
CSE 222 DATA STRUCTURES AND ALGORITHMS

PROJECT PROPOSAL

Group 5

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1 Problem definition

Nowadays, the treatment process of hospitals are slow and patients have to communicate with healthcare professionals through medical secretaries. This communication model prolongs the treatment process and causes the hospital to not work efficiently. Reaching more patients and providing the right treatment in a shorter period of time are the most important things for a hospital and public health. For this, it is necessary to improve the relationship and communication between healthcare professionals and patients.

To solve this problem, we decided to make an automation system for hospital management. This automation system, designed based on the problems faced by hospitals, will provide various features to patients as well as healthcare professionals. After logging into the system, users can perform operations that are appropriate for their roles.

1.1 Patients through the system

- Gets appointments using the system
- Sees the medical history
- Sees the appointments
- Sees the prescriptions
- Sees the test results
- Sees the medicine requirements
- Sees allergies to the medicines
- Sees the illnesses

1.2 Healthcare Professionals through the system

- Sees the patient appointments
- Writes prescriptions
- Enters the patient information (complaints, symptoms, patient's illnesses, test results) to the system
- Decides whether the patient is going to stay in hospital or not (The system decides the room that the patient is going to stay)
- Sees the appointment and the examination history of the patients
- Sees his/her working times
- Sees his/her night shifts
- Sees his/her forensic cases if there is any
- Tests the patients
- Sees which tests are going to be done according to the doctor
- The system is going to decide the result of the test according to the results of the test phases

2 Users of the system

2.1 Administrator

Administrator adds employees to the system or removes employees from the system. Sets the working times and nights shifts of the employees. Assigns forensic cases to the corresponding medical.

2.2 Doctor

Doctor sees the patient appointments. Enters the patient information (complaints, symptoms, patient's illnesses, test results) to the system. Decides whether the patient is going to stay in hospital or not (The system decides the room that the patient is going to stay). Sees the appointment and the examination history of the patients. In addition, the doctor can see: his/her working times of the employees, his/her night shifts of the employees and forensic cases if there is any.

2.3 Nurse

Nurse can test the patients then sees which tests are going to be done according to the doctor. The system is going to decide the final result of the test according to the results of the test phases.

In addition, the nurse can see his/her working times, night shifts and any forensic cases.

2.4 Staff

Sees his/her working times.

2.5 Patient

Patients can see their medical history, appointments, prescriptions, test results, drug requirements, allergies to drugs, and diseases through the system.

2.6 User

Users can Login and logout into the system. Sees a menu according to his/her user type.

