



HOSPITAL MANAGEMENT SYSTEM

GROUP-18 CS315 PROJECT

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ABSTRACT

Hospitals in India have a lot of functionalities such as patients, doctors, employees, medicines and visitors details. However there is a need for hospitals to have a proper management that will take care of all people entering the hospital premises so as to ensure proper security. We also feel that the total cost incurred by a patient can be also totalled and stored to make it an efficient and a proper method to have a good allocation of funds and other properties managed by the hospital.

PROBLEM STATEMENT

The problem statement formulated for the project is as follows: Generate a Hospital Management System that can take care of all the Hospital Related Activities (Patients, Doctors, Ambulances, Transactions, payment, Equipment etc)

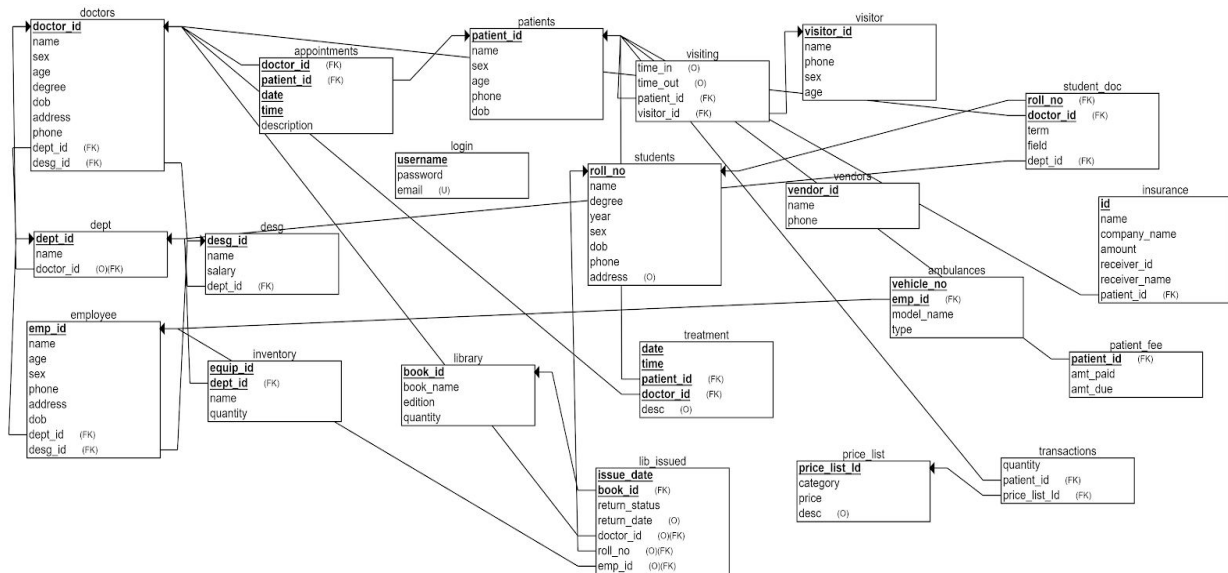
APPROACH

We are using `sqlite3` to store the database and are using `python3` along with `python-flask` to provide interface to the backend and frontend. The Entity-Relationship model used in our framework is given below-

1. Key to The ER Diagram

- The white boxes each represent an entity set (each of which has a different table in the database). The title of the box (dark in colour at the top) each represents the name of that entity set.
- The attributes of that particular entity set are given inside the boxes that represent the entity set. The bold attributes are the primary keys of that entity set. The keys which have (FK) written in front of them are the foreign keys for that entity set which may be more than one)

- The black line represents a relation between the entity sets that it connects. The keys that have a (O) written in front of them are optional attributes and may be entered empty for some records.



The approach can further be divided into the following sections-

I. DOCTORS AND PATIENTS

The hospital work son the strength of doctors and the number of patients. The various tables and steps associating doctors and students are as follows-

1. DOCTORS

This table is used to store information about the various doctors in the hospital. This includes their personal information such as DOB, Phone No And department with certain other things which are necessary

2. PATIENTS

This table is used to store the data of various patients such as their personal Information such as blood group, phone number, address all these fields Which are important information for any hospital.

3. DESIGNATION

Each Doctor has a particular post and various doctors should be recognized Accordingly. This table is useful to give different doctors their posts.

4. DEPARTMENT

There are many different departments in a hospital such as ear and nose , Mouth, lungs etc and it is important to recognize which doctor is in which

Department.

5. APPOINTMENTS

The first interaction of a patient with a doctor is through appointments and This table is used to store the time and the first meeting of a patient with a doctors.

II. STUDENTS AND VISITORS

At various points of time, some students and visitors often do visit the hospital to either work with doctors or to meet with friends.

1. STUDENTS

There is a need to store efficiently the personal details of various students who visit the hospital for their research interests.

2. VISITORS

There is a need to store efficiently the details of people who visit the hospital For short durations so that the security of the hospital premises is Maintained.

