Hospital Program for Emergency Cases

Ahmed Habeeb [Section 1]
Ahmad Abd-Alkadir Fayed [Section 1]
Osama Ahmed Galal [Section 2]
Habiba Mohamed [Section 2]
Amany Sherif [Section 2]
Eman Mohammed Ali [Section 2]

University of Mansoura

Computer Science Department

Abstract

This system helps save the patient's life in emergency situations by finding the nearest hospital that is suitable and available for diagnosis.

By communicating with government and private hospitals, accessing their systems and making a daily update for them
And help the hospital in the treatment better if the patient has data on his condition before on the system

There is a possibility for the patient to request an ambulance in case of need, and the system will contact the hospital if it is available in it,
In the event of unavailability, 123 will be contacted by the Egyptian Ambulance Authority and the case reported to them

If the patient is unable to move from home, he can request a doctor for examination at home

Introduction

About the **features of the program**

- Accelerates patient transfer to the suitable hospital depends on his data recorded.
- Providing an ambulance in case of emergency.
- Facilitates communication in cases of special needs.
- Follow the rating of hospitals according to their services.
- Collect data and record reports of each process

Functional Requirements:

- **Patient**:
    - Register name, ID, age, city, gender, health status
    - Add the diseases he suffers and the drugs he takes
    - Ambulance request in case of emergency
    - View ambulance location on map
    - Communicate with doctor
    - Pay fees
- **Ambulance Driver**:
    - Register name, car number, city
    - Receive alerts about a emergency call
    - Planning: show best way (Route) on map
    - Receive instructions from hospital manager
- **Hospital Admin**:
    - Register hospital name, city
    - Number of beds, doctors, clinics
    - Check availability
    - Communicate with patient
    - Financial reports
- **Doctor**:
    - Register name, ID, Specialization
    - Access patient data
    - Communicate with patient
    - Reports

Non-Functional Requirements:

- **Security**:
    - Patient Identification: The system needs the patient to recognize her or himself using the phone.
    - Logon ID: Any users who make use of the system need to hold a Logon ID and password.
    - Modifications: Any modifications like insert delete, update, etc. for the database can be synchronized quickly and executed only by the ward administrator.
    - Front Desk Staff Rights: The staff in the front desk can view any data in the Hospital Management system, add new patients record to the HMS but they don't have any rights alter any data in it.
    - Administrator rights: The administrator can view as well as alter any information in the Hospital Management System.

- **Reliability**: defines how likely it is for the software to work without failure for a given period. Reliability decreases because of bugs in the code, hardware failures, or problems with other system components.

- **Availability**: The system shall be available all the time.

- **Performance**:
    - Response Time: The system provides acknowledgment in just one second once the 'patient's information is checked.
    - Capacity: The system needs to support at least 1000 people at once.
    - User-Interface: The user interface acknowledges within five seconds.
    - Conformity: The system needs to ensure that the guidelines of the Microsoft accessibilities are followed.

- **Software quality attributes**: The system shall be robust enough that an operational interrupt to the system shall not corrupt the database easily. In case the database corrupts for some reason, the data could be recovered easily from the backup copy.

- **Maintainability**: Back-Up: The system offers the efficiency for data backup.

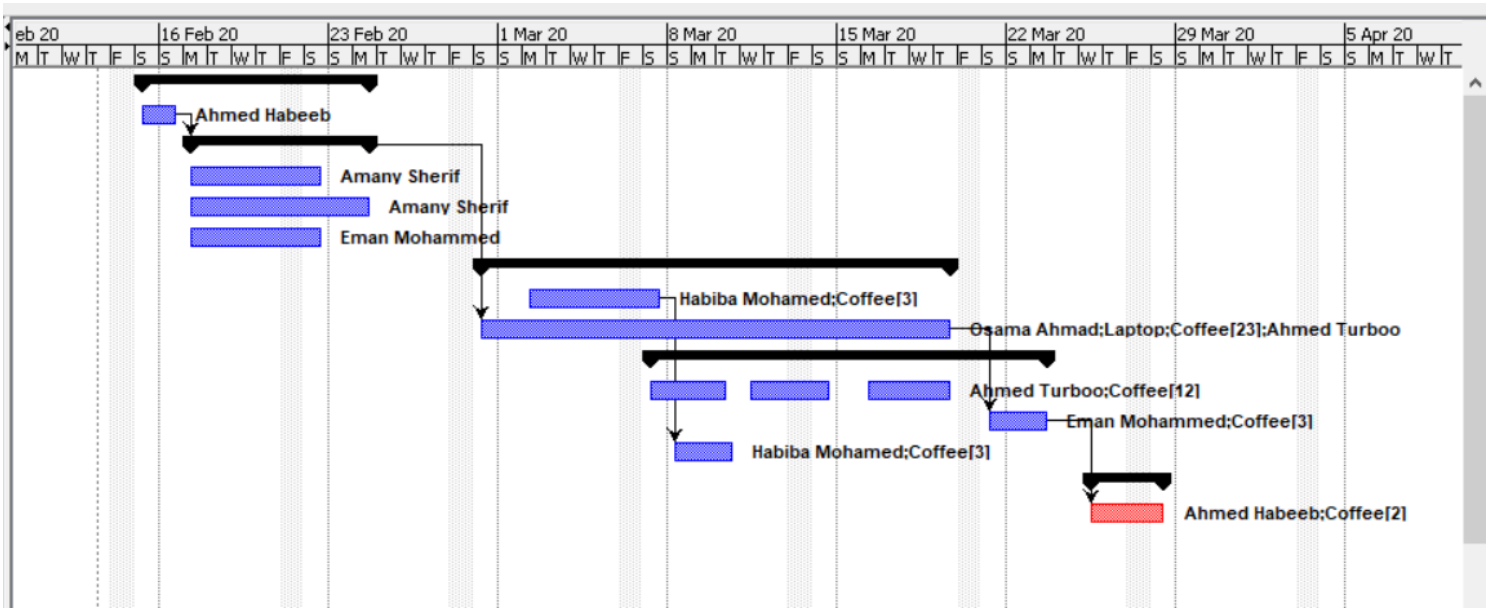
Errors: The system will track every mistake as well as keep a log of it.

- **Updates**:
    - There will be an additional system to link pharmacies
    - Linking the person's data by national number to the civil register to confirm his data
    - Report a case by writing the person's national number and reaching his statement without disclosing it to select the appropriate hospital based on the data registered to him

