

**Database Engineering
CEP Lab Report
Phase # 1**



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SECTION-A

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Hospital Management System

Abstract:

The project includes a full fledged working website of hospital named “Babar Hospital” in which the user will be able to register as a patient, and can follow his treatment status. The complete report of the patient will be displayed as per unique patient ID. The doctor will also be able to see the past history of patients, and the cures prescribed to the patients. The laboratory technician will be able to see the tests suggested to a particular patient and their results. Administrator is responsible for the generation, and manipulation of profiles of doctors, patients and lab technicians. The patients will be able to see their bills online as well.

Specifications:

- A hospital management system allows patients, doctors, lab technicians and administrators to log in to the website.
- Administrator is responsible for the generation, and manipulation of profiles of doctors, patients and lab technicians.
- There are multiple administrators working in a hospital, and there is a record of admins which includes their names, addresses, CNIC, and salaries
- A doctor’s details includes CNIC, name, address, salary, seniority level, and his qualifications.
- Patient’s details include CNIC, name, sex, age and address
- Patients consults doctors and the doctors prescribes medicines, as well as tests for the diagnosis of diseases, and the tests must be performed by the laboratory inside the hospital.
- Patients are admitted in rooms having attributes room ID, and the type of room with respect to number of beds inside the room.
- Rooms are located inside the department and each room is identified by its room ID, and the room name.
- The care-taking of patients admitted in a particular room is assigned to a nurse.
- The nurses are identified by their name, address and CNIC and each room is managed by a single nurse.
- Each department has number of doctors working in it, but each doctor belongs to a particular department.
- Each department is managed by a senior doctor.
- There are multiple laboratories located in a particular department. These laboratories are recognized by their lab ID and each laboratory has a unique name assigned to it.
- Laboratories are located inside the department, and each department has multiple laboratories.

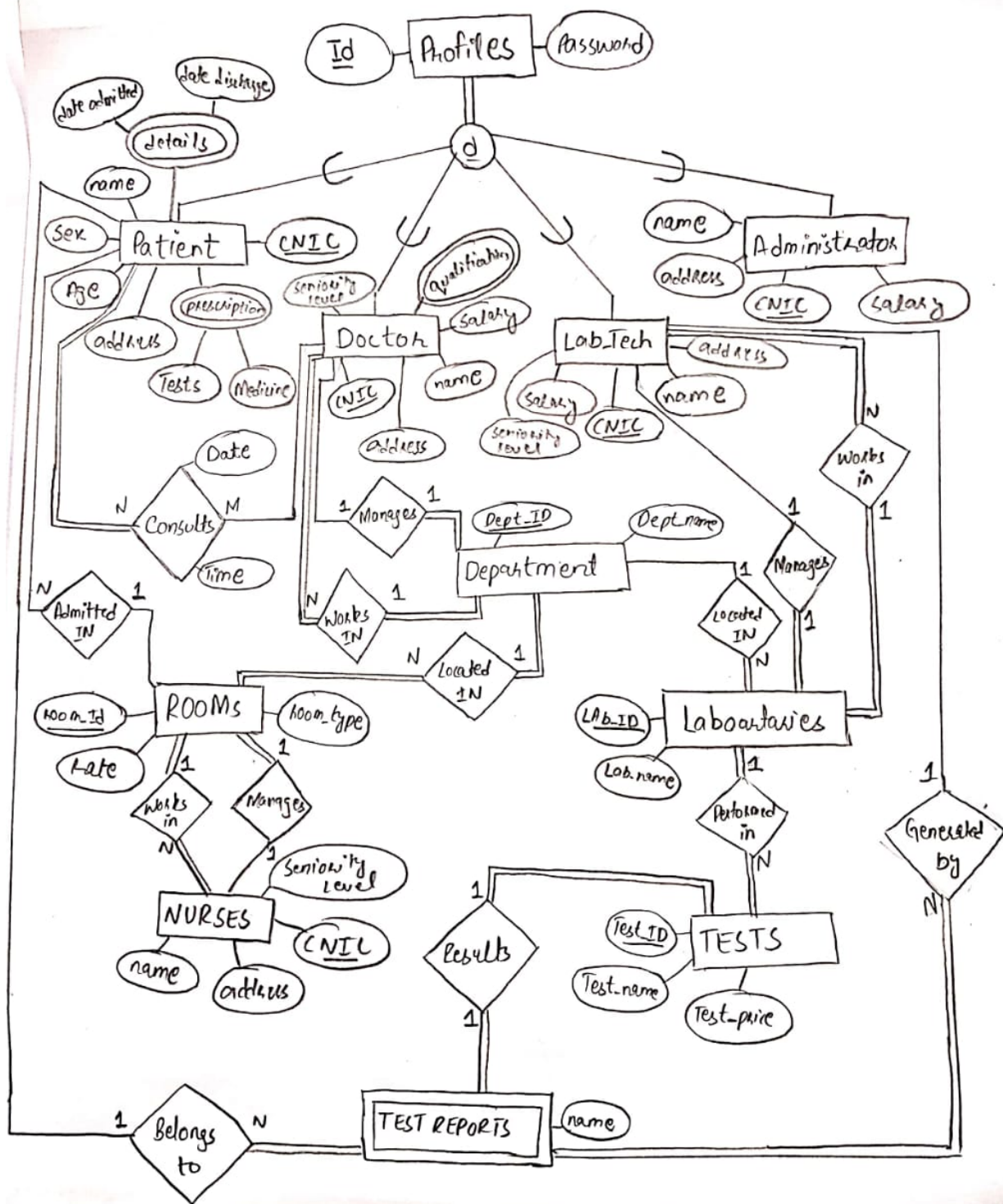
- Lab technicians are working in laboratories, and have attributes such as name, seniority level, address, CNIC and salary.
- Test reports which belongs to patients are generated by the lab-technicians. These reports will display the results of tests.
- Each lab is managed by a senior lab technician, and there is only one manager to a particular lab.
- There are multiple tests performed in a single laboratory.
- Tests have their own ID, name and the price.
- The outdoor patients have a fixed fee of Rs. 500 in a hospital, and per day stay-rate for single, double, and 8 bed rooms is Rs. 2000, Rs. 3000 and Rs. 500 respectively including the treatment.

