Software Requirements Specification

For

City Health Care Portal

Submitted by

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Revision History

Version	Date	Author	Reason for Change

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Purpose of the Document

The purpose of this document is to enlist the software requirements and specifications for the 'Smart City Care Portal' which will be helpful for the individual who are needed hospital emergency services under one intelligent software portal.

Intended Audience

This document is intended for developers, users, testers and project managers for the purpose of understanding the design of systems in terms of different perspectives. Further, this document contains functionalities and characteristics of the system along with the working environment. It also includes other information related to systems such as external interface requirements, features and other non - functional requirements.

Comments And Suggestions

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Abbreviations

Sr. No.	Abbreviation	Full Form
1.	SRS	Software Requirements and Specifications
2.	ANSI	American National Standards Institute
3.	SQL	Structured Query Language
4.	DTO	Data Transfer Object
5.	DAO	Data Access Object
6.	MVC	Model View Controller
7.	HTML	Hypertext Markup Language
8.	CSS	Cascading Style Sheets
9.	ReactJS	ReactJS
10.	HTTP	Hypertext Transfer Protocol
11.	Bootstrap	React Bootstrap

Standards & Conventions

- ANSI/IEEE for SRS document Format

References

- https://spring.io/
- https://www.mysql.org/
- https://www.javascript.com/
- https://developer.mozilla.org/en-US/docs/Web/JavaScript
- https://hibernate.org/
- https://en.wikipedia.org/wiki/Model%E2%80%93view%E2%80%93controller

1.   Project Overview

This project City health care portal aims at to develop the software that covers all the aspects of management and operations of hospital. So, with the victim and proof of corona pandemic situation we are introducing this project. So, if further in future again pandemic situation like corona comes into human life at that time this software will help the peoples a lot in the procedure of finding facilities. This software enables the health providers to provide the operational health care availability, reduce time consumption and enhance delivery of quality of care.

The main purpose of our project is to make hospital related task easy and saves the time of public while searching health care facilities. This project maintains helps to maintains the details of hospital related queries (like oxygen availability, Bed availability etc.) With this software people can get the information of nearby hospital location wise wherever they are.

2.   Assumptions and Dependencies

2.1.   Assumptions

- There is an active internet connection with the system.
- The system has an internet browser installed.
- Users should know English language, as the user interface will be provided in English.

3.   Purpose and Scope

City health care portal is a web portal which is helpful for the individuals who are in medical emergency, this portal will provide some important necessary features to the user to access or fulfill their medical emergency needs such as booking beds, booking of blood bags, oxygen availability into the hospital. The purpose of this project is to. Currently, as we know during the Covid-19 pandemic the patients and their had to face many problems to get a proper treatment from the hospitals as there was lack of bed, oxygen, blood availability even the nearest hospitals were full, and the patients have to travel far away from their home . This City health care portal will ease the life and headache of patients and their relatives to books emergency services as early as possible and reach the nearest best suitable or selected Emergency treatment providing hospitals. However, there will also be an additional benefit for the individual to take necessary steps for curing their loved ones from emergency situations. In this project there will be three roles admin, user and hospital administration. The user will be directly contacting to the hospital administration for booking(as per requirement of their needs such as to choose hospital and select services accordingly) or get information. The hospital administration will accept the user request if they have the availability of needful services which the user require. As per the current situation, the society needs all sort of medical helps in easiest way, because their various kinds of medical issues to the users and they know only some basic information about the hospitals from which they are going to take treatment but in an emergency they are not able to decide, to which hospital they should go and take the treatment so to make this need ease this portal will provide all the basic info to the user about the Doctors and all the facilities provided by the hospital. There will be admin role who will or accept or take the hospital actions such as availability of beds , oxygen etc. The admin will also add Hospital and to update

the hospital information about the services which they provide.

- User will be able to register and login into the system by using their credentials to search the hospital detail's location wise.

- Admin can register and login into the system with the credential and he/she can add/remove/update the details of hospital.

- Hospital cane provide their information by contacting to admin.

- Services are delivered to the authorized recipient if the credentials entered are appropriate.

- User can search location wise information by using Map.

4. User Classes and Characteristics

- ● User Class:
  - ○ The user class contains attributes pertaining to users such as username, password, email etc. This is a DTO class
- ● Admin Class:
  - ○ The admin class contains attributes pertaining to admin such as username, password etc.
- ● Hospital Class:
  - ○ The Hospital class contains attributes pertaining to Hospital such as hospital registration id, password , details of hospital (For ex Bed availability, Oxygen Availability, Blood details, Ambulance details)

MVC design patterns will be followed with DAO and Service layers for the user module.

