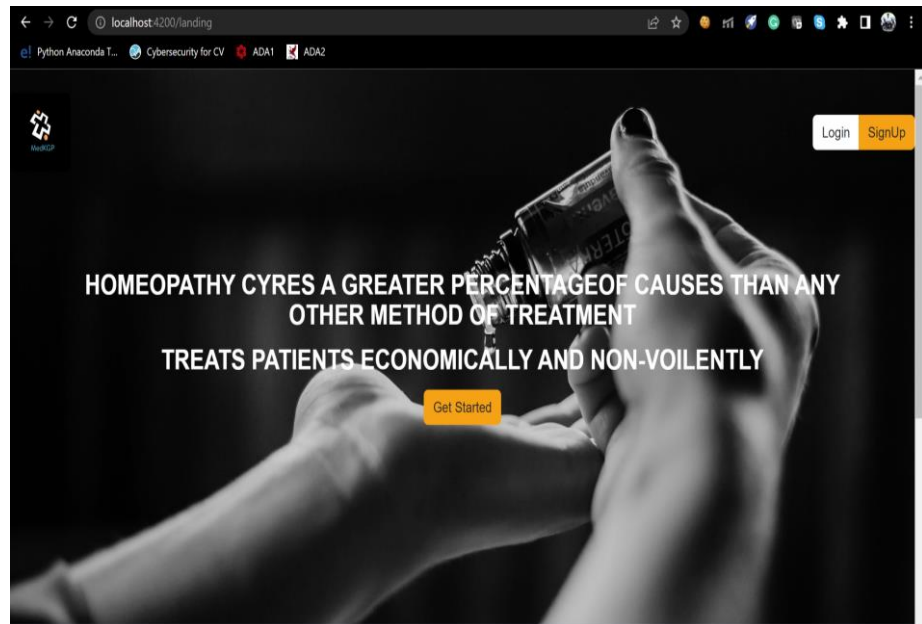
Figure 2. Landing Page

b) Signup Page and Login Page:

User enrollment and validations of user are being performed by these pages. Sign up page gets user credentials like username, email ID and password and stores data into a temporary array of structures. Can use data base for permanent storage of data into tables. Login page on entering credentials validates for the details comparing from credentials storage and validate the existence in database. Validations are restricted to handle blanks and emails.
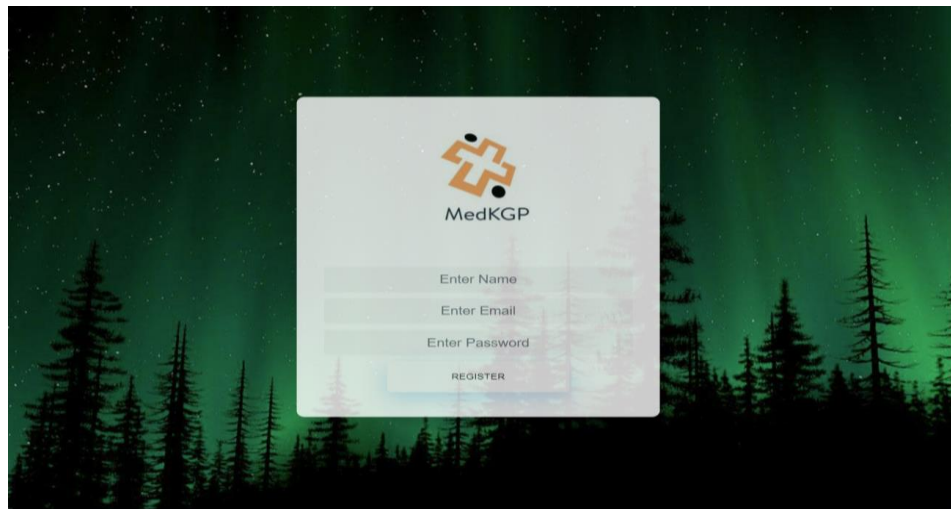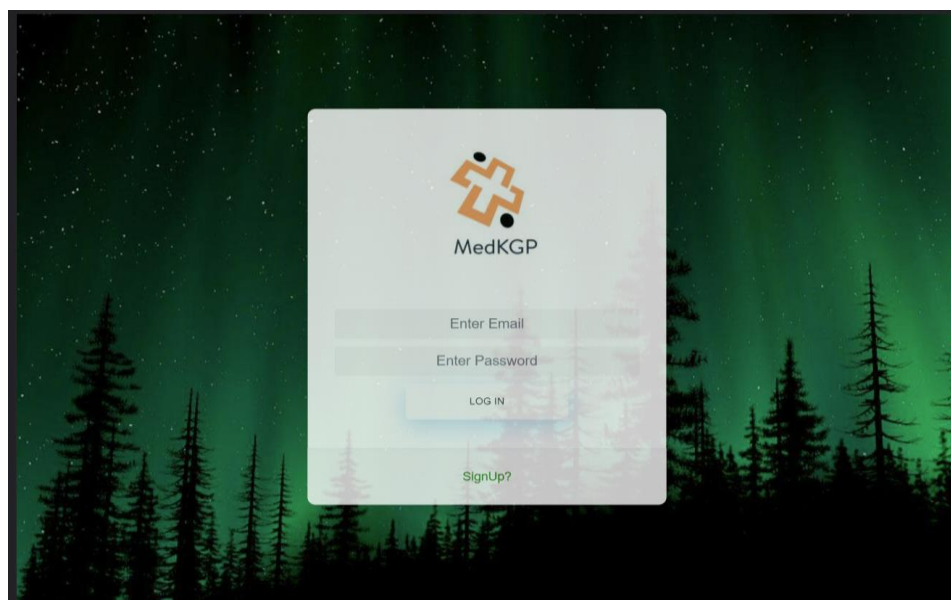
Figure 3. SignUp Page

