Project Title: Online Medical Consultation System

Scope of Database:

The Covid-19 Pandemic has affected and claimed lives of millions of people all across the planet and has completely shook the entire functioning and foundation of mankind. It has compelled us to accept this extremely disturbing situation and search for new normal ways of living. Specially for Non-Covid Patients having other serious medical conditions, the struggle to seek medical assistance has increased manifold. In this situation, technology has proven itself to be a boon for both the hospitals as well as patients by connecting them online via video conferencing. Thus, the medical field is rapidly shifting towards online solutions to deliver its facilities and widen its scope for reaching and treating patients irrespective of the physical distance between them.

'When you can't walk in, just login!'

- Our aim is to build a system for managing online medical consultation data for a chain of hospitals which has its branches located all across the country. Our system would have the potential to manage all the data that is being created and stored in this process.
- We will keep track of all the information regarding personal patient details, the medical branches available for consultation, the details of doctors available within each branch, the appointment details, the online payment data, the video/voice/chat data which is created in the actual consultation process, the previous follow up data of the patient if it exists, the current medical report of the patient, the details of the generated digital prescription and the data to facilitate home delivery of medicines or general pathology lab tests at the patient's home.
- Even in the absence of a pandemic, online medical consultation proves to be a winner for saving travelling time and additional expenses while defying distance and seeking second opinions of specialized doctors located in different parts of the country.
- Limitations: Our Database is not going to store details of hospital, laboratory or pharmacy management.

Database Requirements:

- The primary users of our system are patients and doctors.
- Patients would have to register themselves with our system. They would be uniquely identified by their patient Id. Patients have first name, last name, dob, gender, mobile number, address, email id, password.
- Medical Branch has its unique Id, name and description. A patient can choose a particular branch according to his/her needs for consultation.
- Doctors are uniquely identified by their doctor Id, first name, last name, qualification, specialization, experience, dob, gender, mobile number, address, email id, password, languages known, charge per consultation, medical license, digital signature and ratings.
- Each medical branch can have many doctors, but a doctor can be a part of only one medical branch.
- The data for each doctor's availability schedule will be stored separately where details like time slots and his/her working days of the week will be stored.
- After selecting the medical branch and a particular doctor from the branch, the patient can book an appointment on the basis of the free time slots of the doctor.
- Appointment has its unique appointment Id, date and time of appointment, duration and symptoms listed by the patient. The duration of consultation provided by each doctor for their patients can be different.
- While scheduling the appointment, the patient has to make the payment for online consultation at that time itself. Payment data would be stored separately and be recognized by its payment Id, appointment Id, UPI Id, amount of transaction and payment gateway.

- For one appointment, only one doctor can be booked. Patients or doctors can also reschedule or cancel the appointment if required.
- After the online consultation, the patient records would be stored for each appointment. Each patient record will have it unique Id, doctor's observation, doctor's diagnosis, digital prescriptions, lab reports and follow up details. One patient can have multiple records for each appointment he/she schedules.
- Doctor can also recommend the patient to consult another doctor or branch of the hospital.
- The meet details of each appointment are stored separately. It would contain recorded video/telephonic consultation and chat data.
- The details of the hospital and its multiple branches situated in different locations of the country are also stored.
- The pharmacy and laboratory details which facilitate home delivery of medicines and pathology test at home respectively are also stored.
- Patients would have the facility to give feedback and rating for the consultation.
- One patient can book many consultations with many different doctors.
- One doctor can have many consultations scheduled.
- One state can have many branches of the hospital located in different cities of the state.

Queries that the database system should be able to answer:

- For a patient 'XYZ', retrieve doctor's diagnosis, digital prescription and lab reports.
- Retrieve the patient details and recorded video consultation for appointment Id 'A045'.
- List all doctors from 'Oncology' branch working at 'Mumbai' branch of the hospital.
- List all the patient details who booked an appointment since 1st March, 2020 in the 'Neurology' medical branch.
- List the number of consultations patient Id 'P001' had in the year 2019 and 2020.
- List names of top 5 doctors from 'Paediatrics' department who completed maximum number of consultations in July 2020.
- List the hospital branch with least number of consultations in 2020.
- Retrieve the patient details who booked 'Lab 1' in Ahmedabad Branch for a pathology test at home.
- List the doctors with high consultation charges grouped by their consultation time.
- Retrieve the patients who have paid more than Rs. 10,000 in the year 2020 for their online consultation.