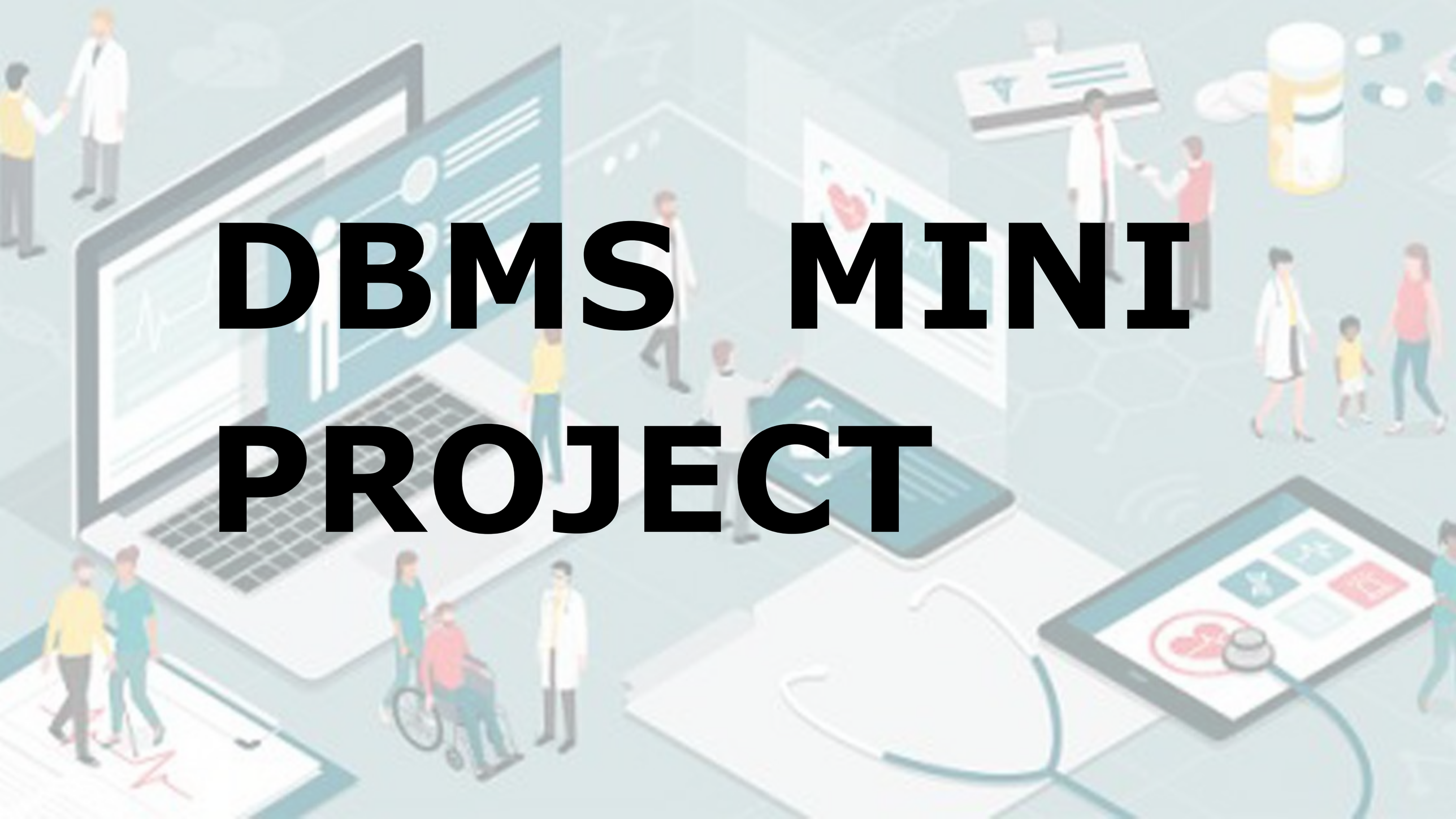

DBMS MINI PROJECT

Title: *Hospital Management System*

Team Members:

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2.) Shivendra Bharuka (RA2011031010020)
3.) Stuti Jain (RA2011031010031)

Abstract:

- Hospital Management System (HMS) is a crucial component of the healthcare industry, as it streamlines various processes and enhances the overall efficiency of healthcare organizations. This system integrates various functions, such as patient management, medical records, appointment scheduling, billing, and inventory management, into a single platform.
- The use of HMS leads to improved patient care, reduced costs, and increased productivity.
- This project focuses on the design and implementation of a comprehensive HMS, with a user-friendly interface and advanced features to meet the needs of healthcare organizations.