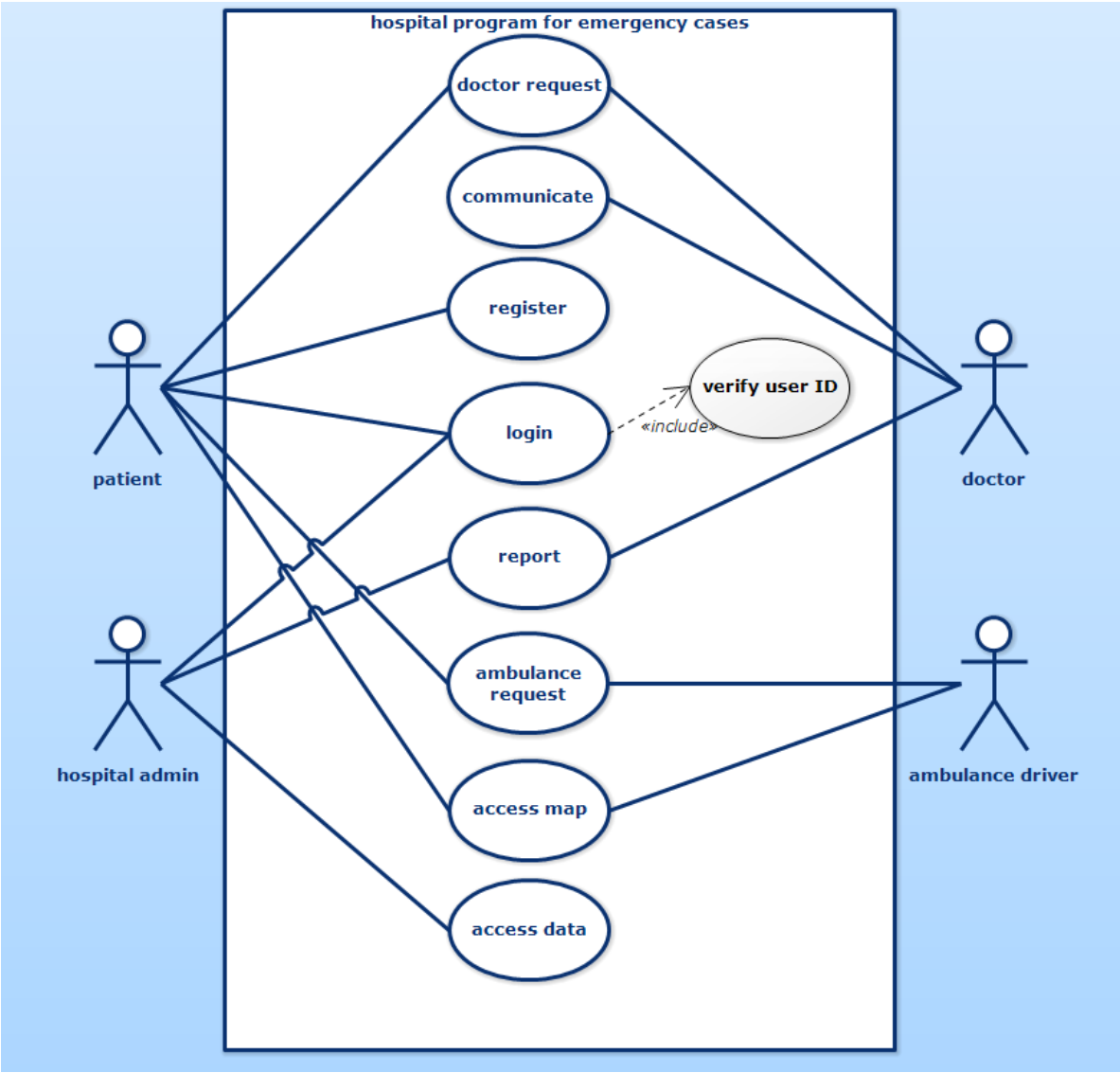
Review of Literature

Project Libre:

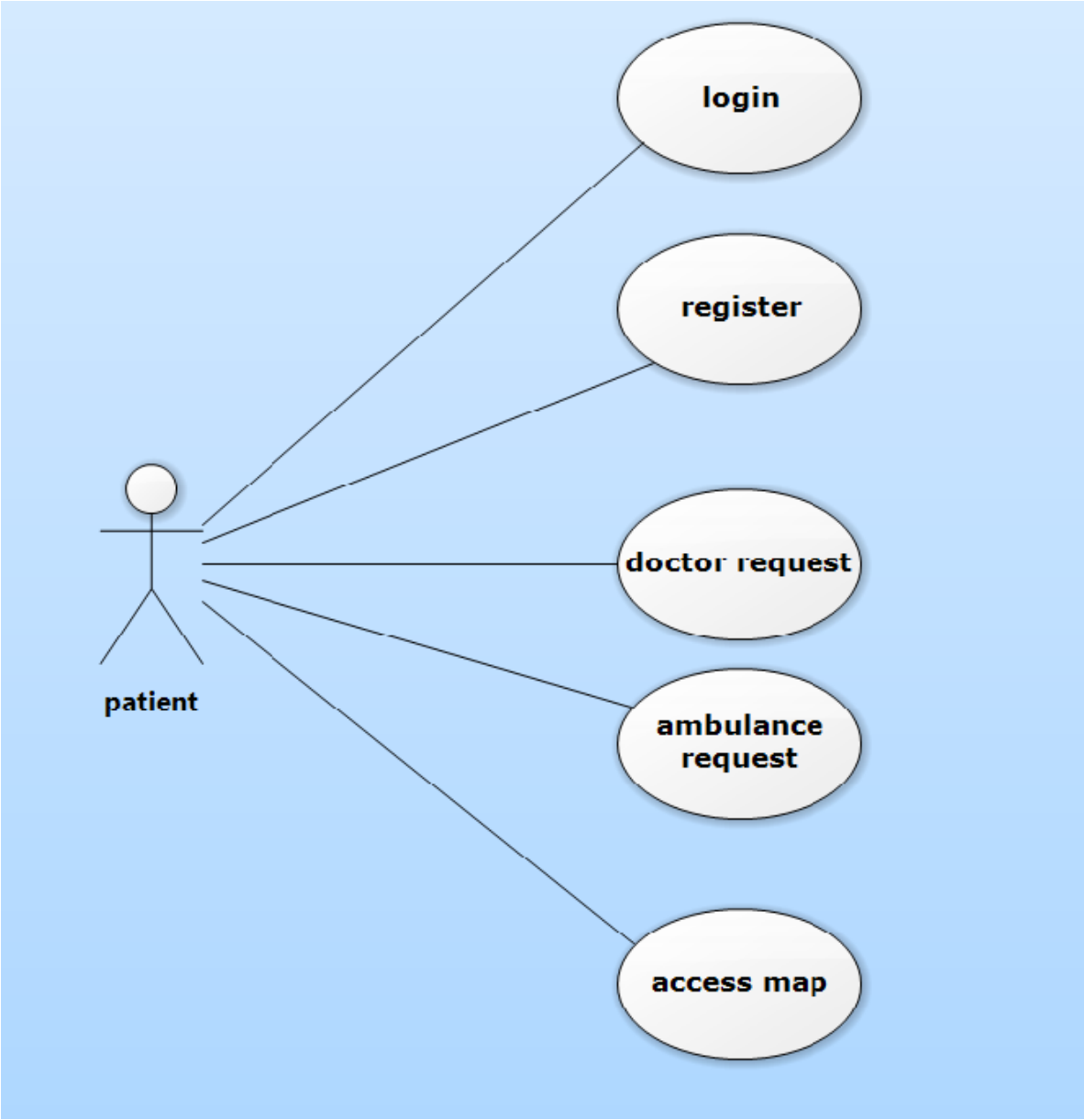
		Name	Duration	Start	Finish	Predecessors	Resource Names
1		**Software Specification**	9 days	**2/15/20 8:00 AM**	**2/24/20 5:00 PM**		
2		Requirements	2 days	2/15/20 8:00 AM	2/16/20 5:00 PM		Ahmed Habeeb
3		**Data Collection**	7 days	**2/17/20 8:00 AM**	**2/24/20 5:00 PM**	**2**	**Laptop[2];Coffee[8]**
4		Hospital	5 days	2/17/20 8:00 AM	2/22/20 5:00 PM		Amany Sherif
5		Patient	7 days	2/17/20 8:00 AM	2/24/20 5:00 PM		Amany Sherif
6		Pharmacy	5 days	2/17/20 8:00 AM	2/22/20 5:00 PM		Eman Mohammed
7		**Software Development**	18 days	**2/29/20 8:00 AM**	**3/19/20 5:00 PM**		
8		Software Design	5 days	3/2/20 8:00 AM	3/7/20 5:00 PM		Habiba Mohamed;Coffee[3]
9		Implementation	18 days	2/29/20 8:00 AM	3/19/20 5:00 PM	3	Osama Ahmad;Laptop;Coff...
10		**Software Evolution**	15 days	**3/7/20 8:00 AM**	**3/23/20 5:00 PM**		
11		System Testing	12 days	3/7/20 8:00 AM	3/19/20 5:00 PM		Ahmed Turboo;Coffee[12]
12		Development Testing	3 days	3/21/20 8:00 AM	3/23/20 5:00 PM	9	Eman Mohammed;Coffee[3]
13		UI Testing	3 days	3/8/20 8:00 AM	3/10/20 5:00 PM	8	Habiba Mohamed;Coffee[3]
14		**Software Validation**	2 days	**3/25/20 1:00 PM**	**3/28/20 1:00 PM**		
15		Acceptance Testing	2 days	3/25/20 1:00 PM	3/28/20 1:00 PM	12	Ahmed Habeeb;Coffee[2]