Constraints

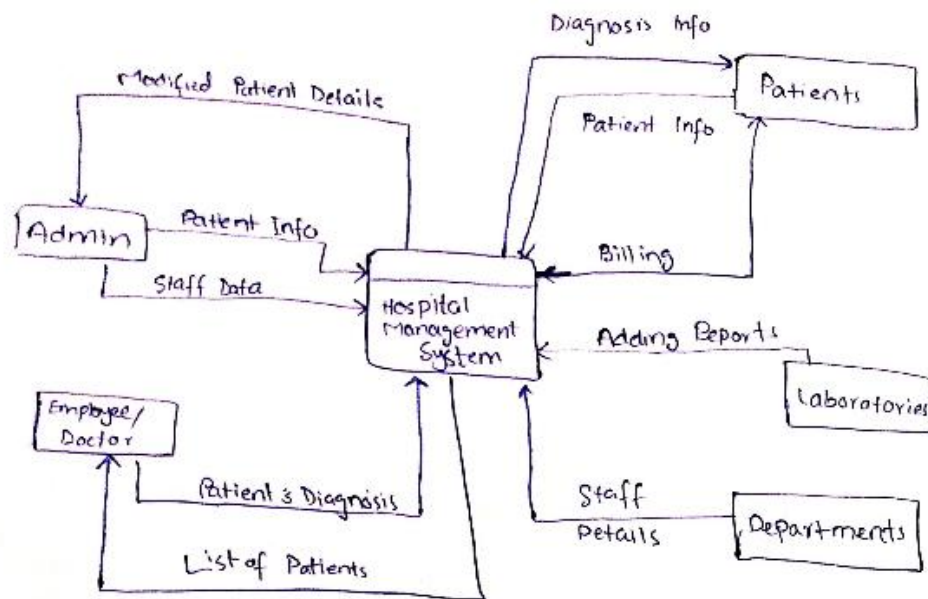
Following are the constraints in designing of a real system:

- Patients can't communicate with doctors in real time through his profile.
- We cannot indicate the bill-calculation in the EER diagram.
- The details of lower level staff such as sweeper, guards, bell-boys, gardener etcetera are not included in the initial database design.
- Administrators and other hospital staff must create a new patient ID if they want to get themselves examined in the same hospital.
- Nurses cannot have profile on the website, and they won't be able to manage their room status.

EER Diagram:



Information Flow Diagram:



Deliverables:

The deliverables for the project are given below:

- A website designed based upon the specifications provided in the EER diagram
- A patient will be able to see the status of treatment that is being prescribed by the doctors.
- Room details will be available for the doctors to admit the patients.
- There will be a section of laboratories, which will be suggesting the tests offered to the patients.
- The administrators will be able to manage the deployment of nursing staff, and their deployment in the rooms available.
- The administrators will also be responsible for managing technicians working in laboratories.

Tasks Division:

2018-EE-13	2018-EE-18
The development of EER diagram, and establishing specifications for the Hospital Management System	
Information flow diagram	Deliverables
Constraints	