Figure 4. Login Page

c) **Dashboard:**

Dashboard is the main page where functionality related to selection of symptoms and appropriate medicines are recommended as per selected symptoms. This uses the Rule based system design that categorize symptoms selected into level of severity and allows to take minimum set of medicines where taking a medicine A cures both symptoms S1 and S2.

Contents of the Dashboard:

- **Head:** Head section consists of the Navigation bar that consists logo for the application, a selector dropdown, a search bar, favorite medicines, and user bar where user sees his email ID and can logout from the current session.
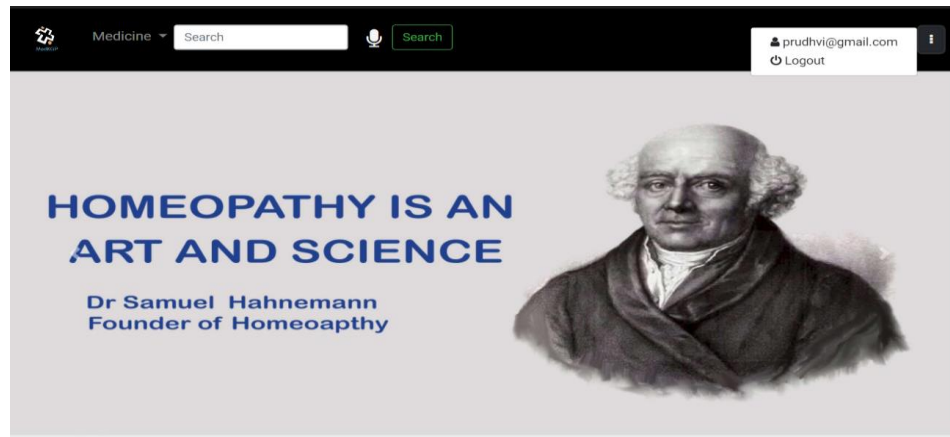
Figure 5. Dashboard head