5. Operating Environment

- Software Platform:
  - ○ Front-End-React JS
  - ○ Back-End -Spring Boot
- Supported Tools
  - ○ VS code ,Eclipse, My SQL

6. Design and Implementation Constraints

- User interface is only in English. No other language option is available.
- Users can log-in with their username and password and can use services provided.

7. User Documentation

User documentation mainly comprises the resource menu on the City health care portal website which will provide medical emergency needful booking services to the user. It will give all the details about the Medical services which will be available at the particular hospital, if any user has any query about any module or functionality, one can refer to it and see how to proceed for the ease access. This report is the complete documentation of the City health care portal. It gives complete details about the features and functionalities to the end-user..

External Interface Requirements

7.1. User Interfaces

The main element is webpages using HTML5. The pages will use JavaScript ,for the view to the user .The Reactjs will be used to render the website. The website will be responsive. React bootstrap will be used for the CSS and styling of the webpages.

7.2. Hardware Interfaces

The user-end system can be either a smartphone or a computer device. The application supports all major web browsers. The web browser should be JavaScript enabled. The user interaction with the portal will be click based event.

7.3. Software Interfaces

In software interfaces, Spring Boot and Hibernate are the back-end technology used along with MySQL Database. The front-end technologies include HTML, CSS, Bootstrap, JavaScript and ReactJS. Data will be communicated between these interfaces accordingly.

7.4. Communications Interfaces

The main communication interface for interacting with the System will be the web Browser using HTTP requests.

8.   System Features

- User Registration
- User Login
- Reset Password
- Book Bed(according to the need for e.g., with oxygen ,normal bed ,Blood ,Ambulance)
- Add User
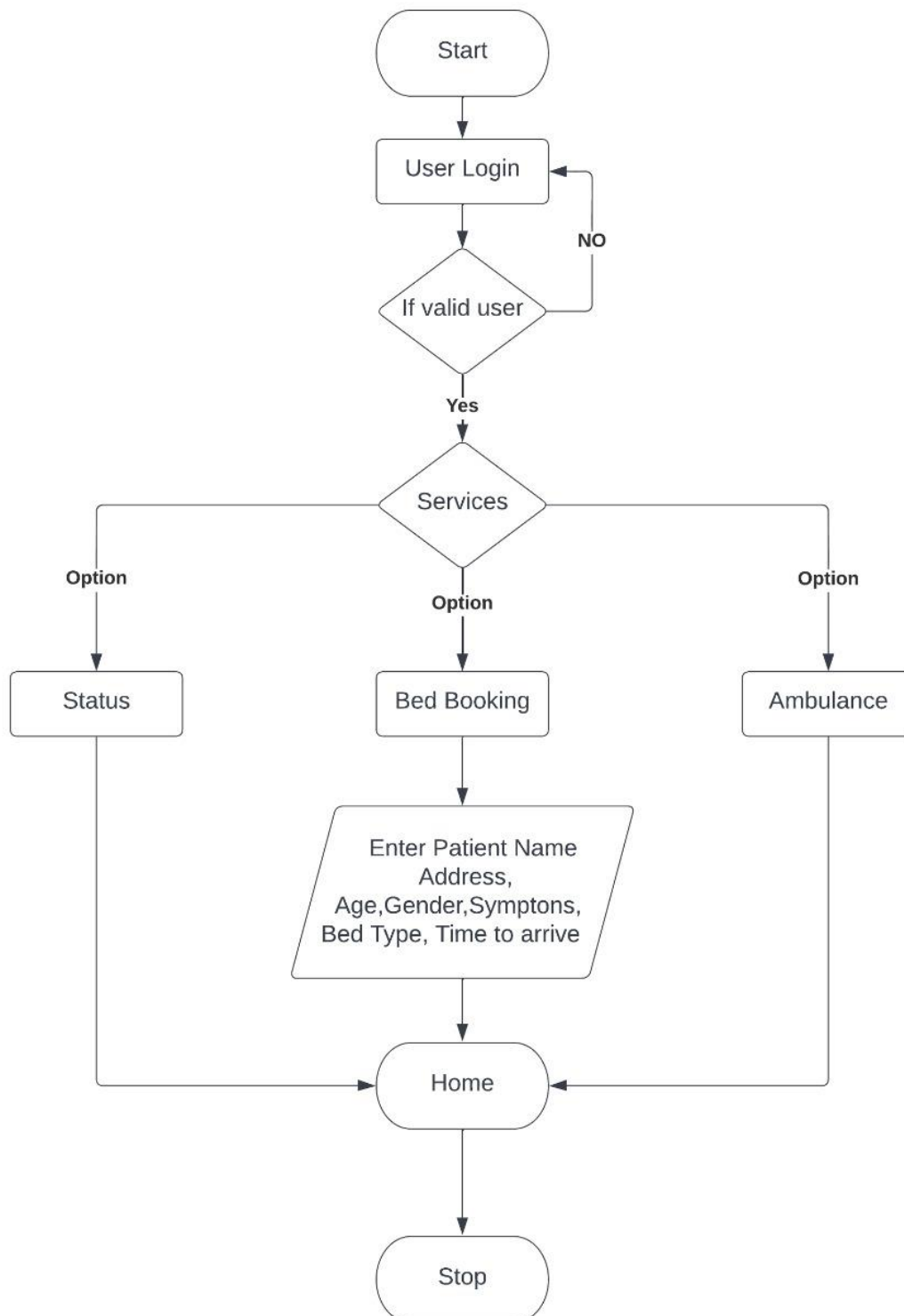- Add Hospital