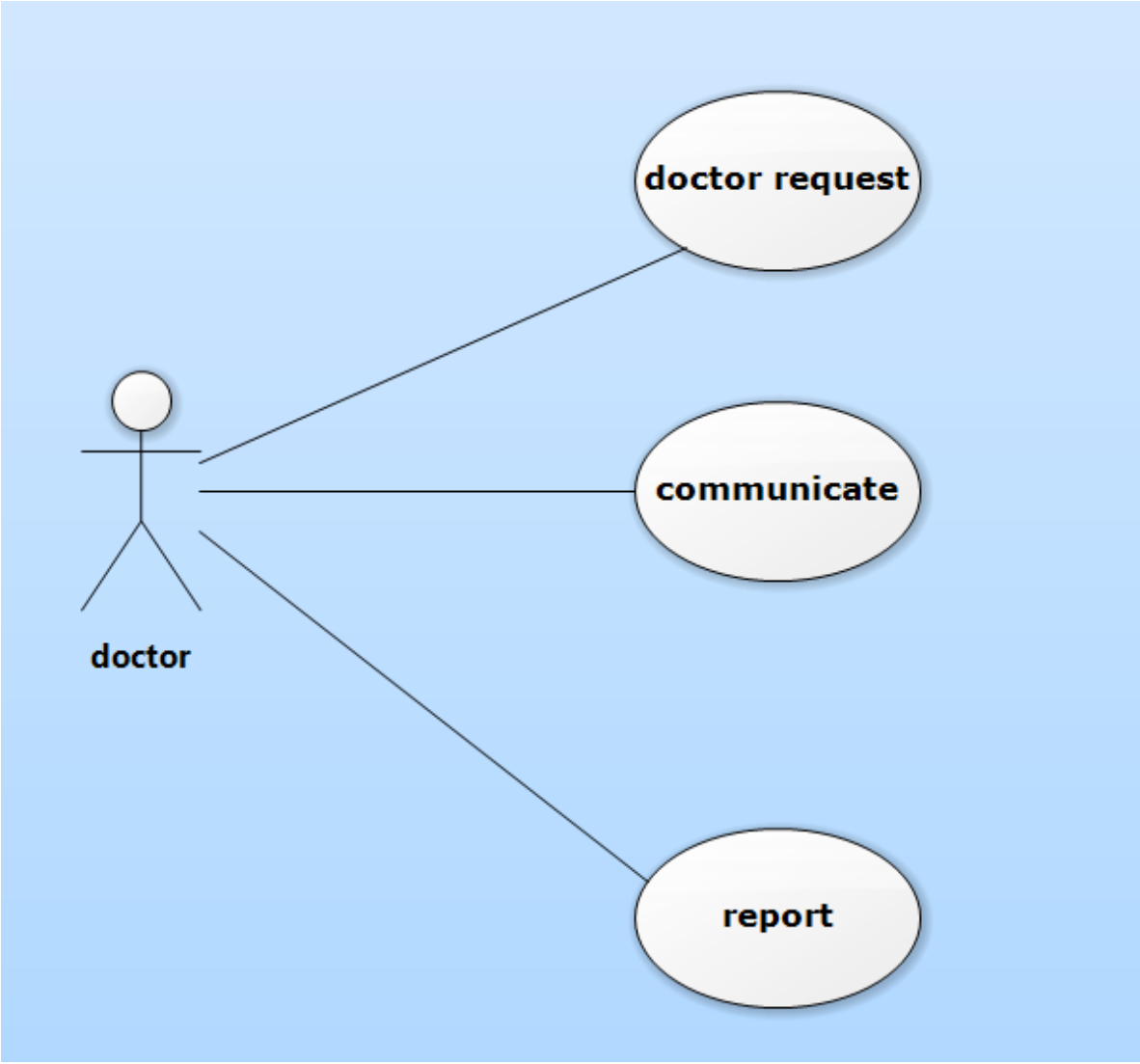
Use case diagram of **System**



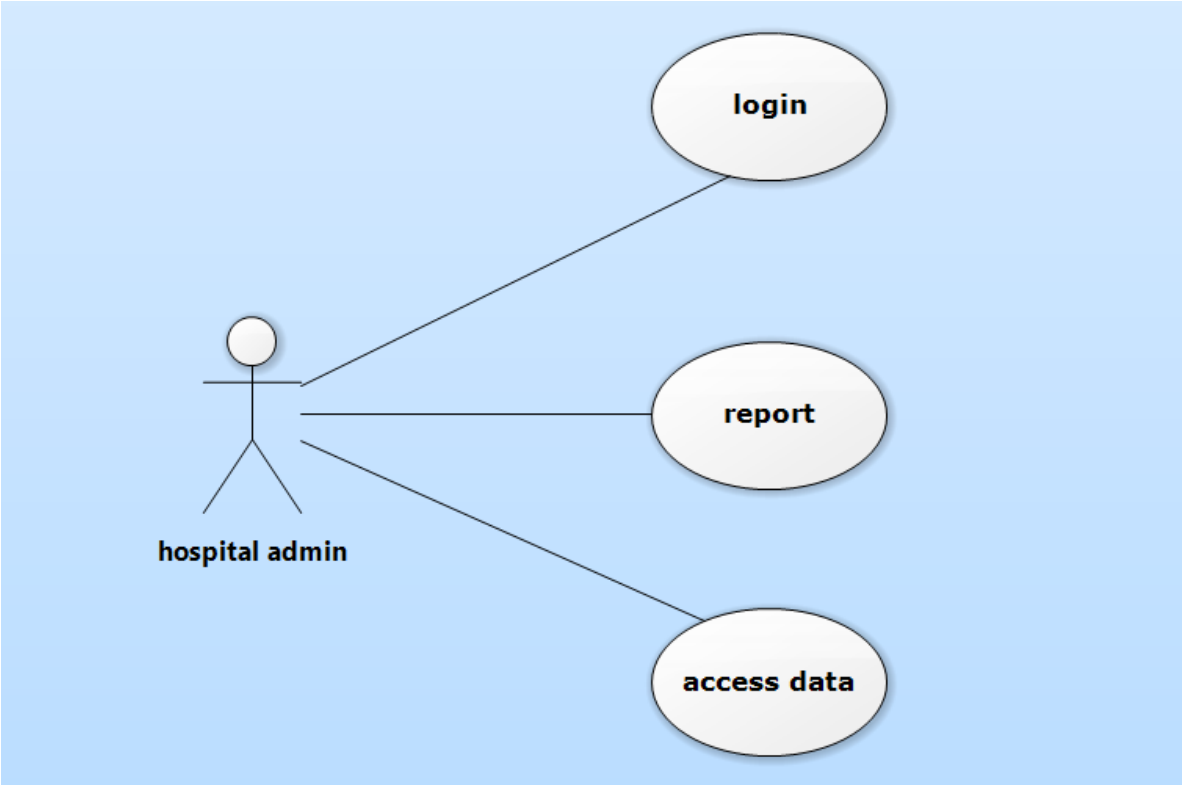
Use case diagram of **Patient**



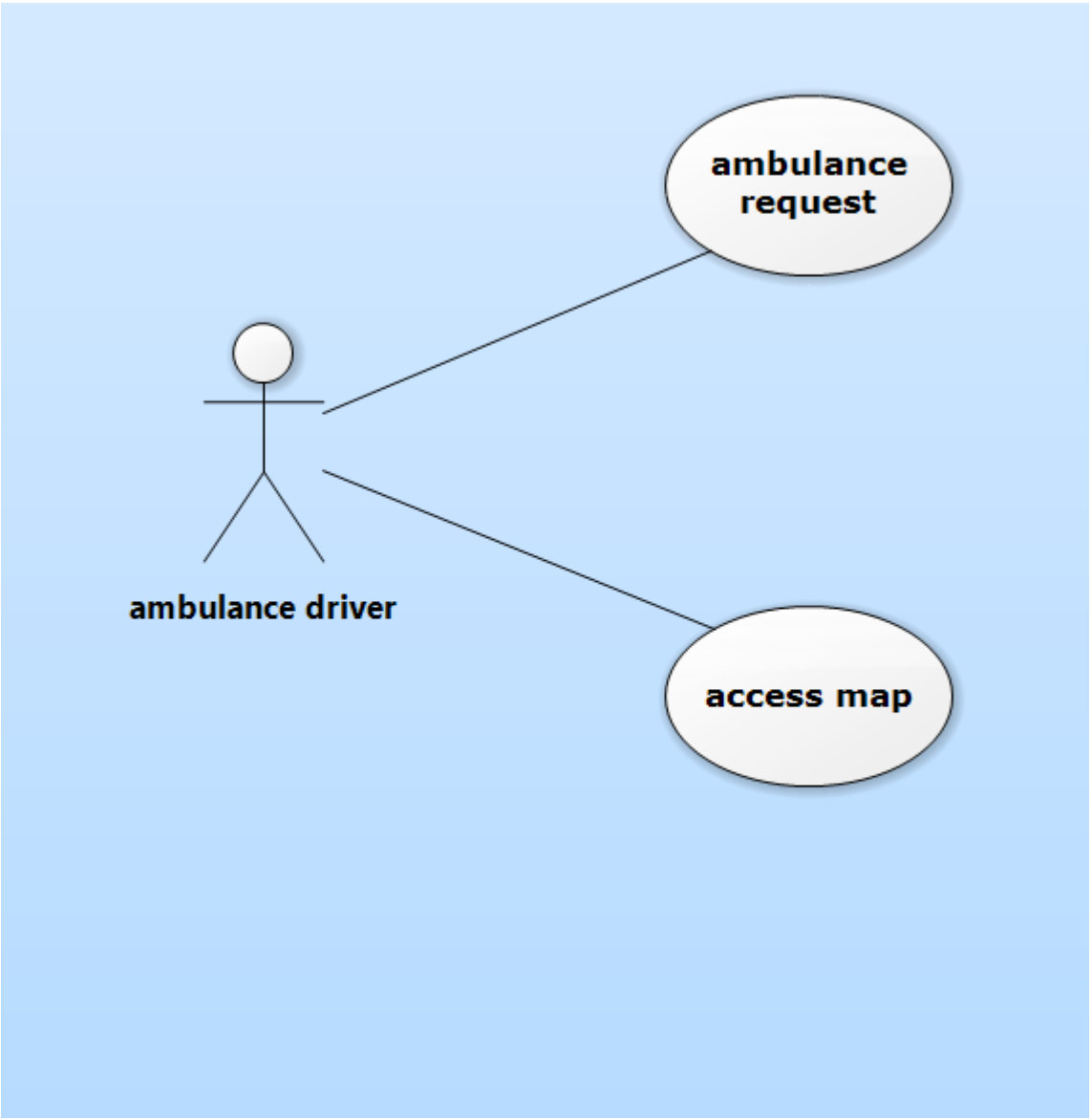