- This project Hospital Management system includes registration of patients, storing their details into the system, and also computerized updation of diagnosis and prescriptions on patient’s page.
- The software has the facility to give a unique id for every patient and stores the entire medical history.
- It includes a search facility for the doctor to know the current status of each patient.
- The Hospital Management System can be entered using a username and password. It is accessible either by an administrator, doctor or a patient.
- Only they can add data into the database. The data can be retrieved easily. The interface is very user-friendly. The data are well protected for personal use and makes the data processing very fast.

General features of database application:

Patient side features:

- There is a separate interface for patients.
- Patients have a separate login.
- Patients can book appointments.
- Patients can view/update/cancel already booked appointments if necessary.
- Patients are able to see complete diagnoses, prescriptions, and medical histories.

Doctor side features:

- There is a separate interface for doctors.
- Doctors have a separate login.
- Doctors are able to access patient history and profile, and add to patient history.
- Doctors are able to give diagnosis and prescriptions.

Unique features of database application:

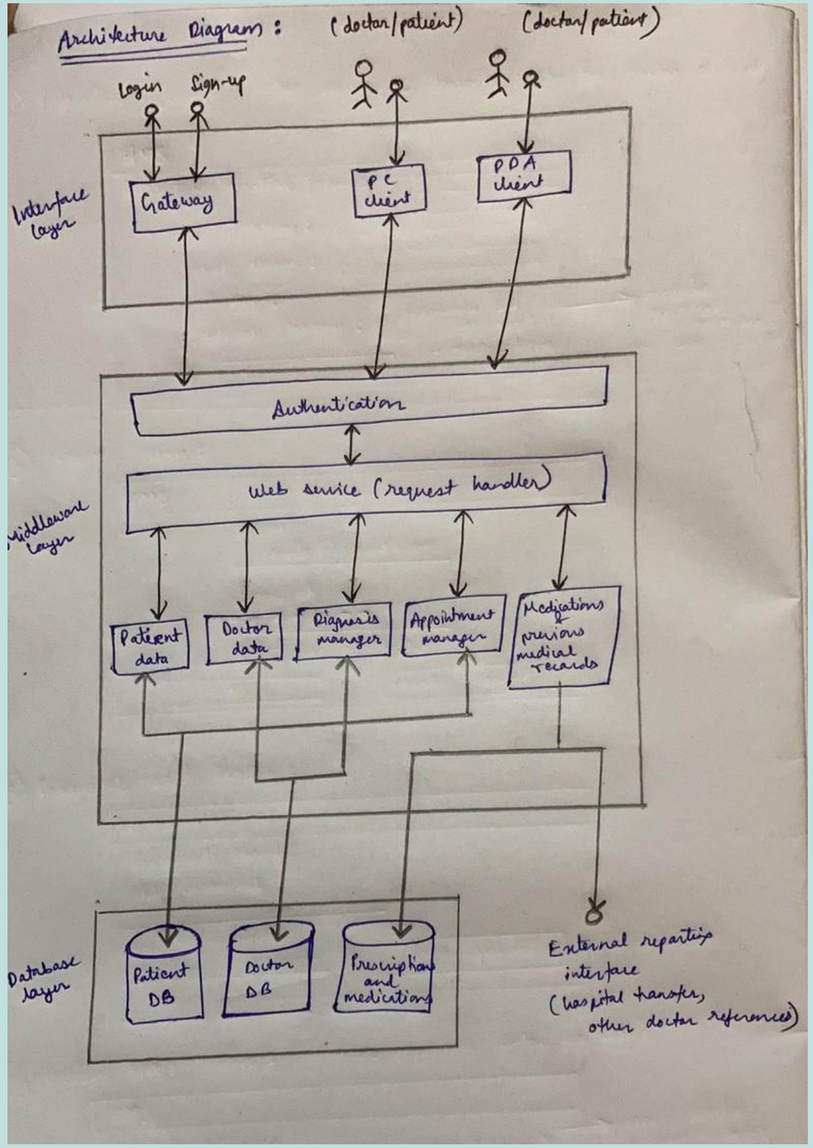
Patient side features:

- Patients can enter their previous medical history.
- Canceled appointments create free slots for other patients.
- The system avoids clashes of appointments with other patients. Each patient is therefore ensured his/her slot.
- Patient medical history is only available to the doctor with whom the appointment is booked to ensure privacy.