3. STUDENT_DOC

This table is used to store the information of the relation between the Student and which faculty the student is doing his research .

4. VISITING

This table is more like a entry check which serves as a means to note the Entry and the exit time of various people visiting the hospital premises.

III. EMPLOYEES AND TOOLS

Apart from students,there are also employees who are already working in the Hospital.it is important to store their records as well in the database.

1. EMPLOYEE

This table is used to store the information of all the employees who are working including nurses, doctor staff, assistants etc.

2. AMBULANCES

There is also a need to store the information about the various ambulances And their types and availability during the general timings.

TOOLS AND SOFTWARE USED

We have used various python3 libraries for our project. One of them forms the very framework backend - PYTHON FLASK. We have also used various js and bootstrap tools to help us make the frontend. The database on which our project is based in sqlite3.

CHALLENGES ENCOUNTERED

Thinking about the various entities and tables was difficult since a lot of things are involved in the formation of a big hospital. Also building forms for inputting the data

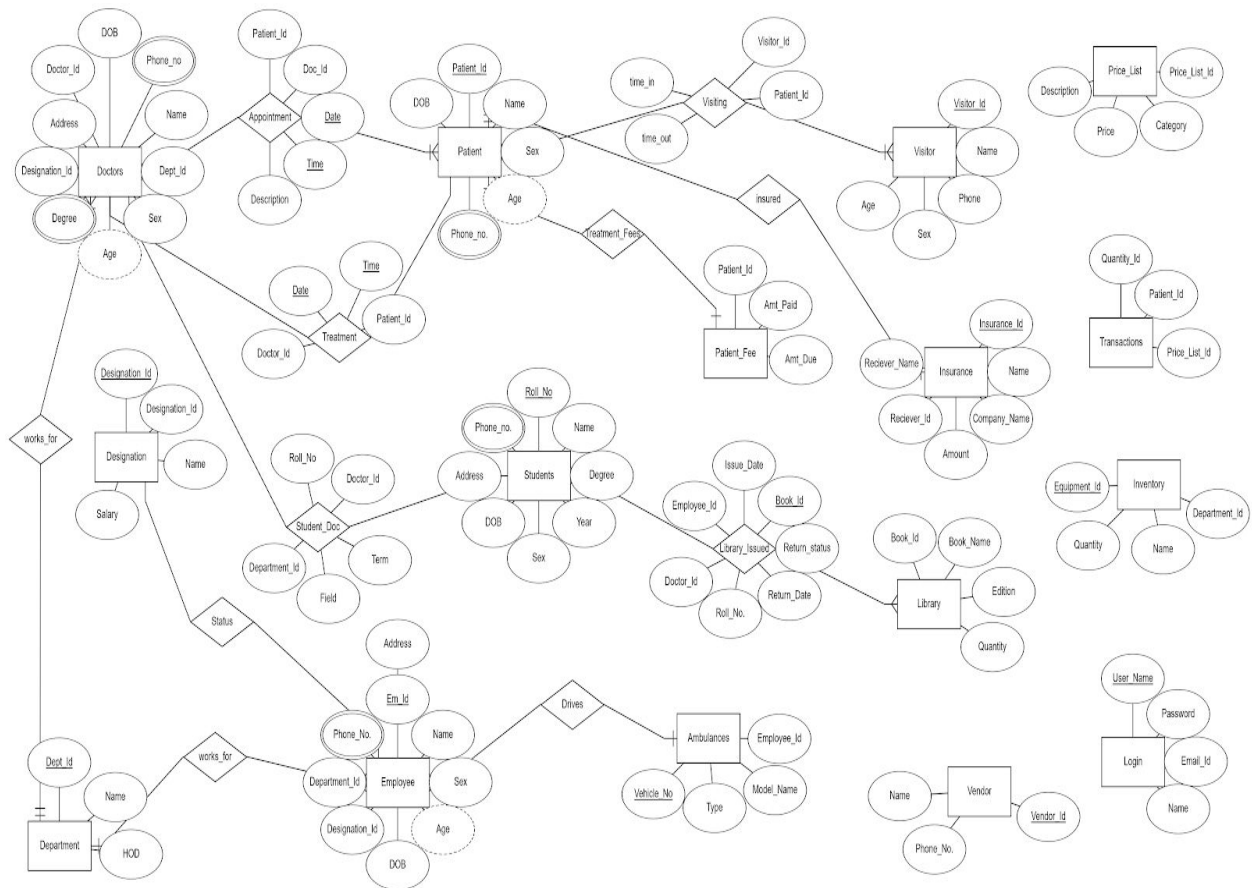
Was a big challenge since we build them from scratch.

FUTURE WORKS

The future work and the major challenge is associating with hospitals and enabling this method into the general systems of various hospitals across the country. We could start by approaching our institute health care.

ACKNOWLEDGMENTS

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ER DIAGRAM