Use case diagram of **Doctor**



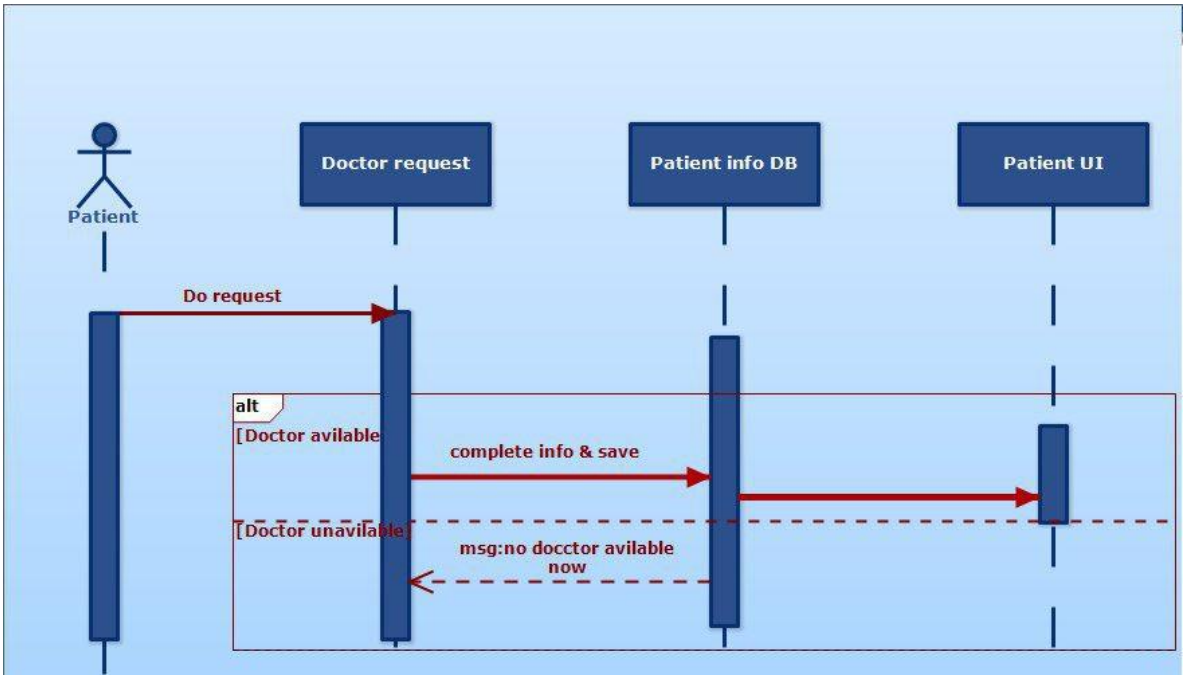
Use case diagram of **Hospital Admin**



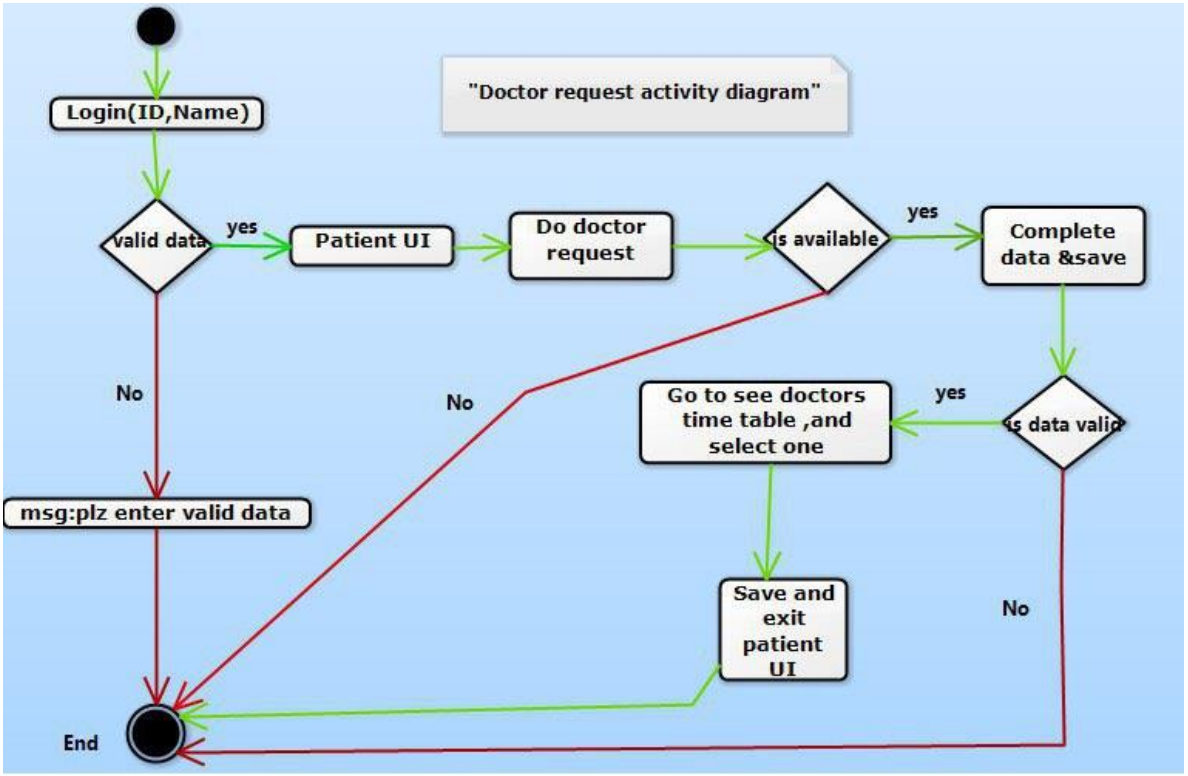
Use case diagram of **Ambulance Driver**



