

CMPE 232 Relational Database Project Phase 1

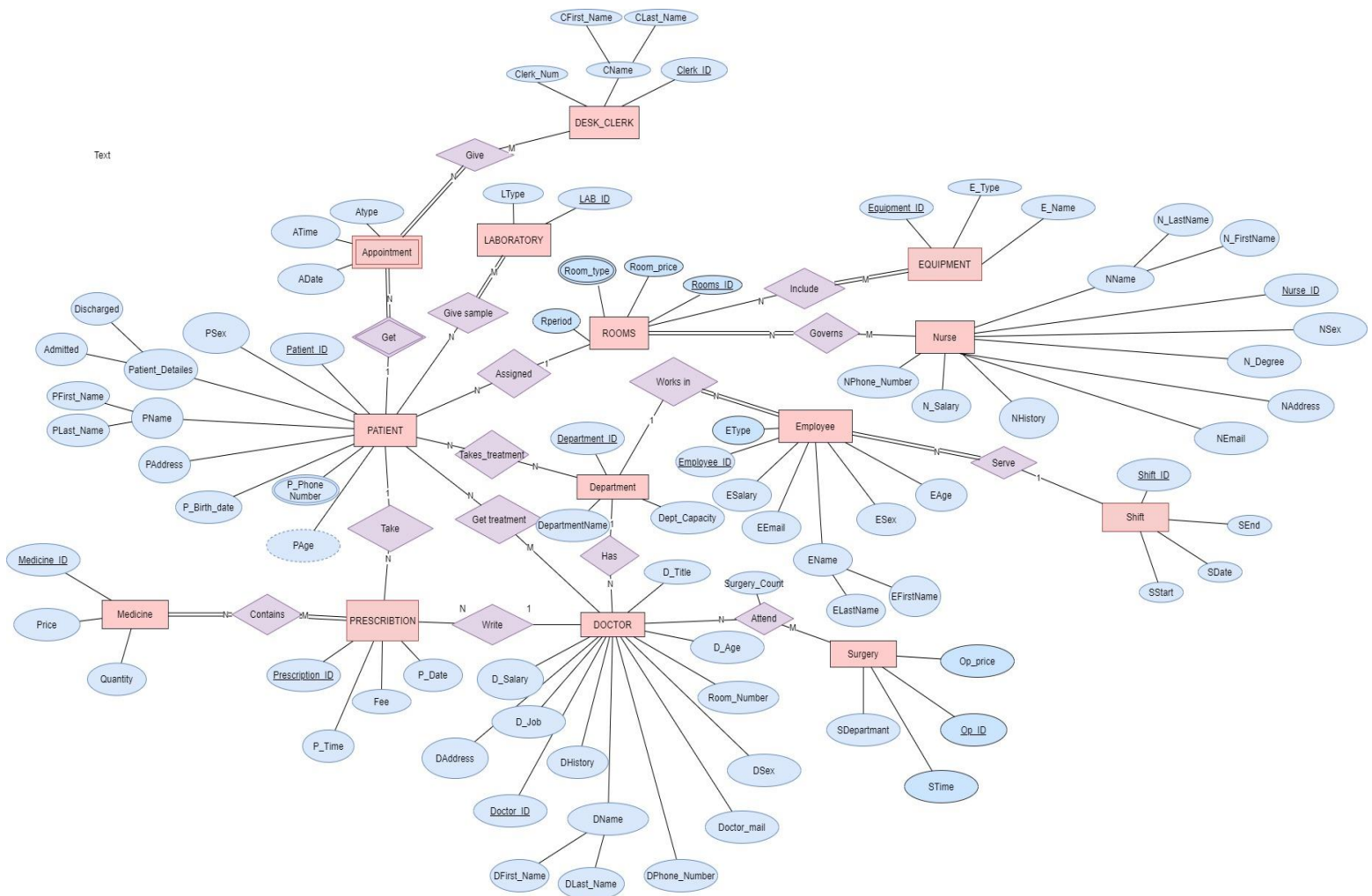
HOSPITAL MANAGAMENT SYSTEM DESİGN DOCUMENT - GROUP 7

Zülal Karın 12622989076

Zeynep Ayca Tanışlı 33326013720

Ayfer Feyza Şahin 30932496534

HOSPITAL MANAGEMENT SYSTEM ER DIAGRAM



SPECIFICATION OF THE DOMAIN

- 1) We identified each patient with **Patient_ID**. We made sure that each row is different by using a Primary Key. Each patient has name, address, sex, phone number birth date, age, and details (for discharge procedures). Patients get appointment and take prescription. We defined the age of the patient as the derived attribute because we keep it together with the date of birth. Patients Takes_treatments in departments and Get_Treatments from doctor. In addition, samples go to the laboratory from the patients, patients can be assigned to rooms and receive treatment from doctors. Thanks to these connections and relationships, we can clarify our first query. The patient can receive an appointment, choose MR as the appointment type, so we can list the patients who have an MR appointment. Thanks to Patient_Details, which we define as a composite attribute, we can reach hospitalized patients.
- 2) We defined prescriptions as **Prescription_ID**. Each prescription has its time, hour, and cost. Besides, they contain medicine.
- 3) We defined the medicine as **Medicine_ID**. Each medicine has price and quantity.
- 4) We defined the **appointment system** of the hospital as a weak entity and each appointment has a time, date, and type.
- 5) We designed a Desk Clerk that delivers these appointments. We have identified each receptionist with their ID numbers (**Clerk_ID**) and the receptionists have their names and numbers.
- 6) We defined the laboratories with **LAB_ID**. Each laboratory has a type. (Such as Clinical Biochemistry, Clinical Microbiology, Clinical Haematology and Pathology)
- 7) We identified the rooms where the patients are assigned with **Rooms_IDs**. There are periods, types, and fees to determine when rooms are available. Since more than one patient can stay in a room, the type of the rooms is multivalued attribute. Also, all rooms include equipment and nurse who governs rooms.
- 8) We identified the equipment in the hospital with **Equipment_ID**. Equipment has its type and name. Such as Sterilizer, Operating Table, Traction, Ceiling Lights, Air Blender, Gynaecological Table, Anaesthesia Device, Bedside Monitor ...
- 9) There are nurses assigned to rooms in our hospital and we identified these nurses with **Nurse_ID**. Each nurse has a name, surname, gender, number, salary, degree, address, and email. In addition, we added NHistory to assign nurses to cases related to it in the future.
- 10) A doctor identified by **Doctor_ID** each doctor has age, department, salary, address, history, name, surname, phone number, mail, title, sex, and room number. Also, a doctor write prescription and attend surgery. We put the Surgery_Count attribute for the Attend relation. In this way, we can count the surgeries requested from us in the second query from us.
- 11) We identified the surgeries as **Op_ID**. Surgeries have price, time, and departments.

- 12) We defined the employees by **Employee_ID**. Employees have their name, age, sex, email, salary, and type (cleaners, security guards, technicians ...). Employees work in various departments and serve shifts.
- 13) We have identified the departments with the **Department_IDs**. Each department has a name and capacity.
- 14) We defined the shifts with **Shift_ID**. Shifts have a start time (SStart), end time (SEnd) and date. (Since it is a start and end key word, we did not use them directly.)