- **Main functionality Body:** Main area of application where user selects the symptoms.
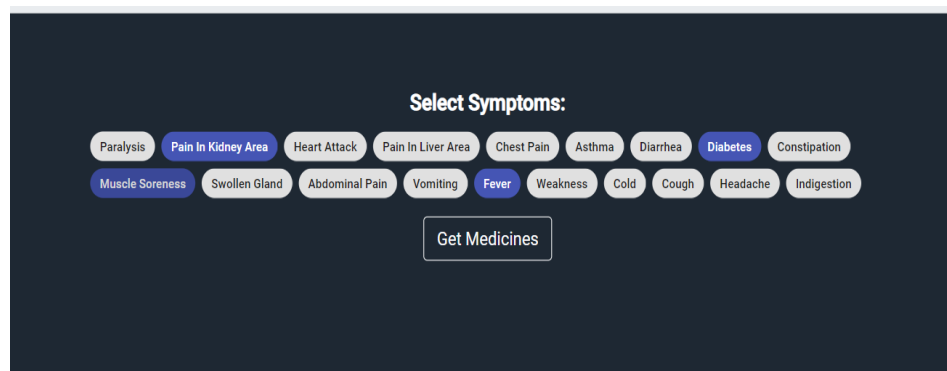

Figure 6. Select Symptoms section

- **Recommended Medicines:** All the recommended medicines selected by the user shows up along with the name and image of the medicine.
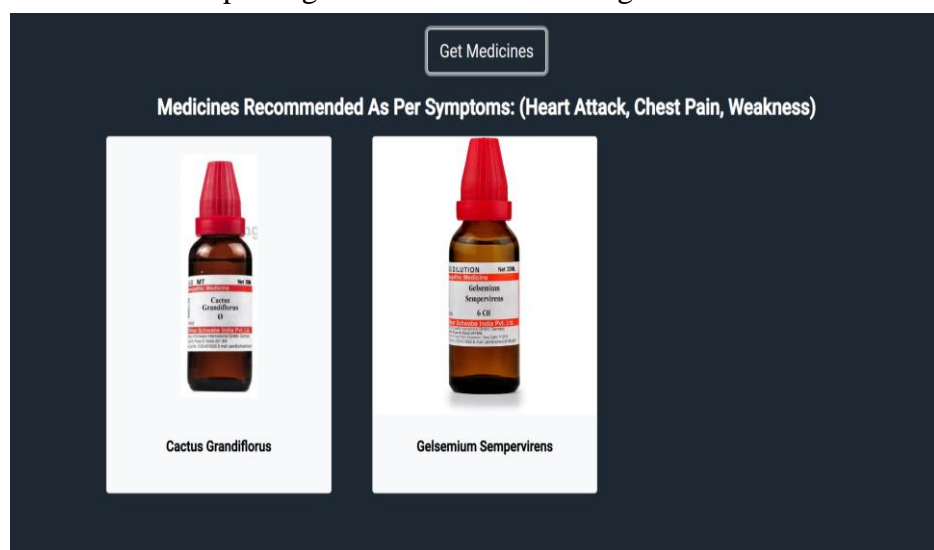

Figure 7. Section showing set of recommended medicines.

- **Footer:** Footer remains as the common section and renders as per the landing page.