8.1. Admin Module

The admin has a great level of responsibility. This is the person who:
creates and deletes all the hospital and user data, sees all the profiles and details of hospital and user
admin gather the basic information about the patients so
that they can work with this info further.
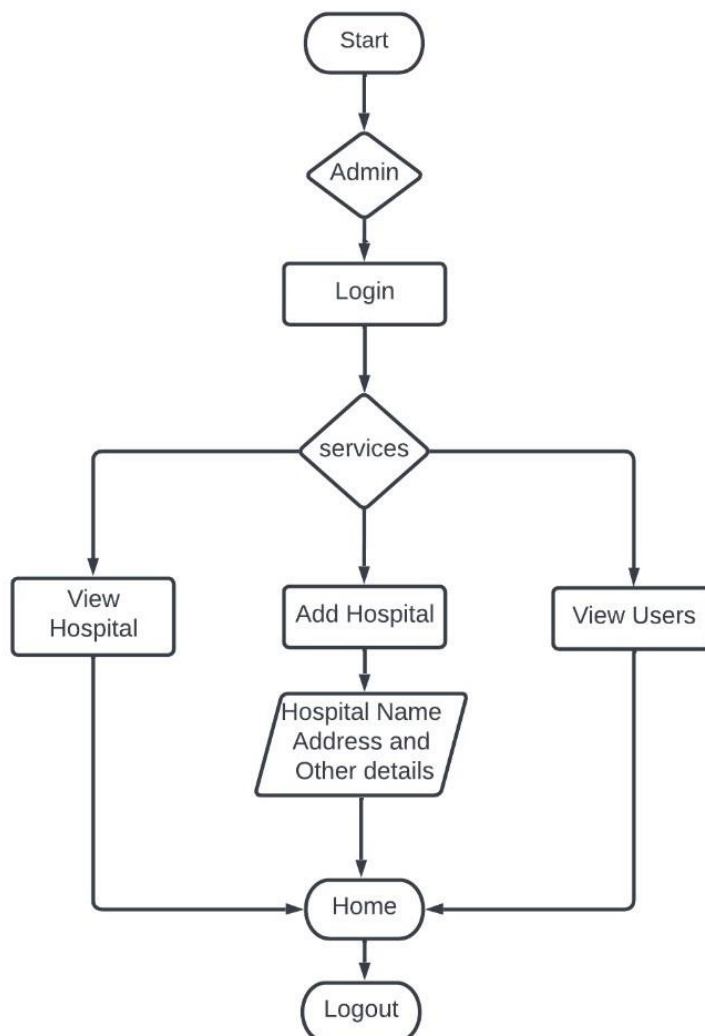
8.2. User Module

The User Module is the person who is going to use all the available services.
User can check beds availability and send request to book beds to hospitals and also user can see which specialty doctors are available at which hospital. User can also check blood and oxygen availability at hospitals and also can get contact details for each hospital to call an Ambulance.

8.3. Hospital Module

Hospital Module also an important module. This Module allows hospital to continuously