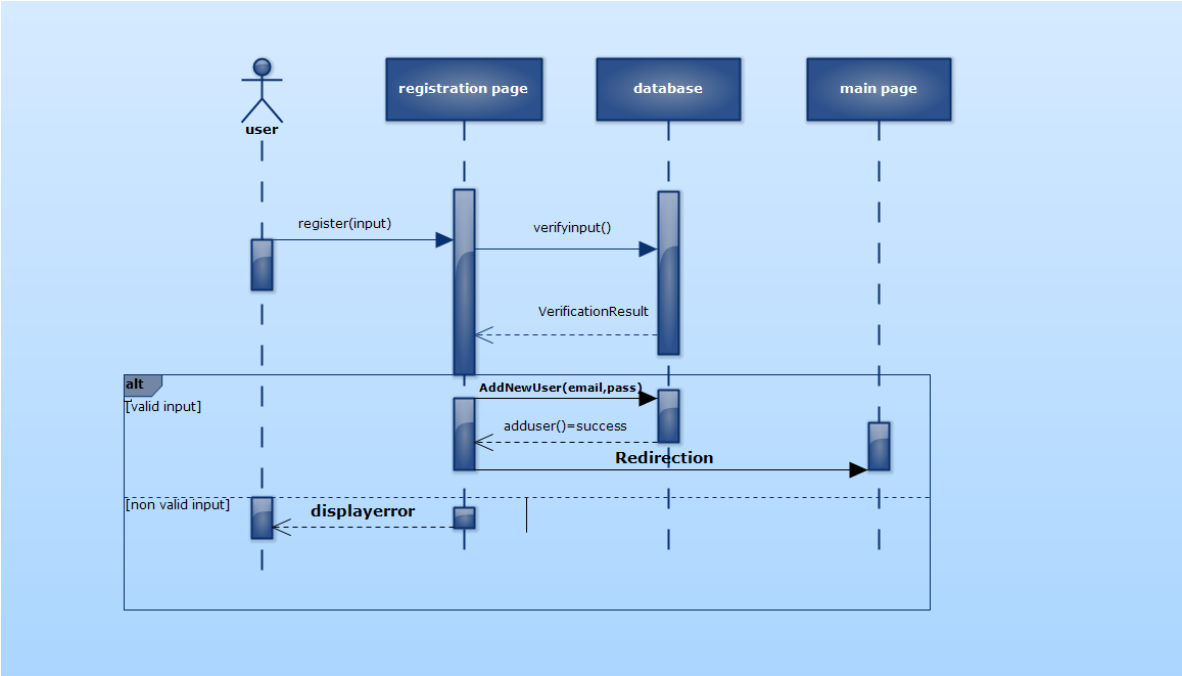
Doctor Sequence diagram



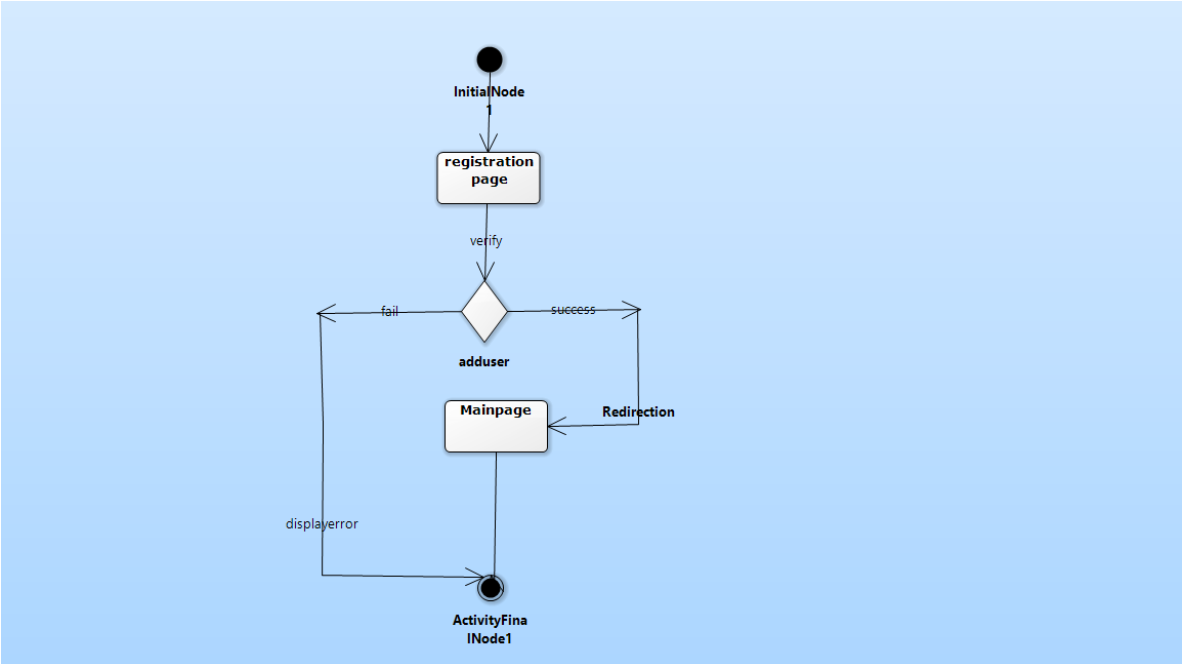
Doctor Activity diagram



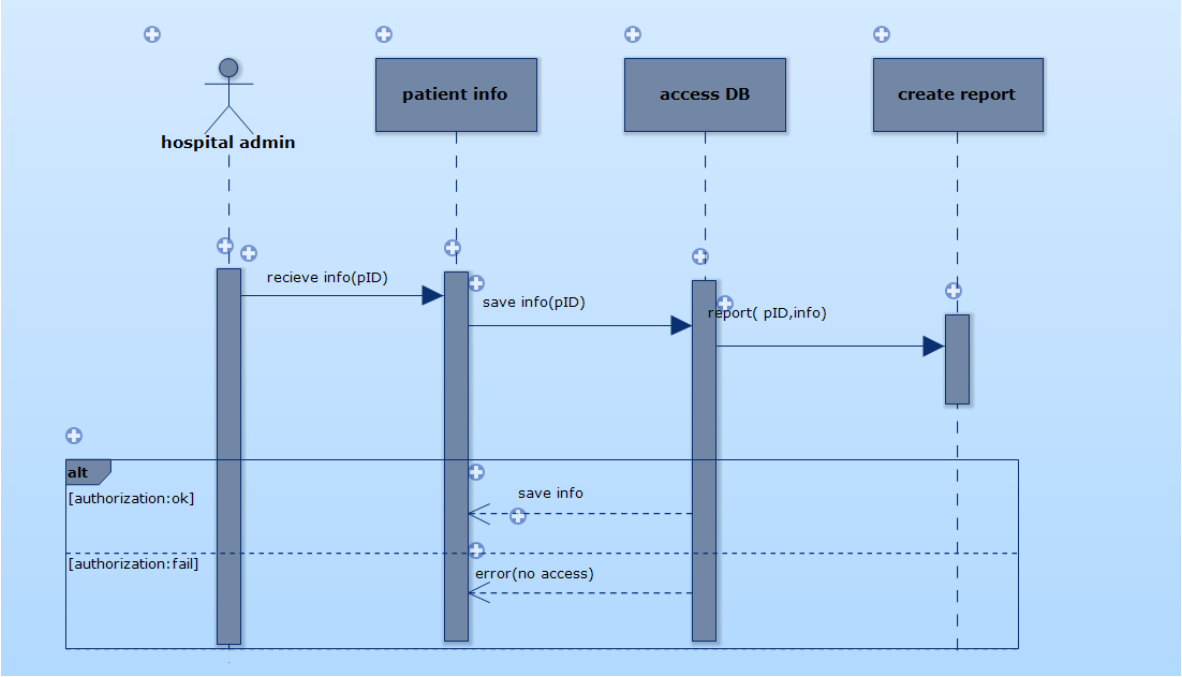
Registration Sequence diagram



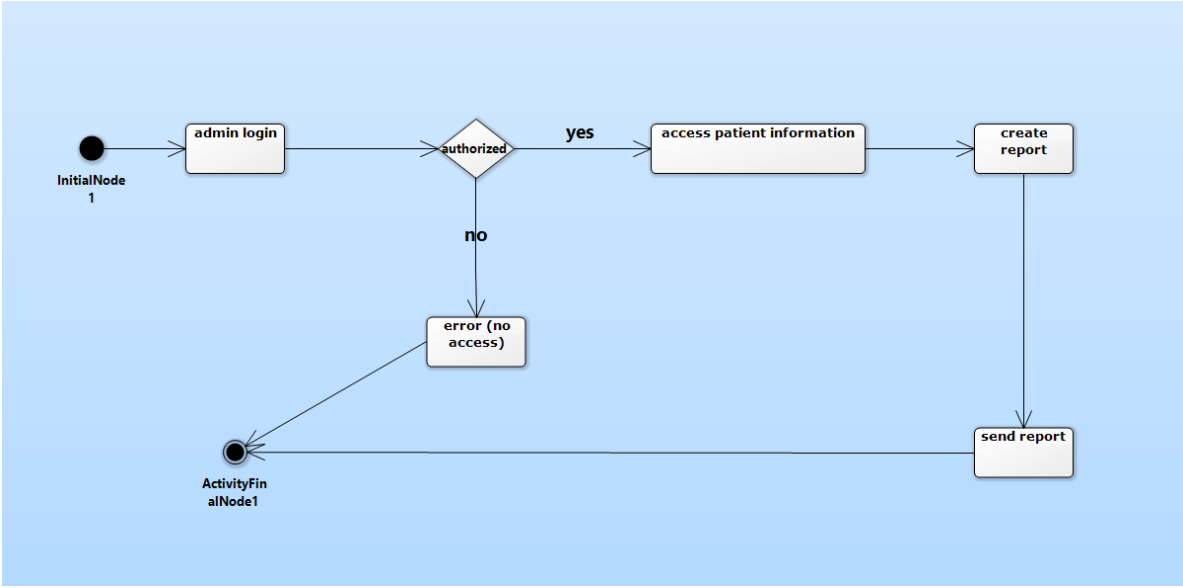
Registration Activity diagram