6

d) Search Page: The simple search page is rendered when user searches for a medicine in the search bar present in the head.
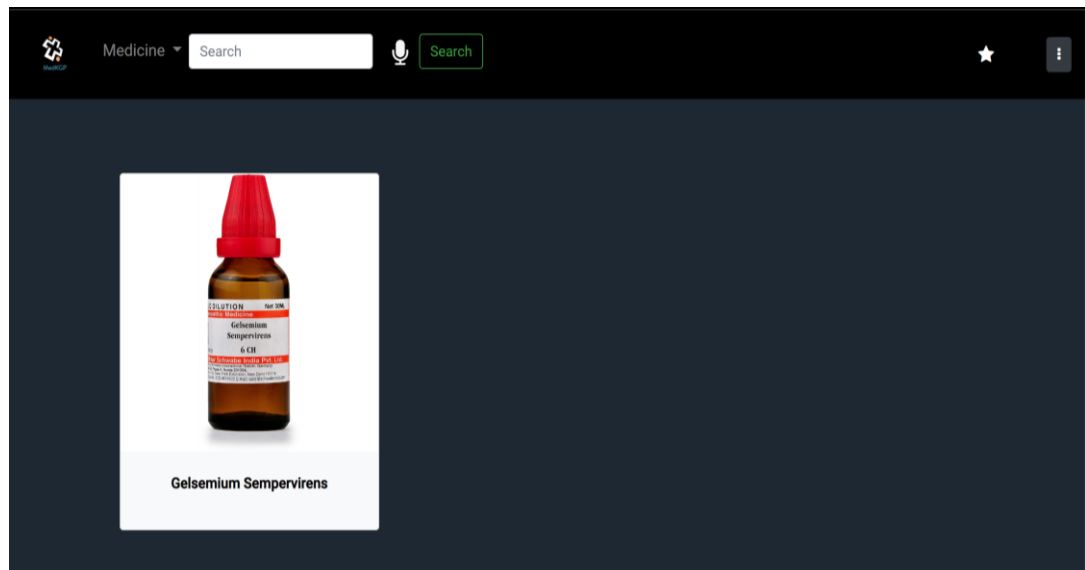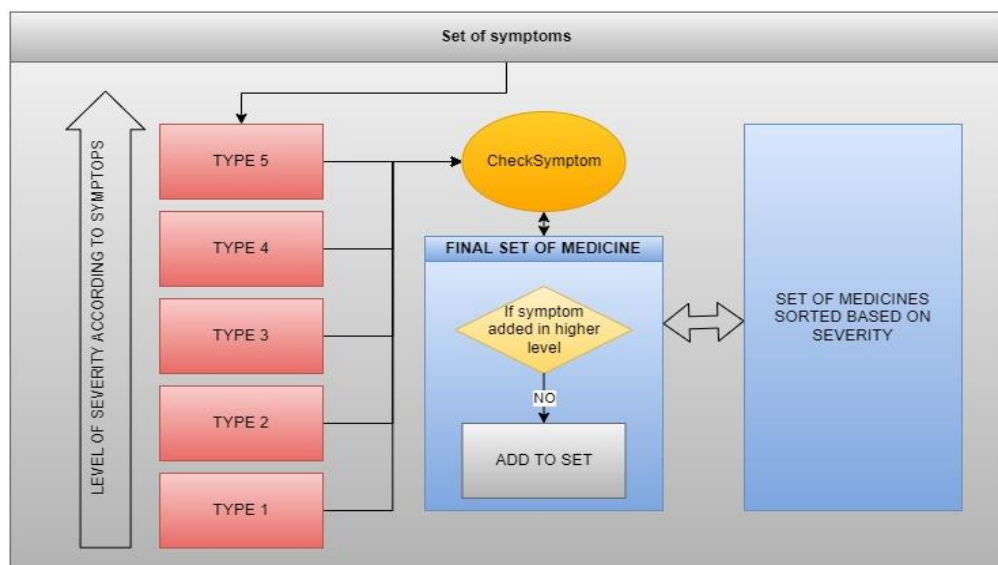

Figure 8. Searched Medicine Page

4. Implementation Details:

Symptoms selection and Medicine Recommendation:

The Implementation for the main functionality of selecting symptoms and recommending appropriate medicines go with rule-based mechanism where diagnosis is done based upon the severity of the selected symptoms.

Steps Involved in recommendation:

1. User selects the set of symptoms where selected symptoms are converted into a list of symptoms, selected (Boolean) pair and enters the algorithm part.

2. There exists a list of symptoms were based upon the severity divided into 5 types. Least effected one belongs to TYPE1 and most effected remains in the TYPE5 level symptoms.

3. For each symptom selected by user the most crucial symptom is chosen and appropriate medicine is added into the FINAL SET of medicines.

4. All the symptoms that are covered by the added medicine are added up into an array where it keeps up the record of all the symptoms that are curable by FINAL SET of medicines.

5. When next symptom is appeared, it is validated is this symptom is already covered by the medicines added into the set and if found added symptom is ignored.

6. Details for the FINAL SET of medicines are fetched from the data and rendered over the html page.

Login, Sign Up and Logout:

On user signup the array that has credentials is updated with new set of credentials (Can be also stored into database for long-term access). User login validates if the credentials entered are valid and adds user email into the session.

Logout from any page takes back user into landing page and clears email ID from session storage.

Medicine Search:

On search for medicine in search bar passes a query parameter into search page and this parameter has the name of the medicine. This medicine name is searched over the existing data and related search results are rendered over html.