Update the data of the portal such as beds available blood availability oxygen also hospitals can give their doctors information and one more responsibility is to accept or reject the bed booking request of the users.
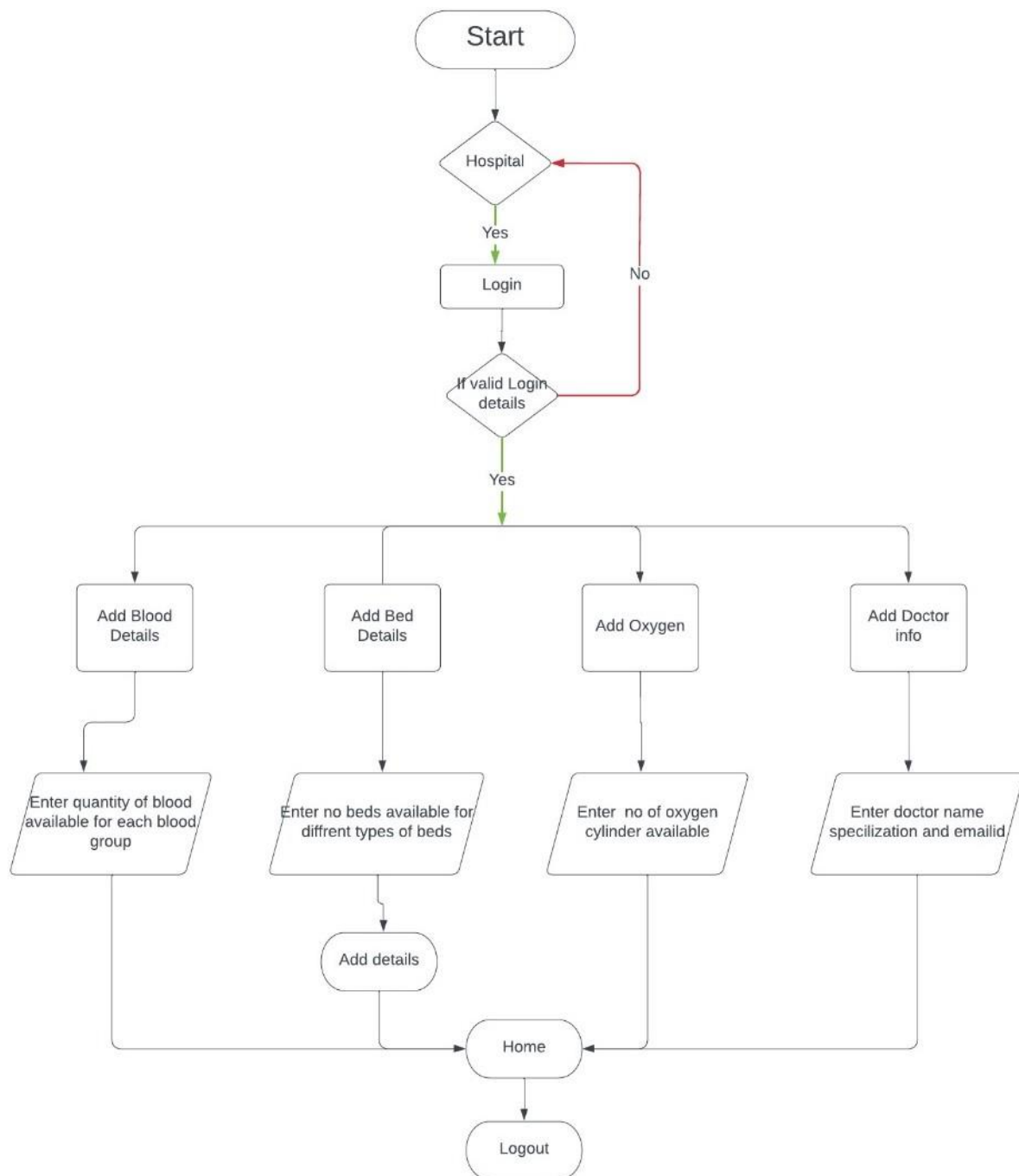
9. Other Non-functional Requirements

9.1. Performance Requirements

The system should store all the database records of each user properly and the application should be available for use 24*7 through the server. The system should authenticate and register users properly in a secured manner. Also, the application should be user friendly with a proper user interface which makes it easy for the user to understand. All the options should be present in properly accessible places for user convenience.

9.2. Safety Requirements

All login Ids and passwords of the users and hospital administration should be protected for privacy using whatever constraints required in the database or the application. User records are to be backed up securely across database servers. Incase database is hacked by someone, and data is deleted a backup server should be present for such purpose.

9.3. Security Requirements

All passwords of the users should be protected for privacy using whatever constraints required in the database or the application. The database should be protected from attacks and unauthorized access. The interface should be protected from attacks. All passwords should be encrypted and stored.

9.4. Software Quality Attributes

- **Availability**
  - The system should run on a variety of operating systems that support the JavaScript language. The system should run on a variety of hardware.
- **Accessibility**
  - The software will be accessible to admin, user, hospital administration.
- **Compatibility**
  - The software will be compatible with multiple platforms.
- **Durability**
  - The software will be tested for working with multiple users.
- **Effectiveness**
  - The software will be made to handle operations effectively.
- **Maintainability**
  - The system should be easy to maintain. There should be a clear separation between the interface and the business logic code. There should be a clear separation between the data access objects that map the database and the business logic code.

9.5.   Business Rules

Users have to login properly to access their profile to take the benefits of the services provided by the portal.

Other Requirements

- Programming for the development of this portal should done in such a way that the even a layman can take the benefits of the portal and make their life easier for taking health benefits. The UI should be designed in such a way that the user can easily understand the features of the portal and select according to the users need.