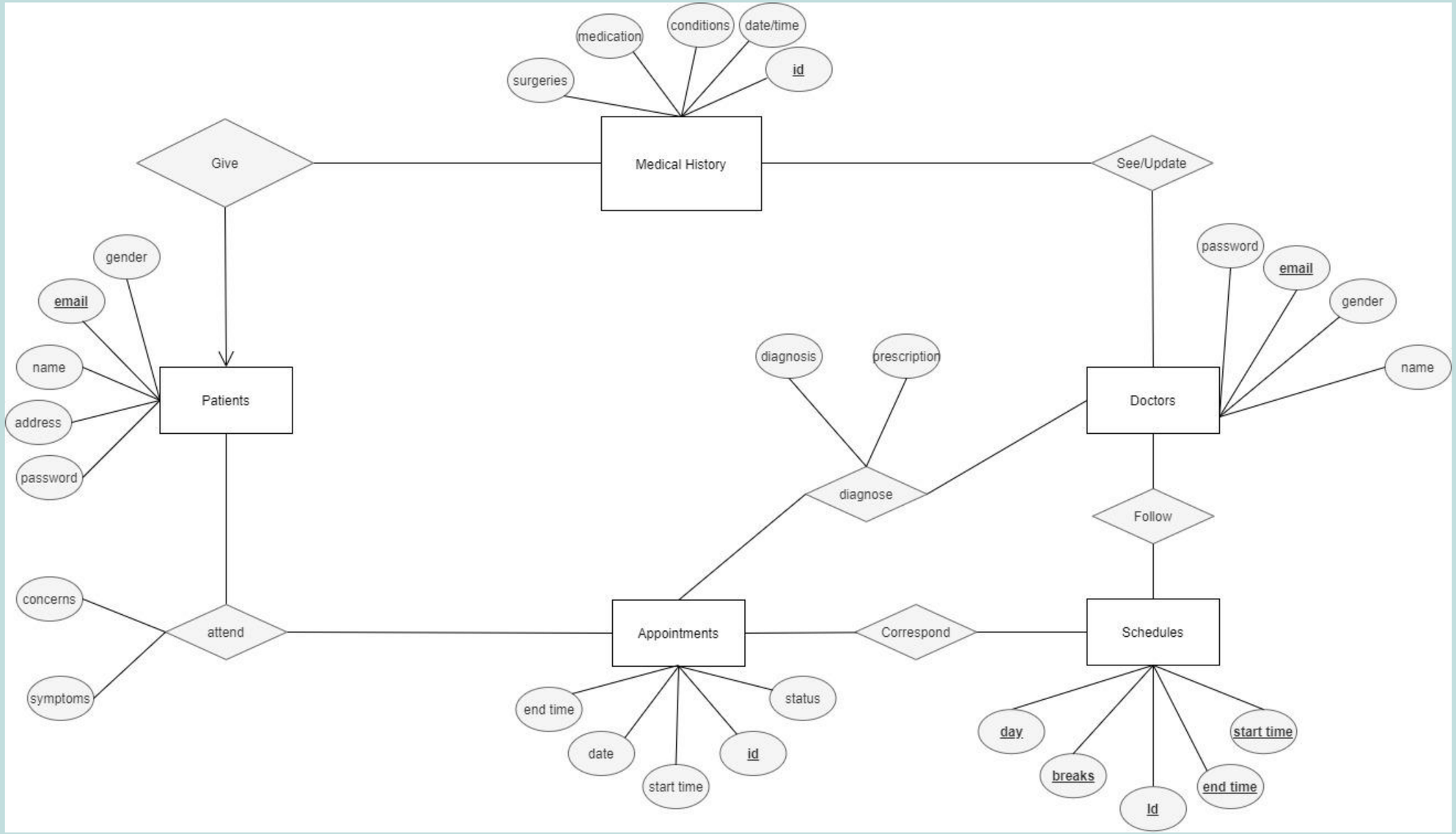
Doctor side features:

- The system takes into consideration doctor schedules and does not allow appointments when a doctor is already busy or has a break.
- Doctors are able to modify diagnosis and prescriptions.

