

Health Care System
02160 Agile Object-oriented Software
Development

Report



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Contents

1	System Design and Structure	2
1.1	CRC Cards	2
1.2	UML Class Diagram	3
1.3	User Stories	3
2	Description of software architecture and design	7
3	Project Management	8
4	Work Distribution	9
5	User Manual	10

1 System Design and Structure

1.1 CRC Cards

User		Nurse <i>extends User</i>	
Responsibilities	Collaborators	Responsibilities	Collaborators
Name ID (unique, final) Address Phone Number Show Information Register Patient	Patient Department	Name ID (unique, final) Address Phone Number Department Show Information Register Patient Admit Patient Discharge Patient Assign Bed Get Patients medical data Edit patient medical data	Department Patient Bed
Doctor <i>extends User</i>		Admin <i>extends User</i>	
Responsibilities	Collaborators	Responsibilities	Collaborators
Name ID (unique, final) Address Phone Number Department Speciality Show Information Register Patient Admit Patient Discharge Patient Assign Bed Get Patients medical data Edit patient medical data	Department Patient Bed	Name ID (unique, final) Address Phone Number Department Show Information Register Patient Admit Patient Discharge Patient Assign Bed Add User Remove User Get Patients medical data Edit patient medical data	Department Patient Bed User Nurse Doctor
Department <i>Abstract</i>		Inpatient <i>extends Department</i>	
Responsibilities	Collaborators	Responsibilities	Collaborators
Name ID (unique, final) User List Add User Remove User	User Patient	Name ID (unique, final) User List Patient List Bed List Next Bed Index Capacity Add User Remove User Add Patient Remove Patient	User Patient Bed
Outpatient <i>extends Department</i>			
Responsibilities	Collaborators		
Name ID (unique, final) User List Patient List Capacity Add User Remove User Add Patient Remove Patient	User Patient		

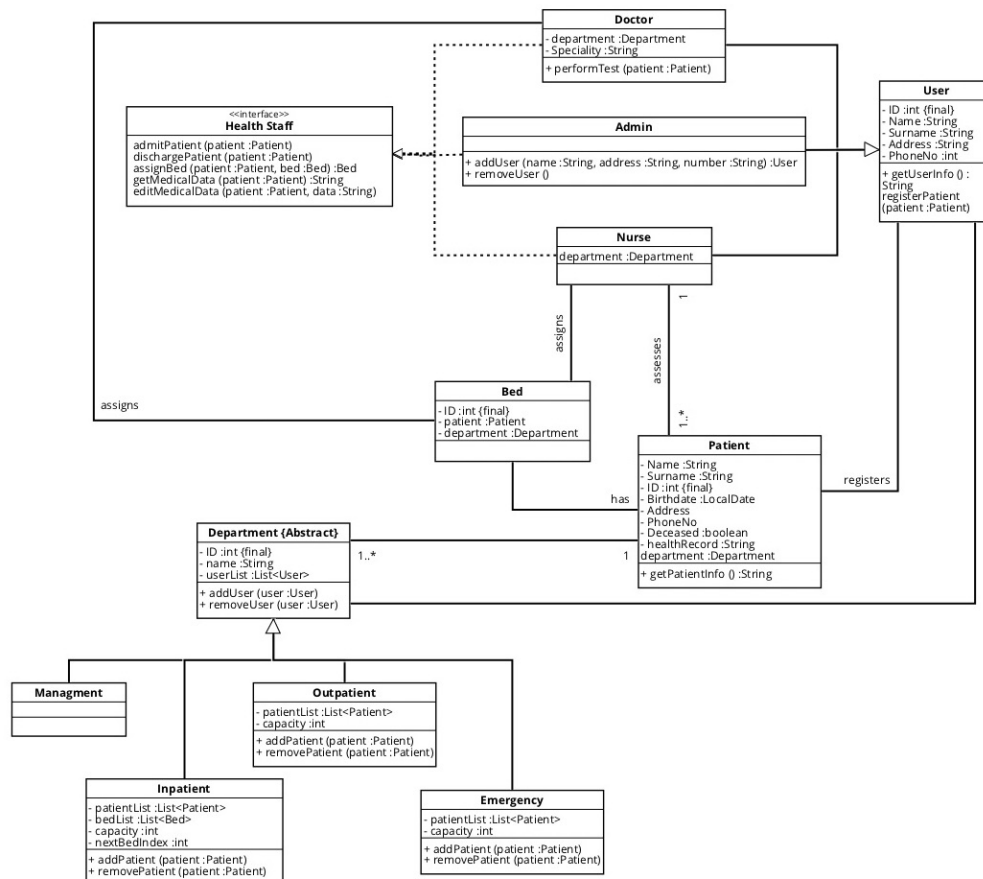
Management <i>extends Department</i>	
Responsibilities	Collaborators
Name ID (unique, final) User List Add User Remove User	User Patient