10.   Appendix

Appendix A: Glossary

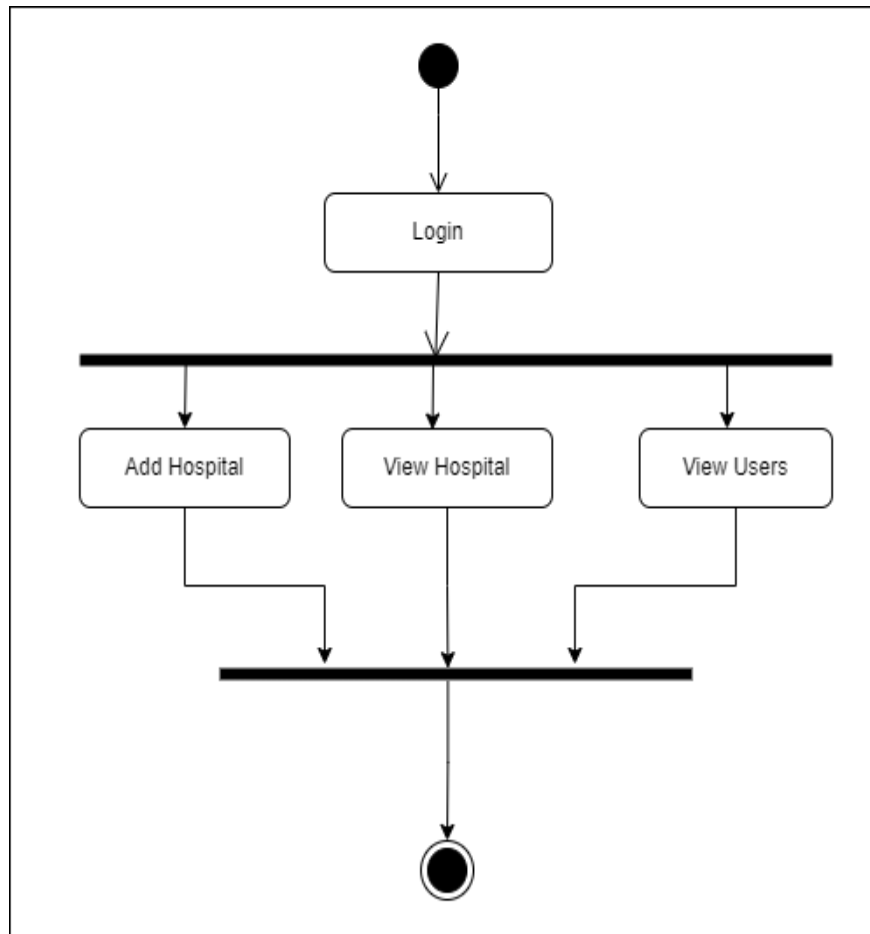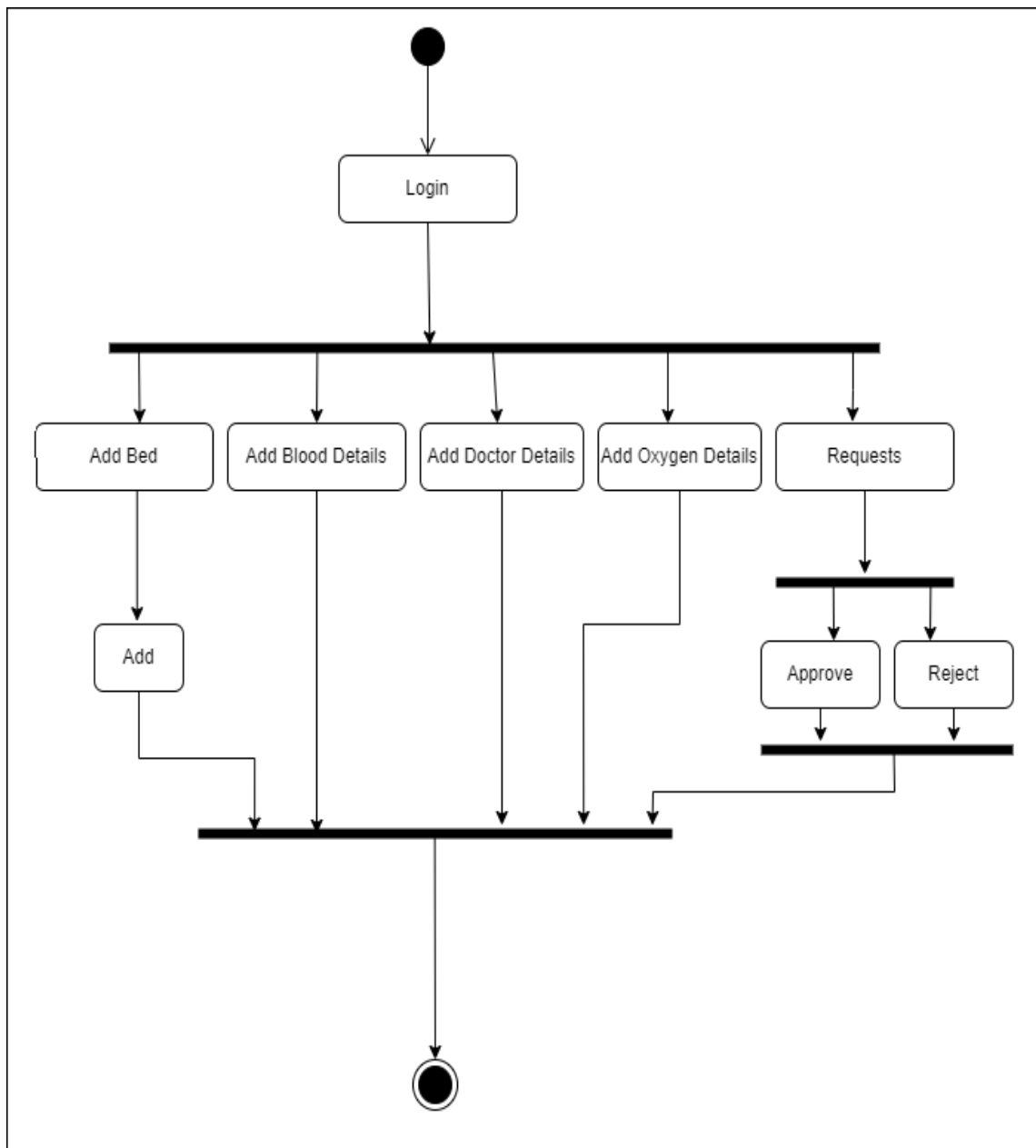| Sr. No.	Abbreviation	Full Form
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Appendix B: Analysis Models