System Architecture Diagram:



ER Diagram:


medication
conditions
date/time
surgeries
id
Medical History
Give
See/Update
gender
email
name
address
password
Patients
diagnosis
prescription
password
email
gender
name
Doctors
diagnose
Follow
concerns
attend
symptoms
Appointments
Correspond
Schedules
end time
date
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id
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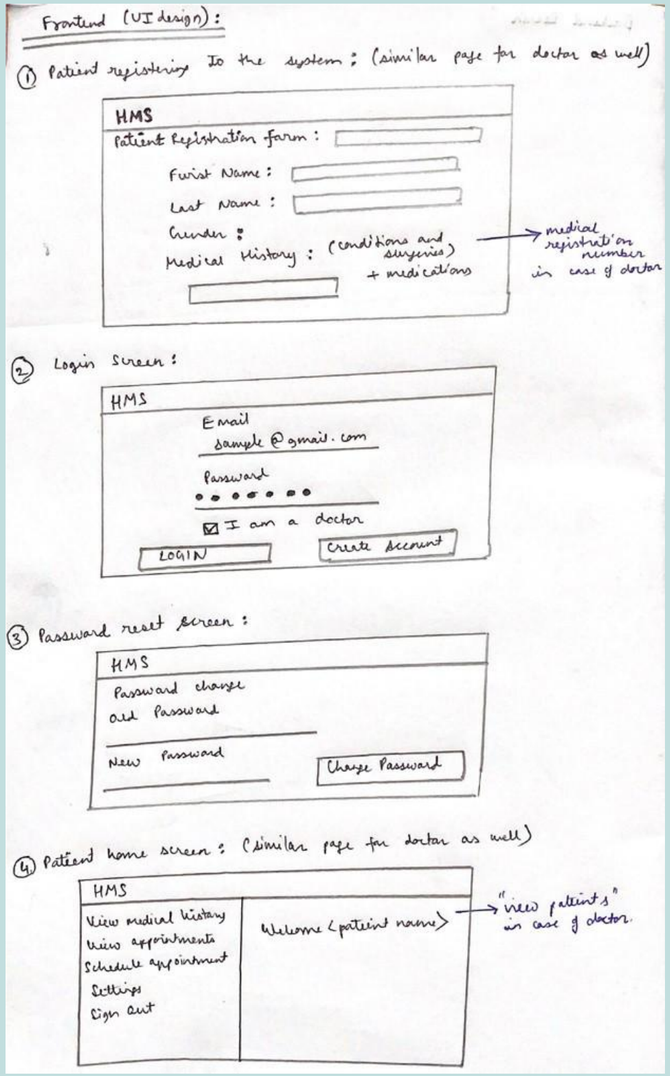
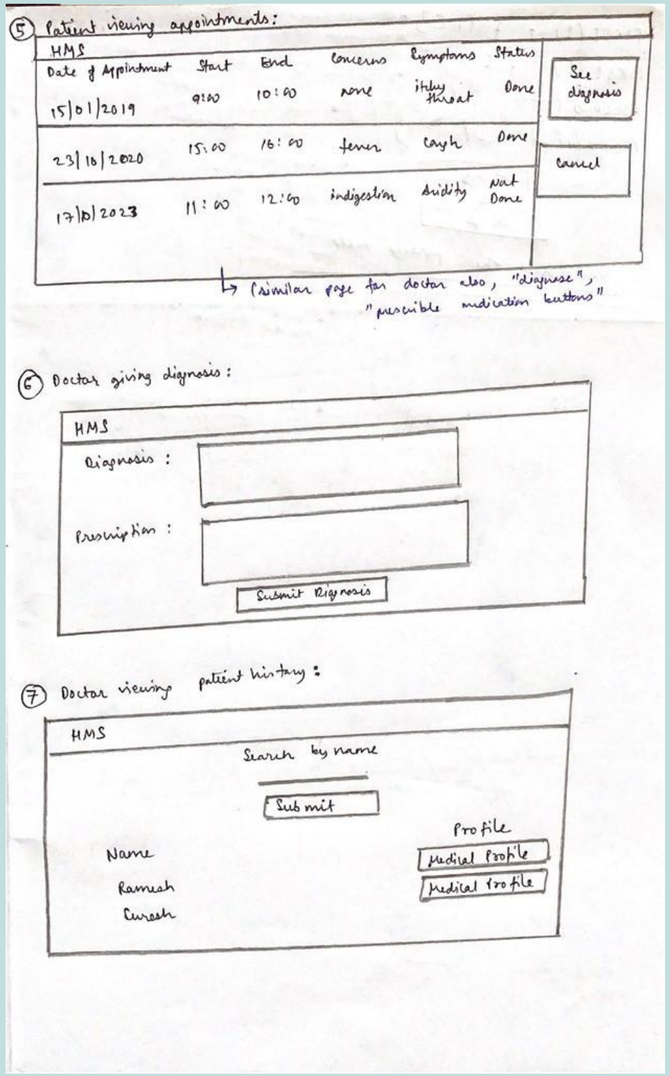
start time