Patient	
Responsibilities	Collaborators
Name ID (unique, final) Phone Number Address Deceased Health Record Department	Department

Emergency <i>extends Department</i>	
Responsibilities	Collaborators
Name ID (unique, final) User List Patient List Add User Remove User Add Patient Remove Patient	User Patient

Bed	
Responsibilities	Collaborators
ID (unique, final) Patient Department Show Information	Patient Department

1.2 UML Class Diagram



1.3 User Stories

M1 Patient Registration

AS A User

I WANT To register a new patient

SO THAT I can save their basic information in the system

AS A User

I WANT To edit a patient's information

SO THAT the system can maintain validity if a patient's information changes.

AS A User

I WANT To search for a certain patient based on identifying information (name, birth date, patient number etc.)

SO THAT I can easily find patients in the system

M2 Staff Management

AS AN Admin

I WANT To register new staff members

SO THAT there is accurate record keeping in the system

AS AN Admin

I WANT To view all staff member information

SO THAT I can see information about all staff in the system

AS AN Admin

I WANT To edit staff member information

SO THAT I can maintain the validity of the system if something with a staff member changes

AS A User

I WANT To view all staff members and their basic information (name and email only)

SO THAT I can communicate with my colleagues

AS A User

I WANT To be able to search for staff members by their name or email

SO THAT I can access the rest of their basic information (name/email)

AS AN Admin

I WANT To search for all users with a specific criteria (name, email, birth date, department, job title etc.)

SO THAT I can see all staff members who fulfil the criteria

M3 Health Facility Management

AS A User

I WANT To See how many beds are available in a department

SO THAT I can check if a department is at capacity

AS A User

I WANT To be classified by a specific department

SO THAT I can have one department in which I work

AS A User

I WANT To see a list of the departments in the hospital

SO THAT See what my options are for admitting a patient

M4 Patient Admission

AS A User

I WANT To register a new patient by entering their non-medical data

SO THAT I admit new patients

AS A Nurse

I WANT To allocate a patient to a bed (inpatient)

SO THAT The patient is admitted to the department and can receive care.

AS A Doctor

I WANT To call on a patient (outpatient)

SO THAT The patient can occupy a bed and receive care.

AS A Nurse

I WANT To discharge a patient

SO THAT The patient is no longer occupying a bed when treatment is done.

AS A Nurse

I WANT To Move a patient to a new department

SO THAT The patient is discharged from one department and admitted to another.

AS A Nurse

I WANT To move a patient within the current department

SO THAT The patient can be moved to another bed as needed.

M5 User Interface

AS A User

I WANT To log in

SO THAT I can access the HMS

AS A User

I WANT To interface with the HMS

SO THAT I can manipulate or access patient and staff information

O2 User Management

AS A User

I WANT To have access to the functionality appropriate for my job

SO THAT i can do my job

O4 Persistency Layer

AS A User

I WANT To open and close the system without losing data

SO THAT I can still access patient and staff information

AS A User

I WANT To move a patient into my department by admitting them

SO THAT I can access their previous health data that is saved in the system

O6 Advanced Query Mechanism

AS A User

I WANT To I want to be able so view simple statistics describing departments and the hospital in general

SO THAT I can get an overview of the status

Miscellaneous User Stories

AS A User

I WANT To read a patients non-Medical data

SO THAT I can see non medical data

AS A Nurse

I WANT To read a patients medical data in my department

SO THAT I can see the medical data of all patients in my department

AS A Nurse

I WANT To edit a patients medical data

SO THAT I can edit the Medical data of all patients in my department

Access level works as shown in the following hierarchy:

User < Nurse < Doctor < Admin

Nurses, Doctors, and Admin can do anything users have access to and so on...

Users:

- User
- Nurse
- Doctor
- Admin

Departments:

- Inpatients
- outpatients
- Emergency
- ??

Medical Data	Non-Medical Data
Health Record	Name
Alive?	Surname
Height	Address
Weight	Phone
Perscriptions	ID number
Age	Department
Blood Type	

2 Description of software architecture and design

3 Project Management

4 Work Distribution

5 User Manual