- **Use-Case Diagram:**
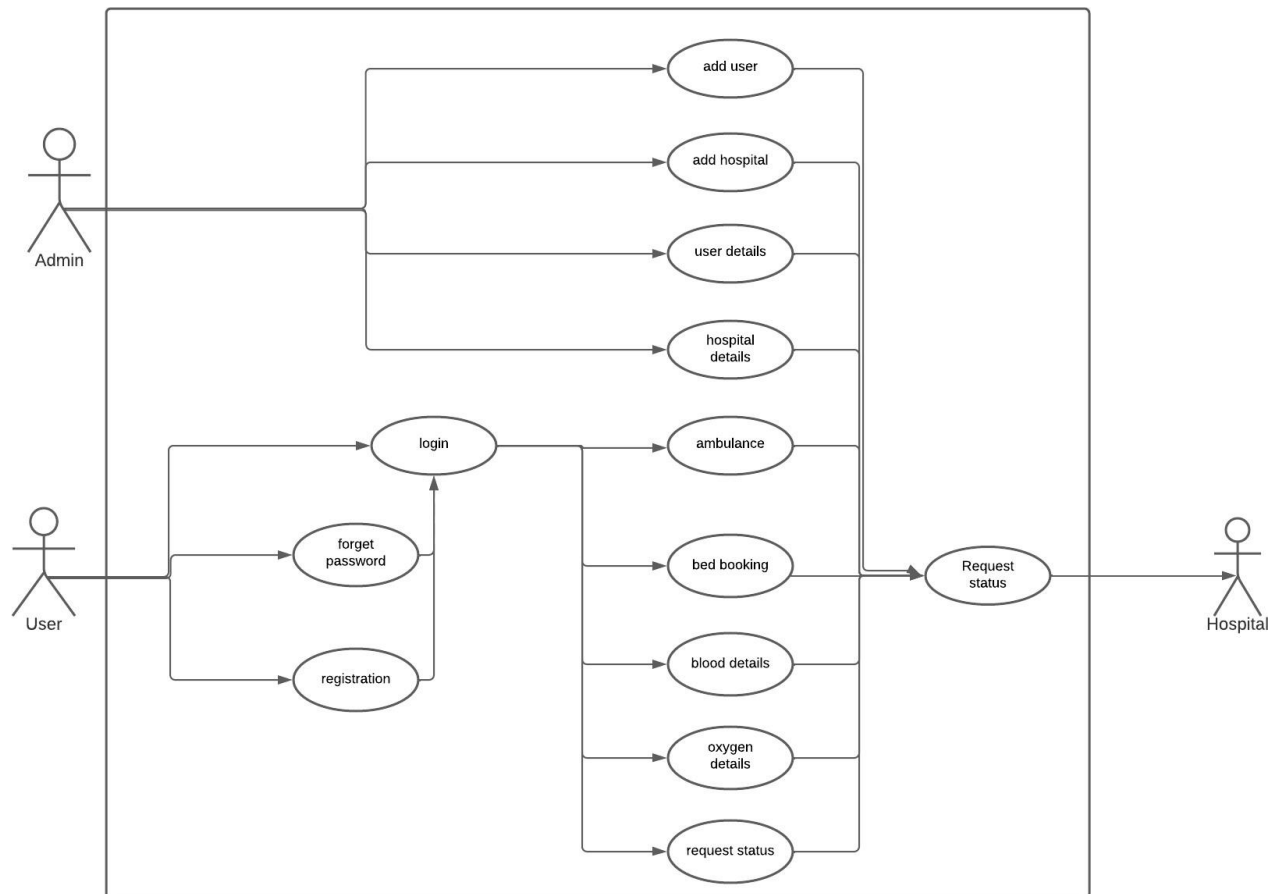