Frontend design (UI) and software used:

Frontend technologies :
React.js

UI design hand- drawn sketches:

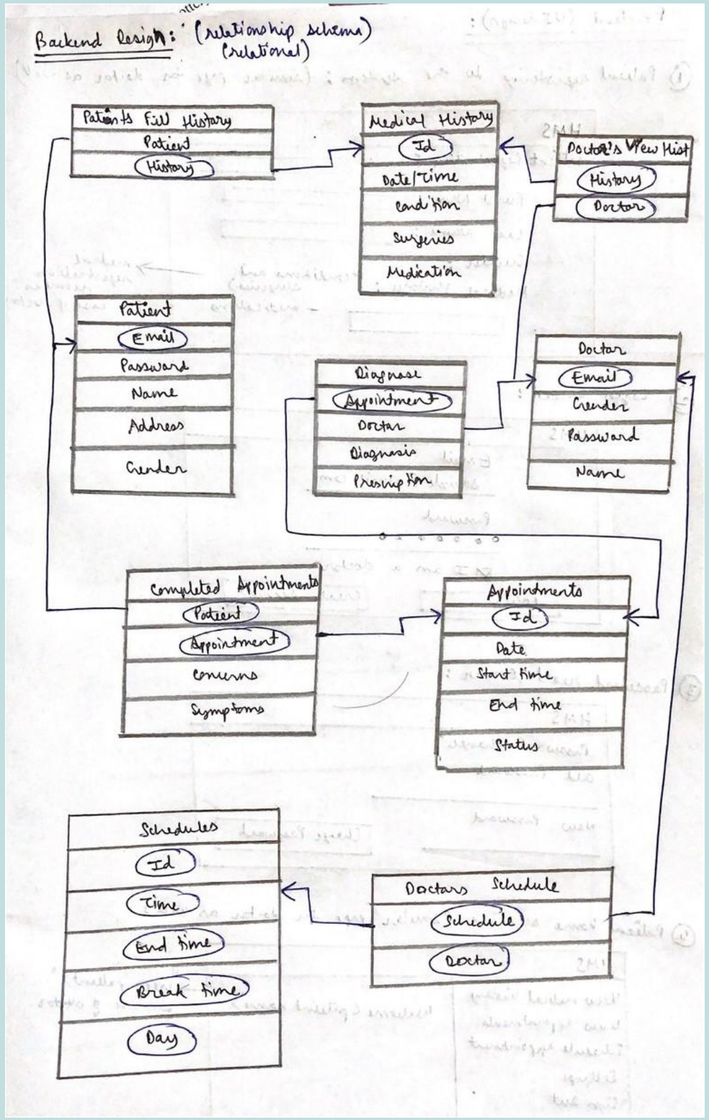




Backend (database design) and software used:

Backend technologies :

Node.js, Express



Type of connectivity used for database access:

1. Database connectivity acts as the communication interface between the software and the underlying database of the application.
2. In this project, we are using the relational database connectivity which is used to publish data from a relational database or to deliver data to a relational database. Relational database connection types use ODBC or native database drivers to access data at run time, and they use JDBC to access metadata at design time.

Any of the following connections can be used:

- Microsoft SQL Server. Connects to databases through ODBC or through the native database driver.
- *Oracle. Connects to databases through the native database driver. (most probably we will use Oracle server connection as it is being implemented in the lab as well)*
- IBM DB2. Connects to databases through the native database driver.

References:

- https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=56446b88f60668a39dd19da3c47b760b8eb8dfe2 (for architecture diagram)
- https://www.edrawsoft.com/article/er-diagrams-for-hospital-management-system.html (for ER diagram)
- https://www.indiatoday.in/india/story/tamil-nadu-hospital-patients-data-sold-online-dark-web-aiims-server-issue-2304872-2022-12-03 (Data of 1.5L patients sold online)
- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC80879/ (obtaining proper medical history of the patient to make informed clinical decisions)
- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2779965/