3 Requirements in Detail

3.1 System Requirements

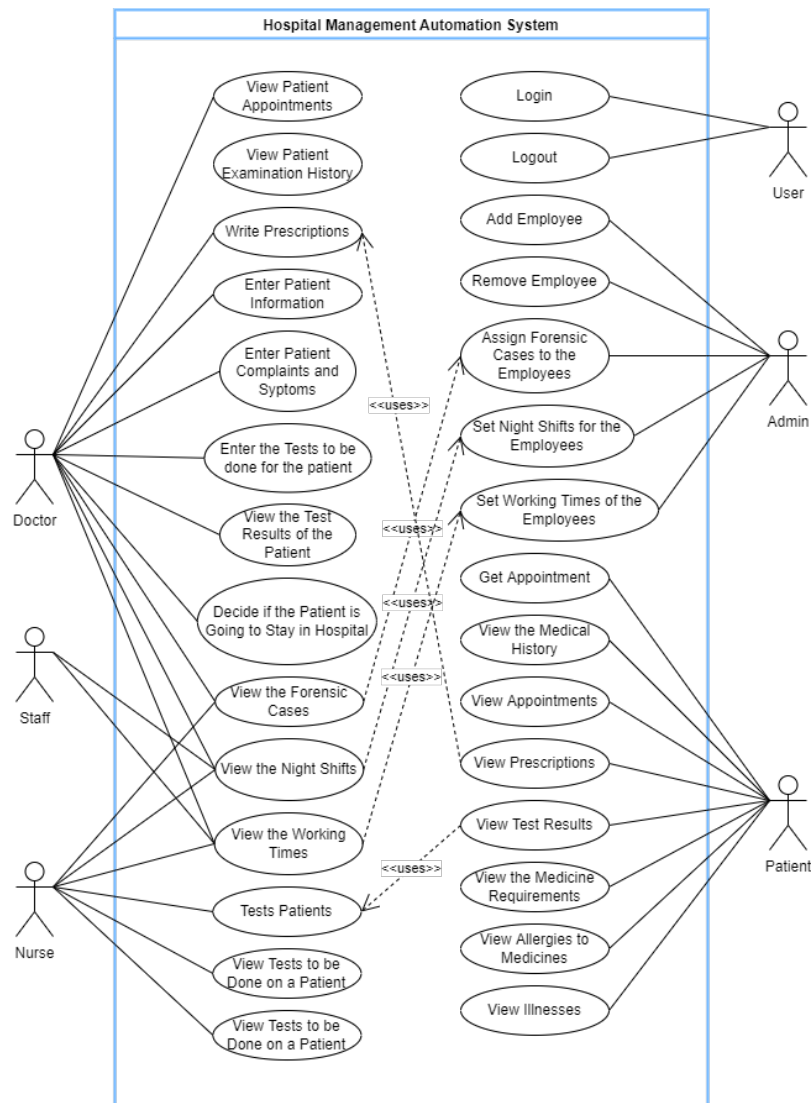
3.1.1 Functional Requirements

Requirement ID	Description of the requirement
FR1	Admin is able to add employees.
FR2	Admin is able to remove employees.
FR3	Admin is able to set working times of employees.
FR4	Admin is able to set night shift times of employees.
FR5	Admin is able to assign forensic cases to the corresponding medical employees.
FR6	Doctor is able to see patient appointments.
FR7	Doctor is able to write prescriptions.
FR8	Doctor is able to enter the patient information (complaints, symptoms, patient's illnesses, test results).
FR9	Doctor is able to decides whether the patient is going to stay in hospital or not (The system decides the room that the patient is going to stay).
FR10	Doctor is able to see the appointment and the examination history of the patients.
FR11	Doctor is able to see his/her working times.
FR12	Doctor is able to see his/her night shift times.
FR13	Doctor is able to see his/her forensic cases.
FR14	Nurse is able to enter tests of patients.
FR15	Nurse is able to see which tests are going to be done according to the doctor.
FR16	Nurse is able to see which tests are going to be done according to the doctor.
FR17	Nurse is able to see his/her working times.
FR18	Nurse is able to see his/her night shift times.
FR19	Nurse is able to see his/her forensic cases.
FR20	Staff is able to see his/her working times.
FR21	Patient is able to get his/her appointment.
FR22	Patient is able to see his/her medical history.
FR23	Patient is able to see his/her appointment.
FR24	Patient is able to see his/her prescriptions.
FR25	Patient is able to see his/her test results.
FR26	Patient is able to see his/her medicine requirements.
FR27	Patient is able to see his/her allergies to medicine.

3.1.2 Non-Functional Requirement

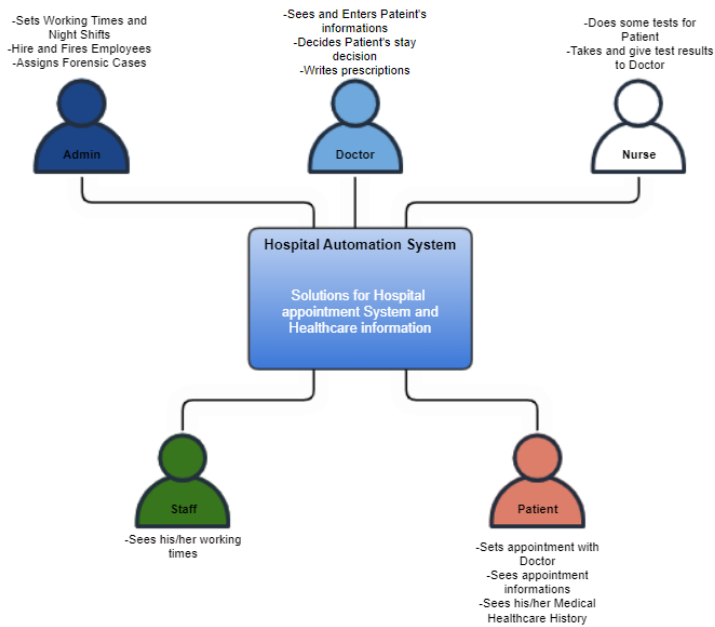
Requirement ID	Description of the requirement
NFR1	JavaSE13 or higher should be installed and running properly.
NFR2	System is user-friendly so a new user can learn easily.
NFR3	Initial installation of the system should be done by professionals.

4 Use Case Diagram



5 C4 model of the system

5.1 System Context Diagram



5.2 Container Diagram