- **Activity Diagram:**
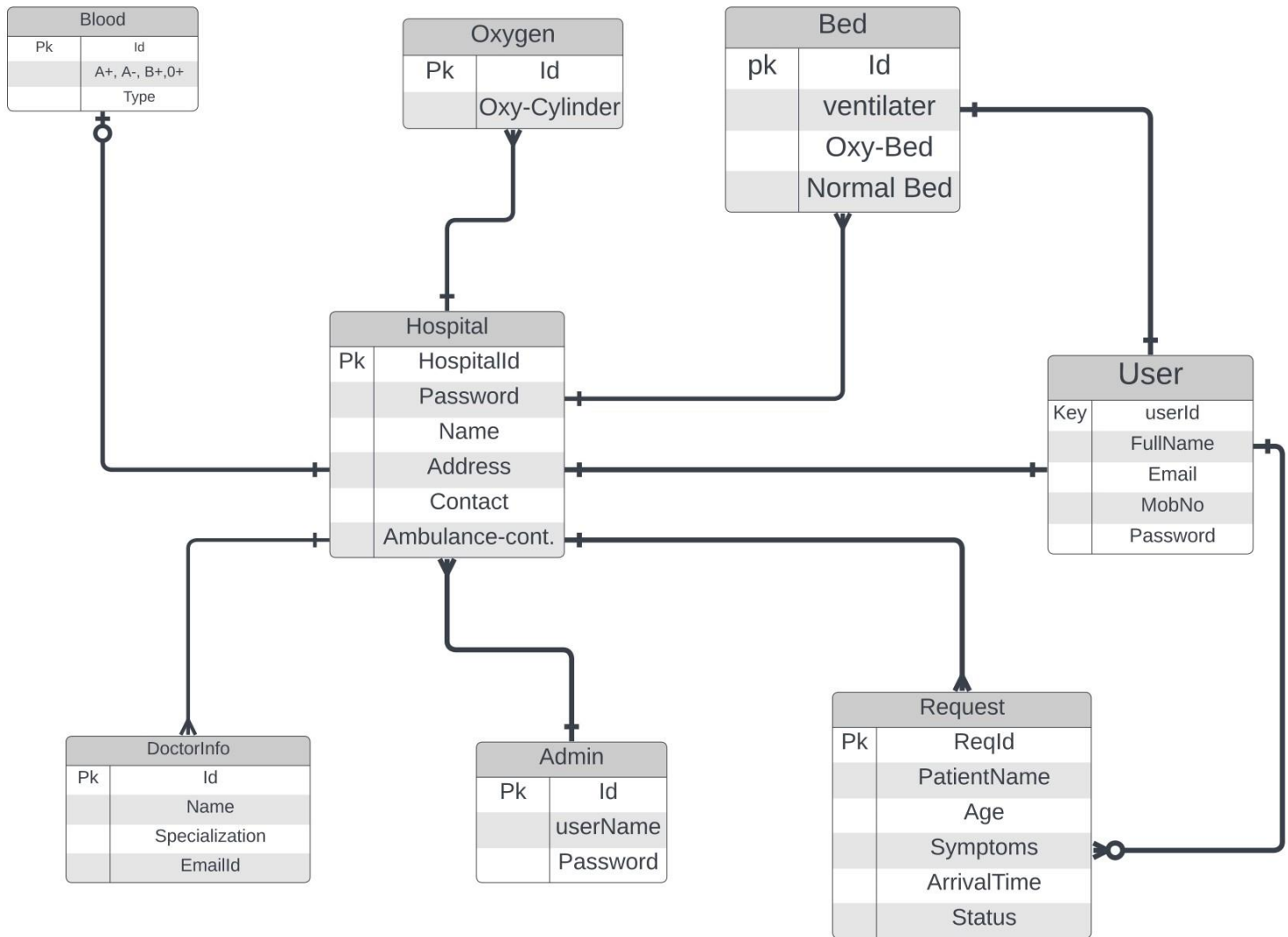
a)Admin Module