Report Sequence diagram



Report Activity diagram



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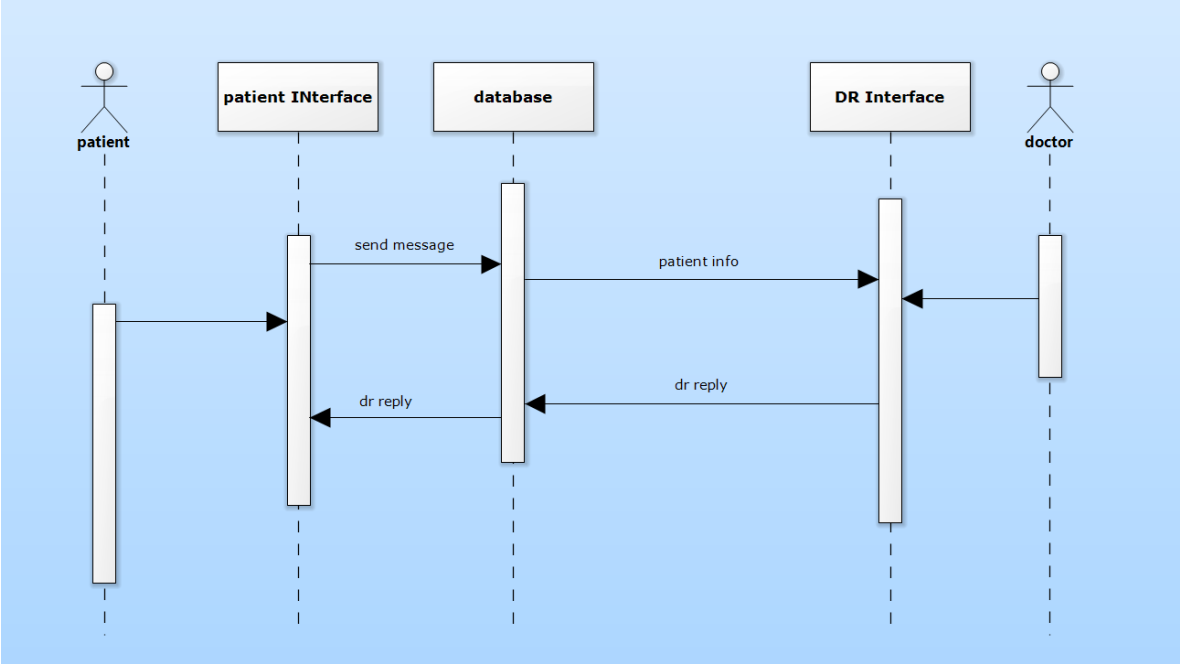
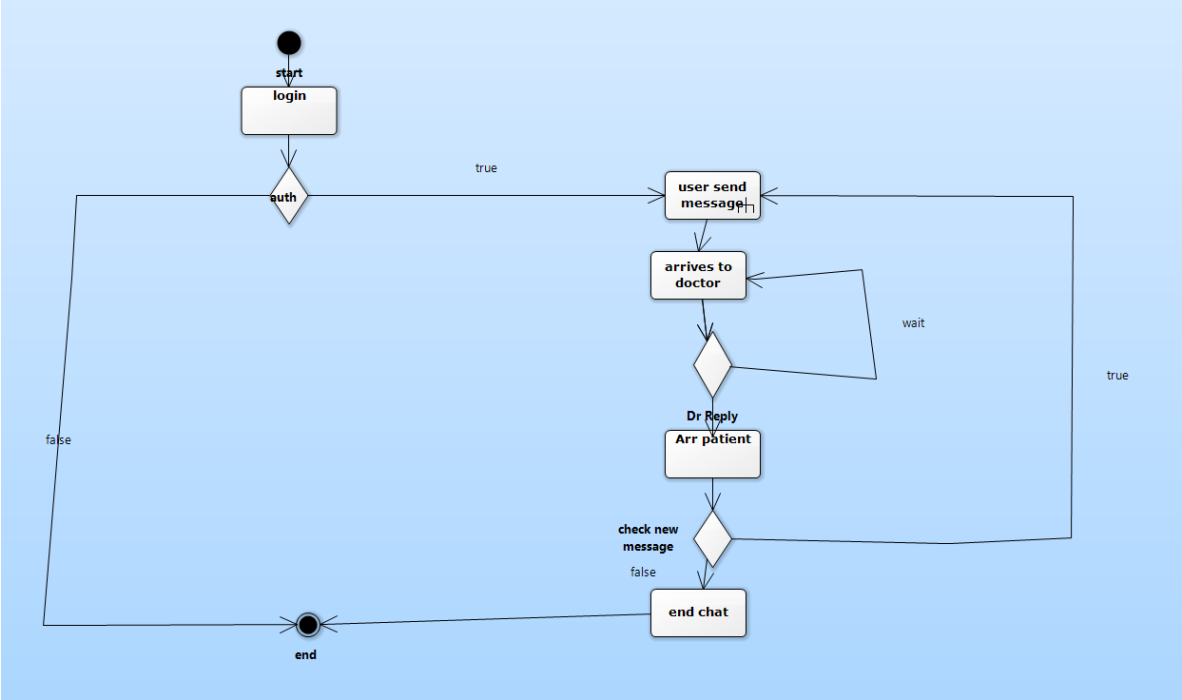
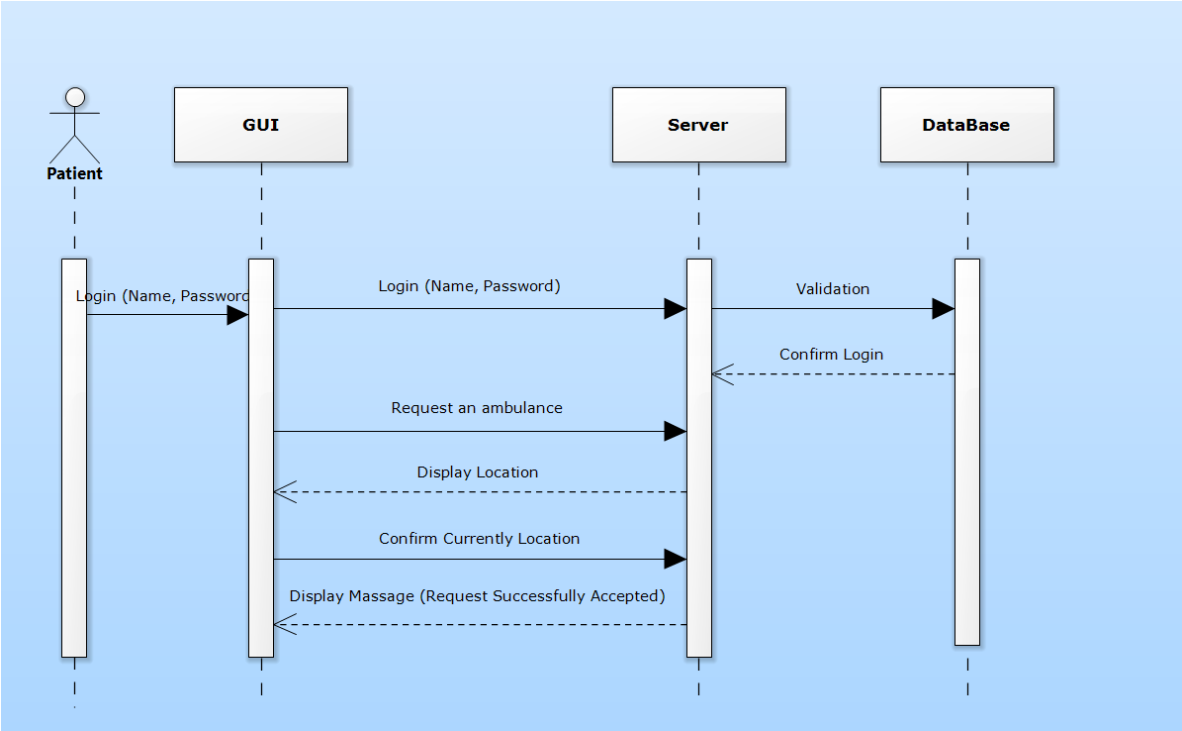
Communication Sequence diagram