b) Hospital Module

c)User Module
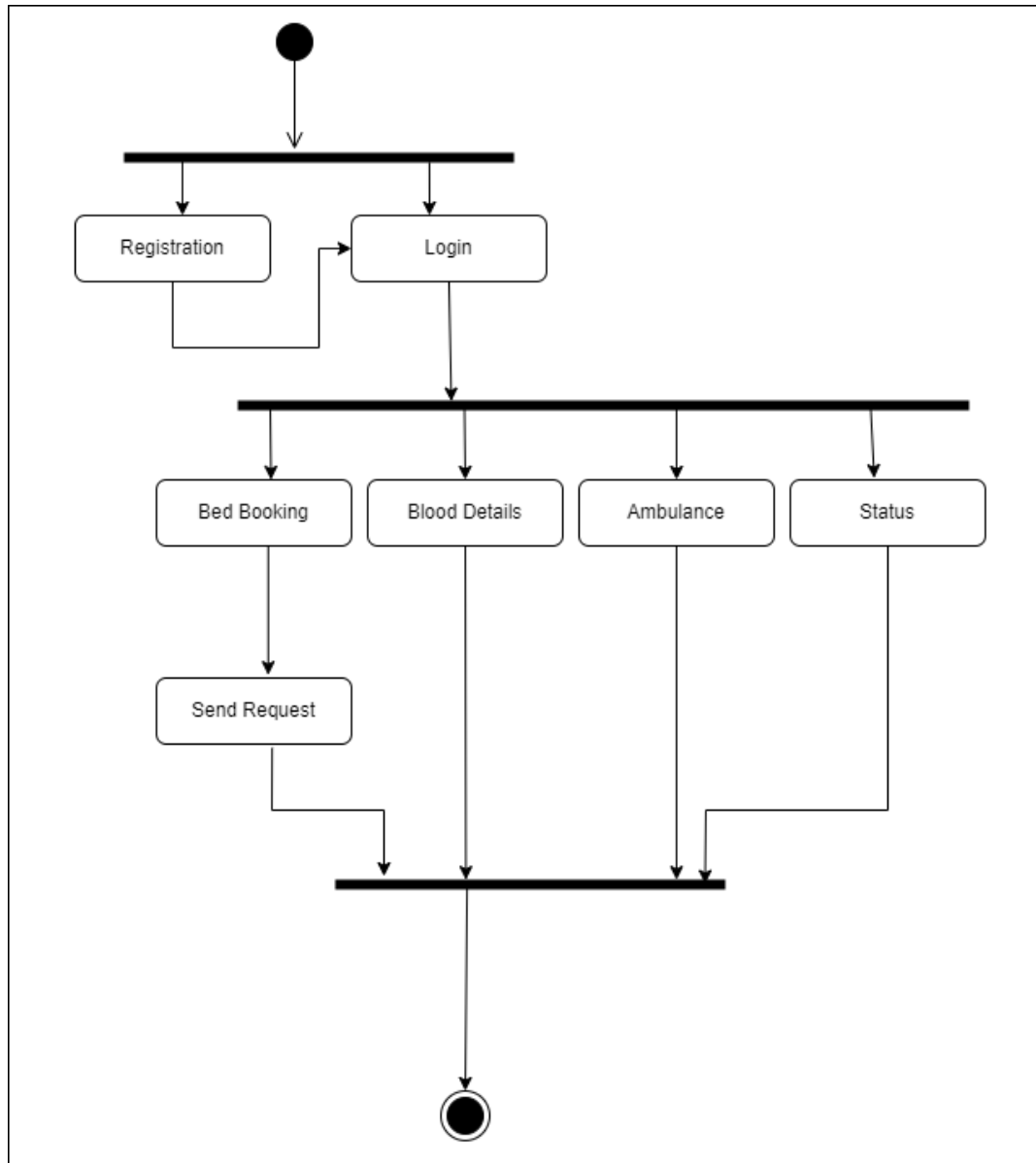
● **ER Diagram:**

- **Class Diagram:**

<<interface>>
LoginInterfaceDAO

+ isValidUser(user,pass):bool

LoginDAOImple

-hibernate Template :
Hibernate Template

+ isValidUser(user,pass):bool

<<interface>>
userInterface

+bookBed()
+bloodDetails()
+oxygenDetails()
+sendRequest()
+viewAmbulance
+viewProfile()

<<interface>>
adminInterface

+addHospital()
+viewHospital()
+viewUser()

<<interface>>
HospitalInterface

+addBed()
+addBlood()
+addOxygen()
+viewRequest()
addDoctorInfo()

Admin

+addHospital()
+viewHospital()
+viewUser()

Hospital

+addHospital()
+viewHospital()
+viewUser()

User

+bookBed()
+bloodDetails()
+oxygenDetails()
+sendRequest()
+viewAmbulance
+viewProfile()