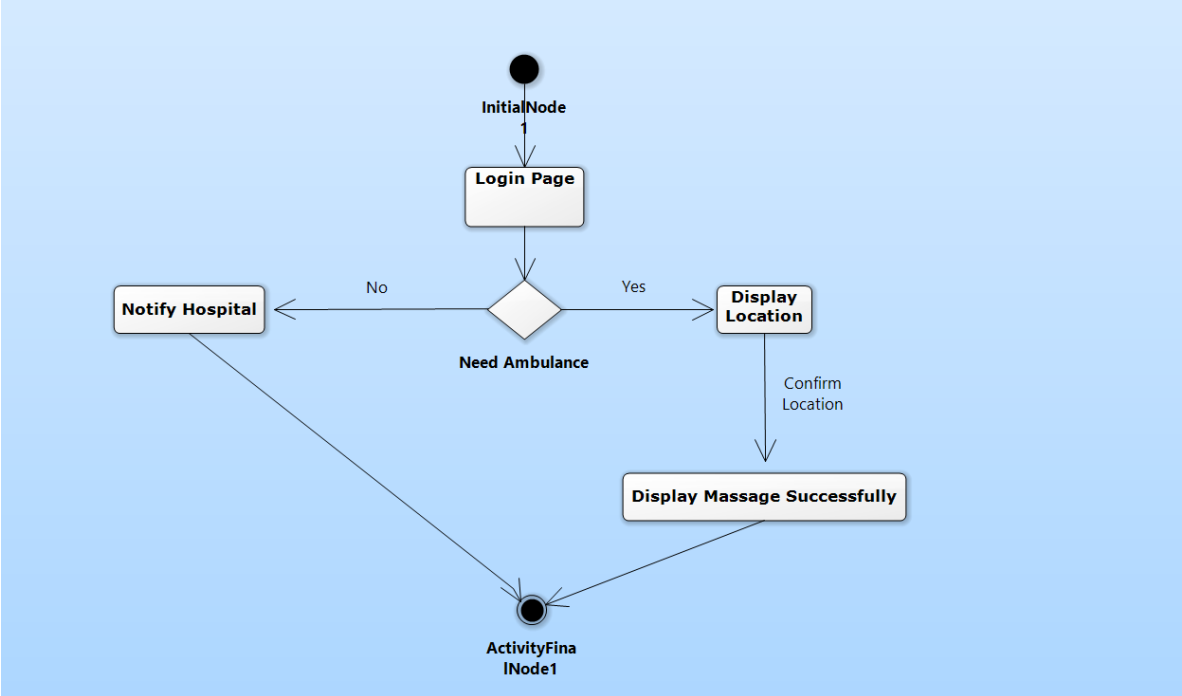
Communication Activity diagram



Ambulance Sequence diagram



Ambulance Activity diagram



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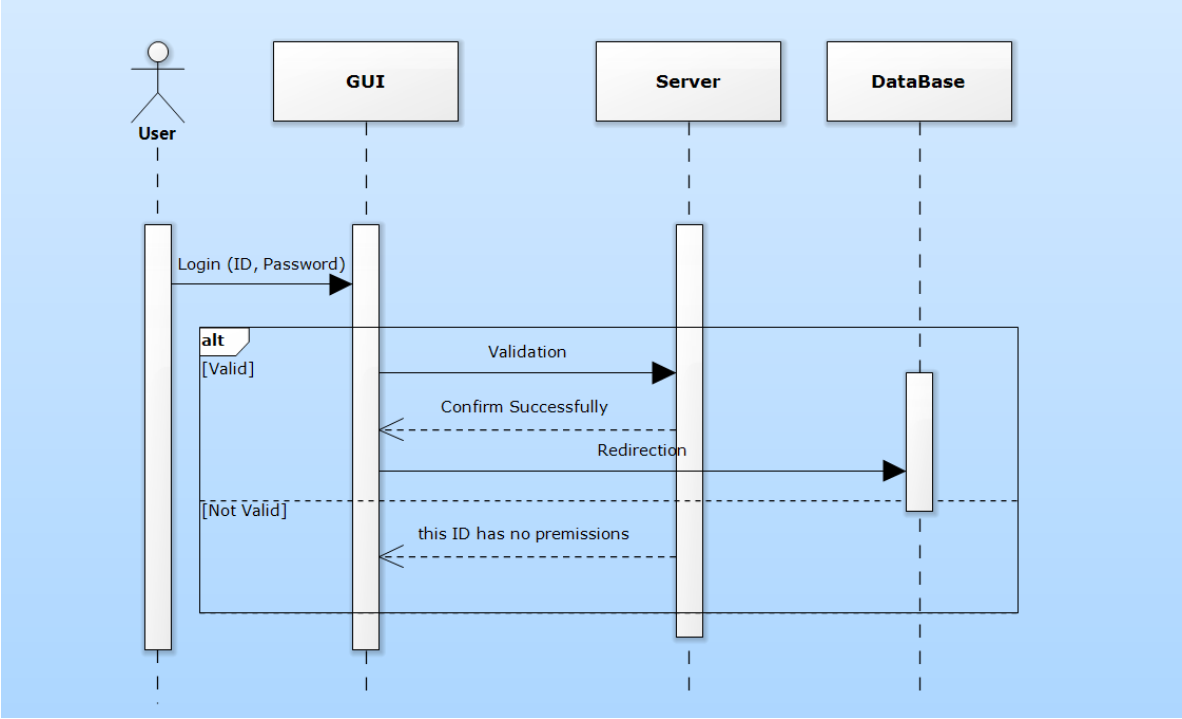
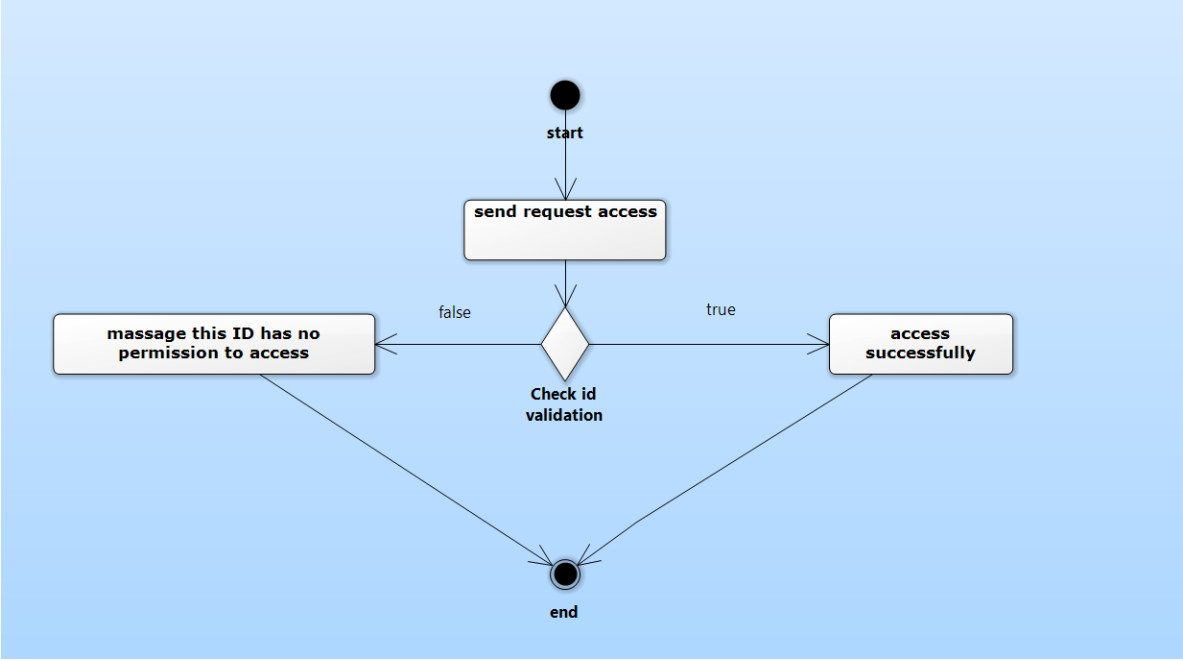
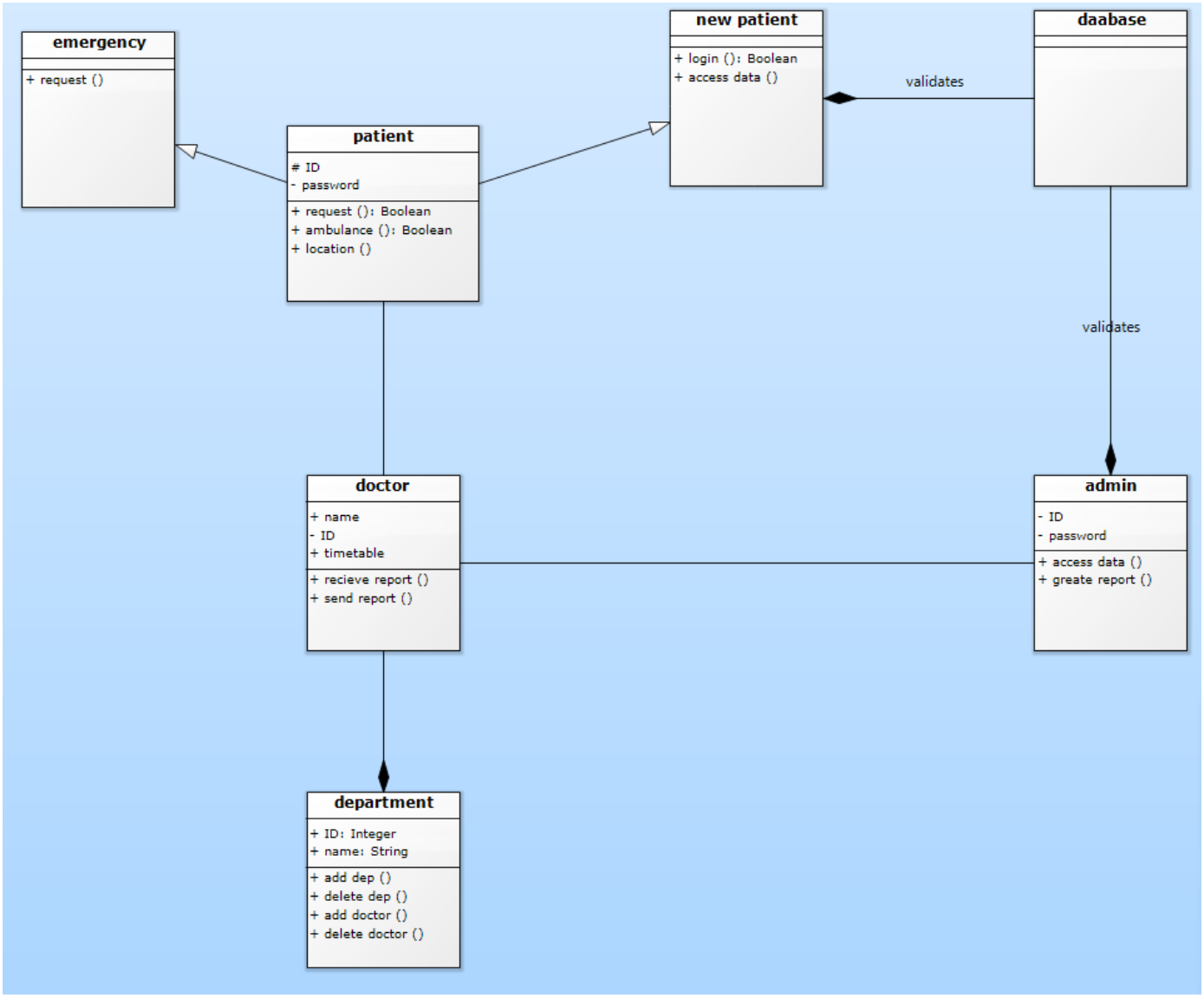
Access Sequence diagram



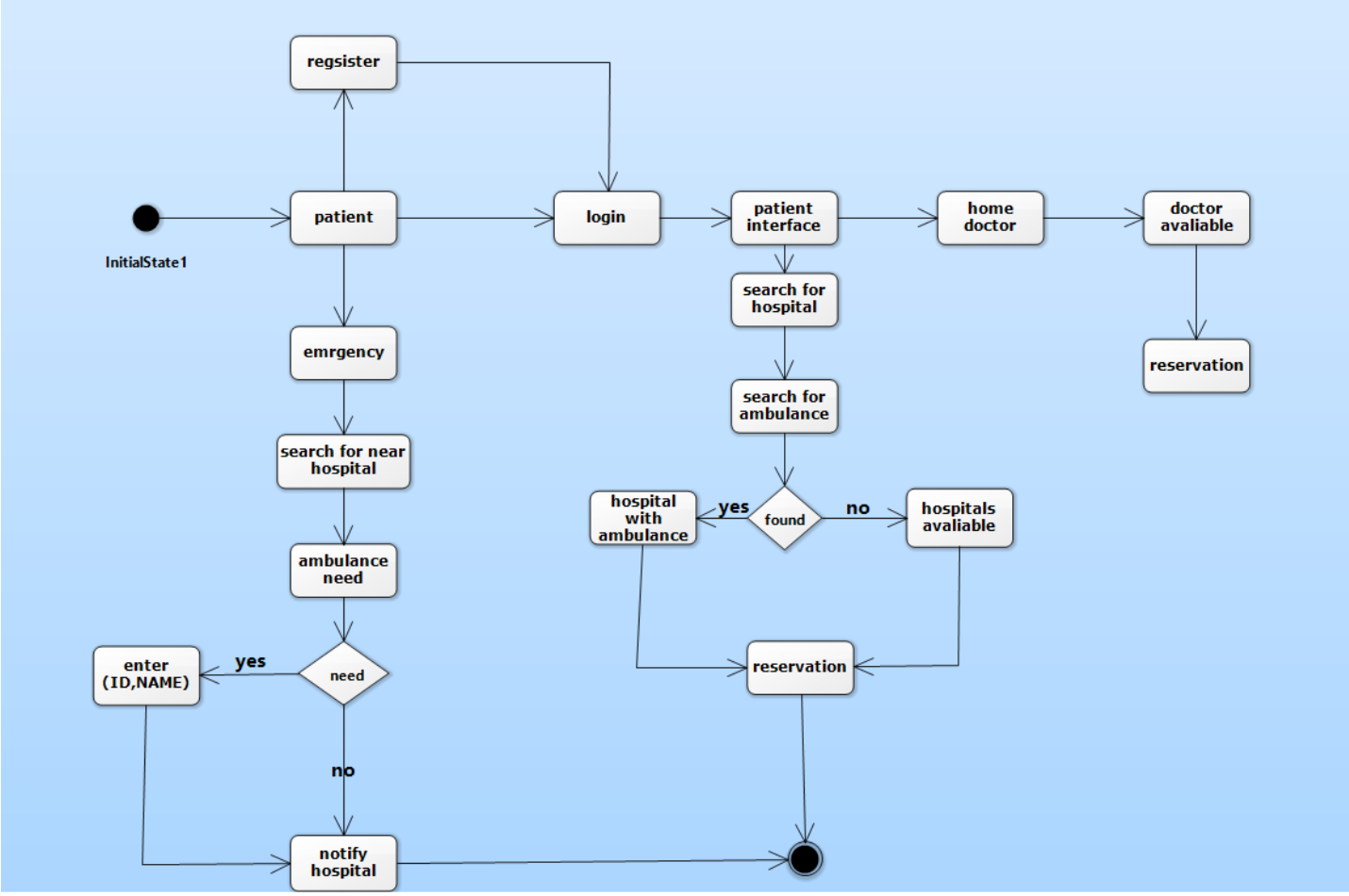
Access Activity diagram



Class diagram



State Machine diagram



Thanks :")