



**TERM PROJECT**  
**Online Health Management System**  
**DEPARTMENT OF COMPUTER SCIENCE**  
**ITCS 6112**  
**Software Systems Design and Implementation.**

**Group members:**

**SPANDANA INTURI**

**801167554**

[sinturi1@uncc.edu](mailto:sinturi1@uncc.edu)

**KRISHNA VISHWANATHAM**

**801156395**

[kvishwa1@uncc.edu](mailto:kvishwa1@uncc.edu)

**SHIVA SAI PRANEETH**

**801147603**

[schakina@uncc.edu](mailto:schakina@uncc.edu)

## Index

<b>Sr. No.</b>	<b>Content</b>	<b>Pg. No.</b>
1	Abstract	3
2	Introduction	4
3	Materials and Methods	5
4	Results	8
5	Conclusion	10

### **1. Abstract**

Our aim is to create an Application to ease the Healthcare workers to track the patient details and clearly have idea on the availability of the doctors to make an appointments. This application will help in reducing the manual work of the healthcare workers, patients. This web portal also helps in maintaining the patient record so that doctors can easily handle the patients according to their history.

The application is developed using Front end technologies HTML5, CSS3 and Java Framework JSP. Coming to Backend technologies we have used Servlets and Database as MySQL connected using JDBC (Java Database Connectivity) framework. The application aims to make the requesting doctor's appointment process more efficient and easier to handle.

The primary goal of creating this system is to diminish the repetitive manual work at Health focus counters. Every kind of task is performed by the system, such as registering different types of actors (i.e. doctors, patients and others), appointment booking, and history check etc. Doctors and the patients can access the application with the help of the URL which redirect to the web page. A patient can use the web application to choose a doctor to make appointments with.

## 2. Introduction

### 2.1. Overview of the Project.

To create the web application for the Healthcare Management system, we have first considered doctor and patient registration, appointment booking. There are number of hospitals which are currently have manual system which have more repetitive and laborious work and also error prone to computerize the same for quicker efficient results and customer satisfaction. This application will ease healthcare scenario.

### 2.2. Project Goal.

Faster and online processing of the Healthcare System would mean better service to the patients. It would also help in the major complexity of maintaining the records manually and thus very less time is wasted on iterative work. Proper maintenance of the patient information and ability to schedule appointment with doctor or lab is key feature of this system. Towards this achievement the computerization of the Healthcare system will help greatly in maintaining proper information.

As current manual system is slow repetitive and error prone to computerize the same for quicker efficient results, online healthcare management system is the correct solution for that.

### 2.3. End User advantages.

This application is useful in various ways as the information about doctor's availability and online appointment booking with doctor. Patient and doctor, both can view patient history for reference. Also, all the information about the patients and doctors are maintained in the database.

### 3. Materials and Methods

We have followed Software development Lifecycle methodology in different phases, which describe the system's life cycle model to develop the software project. This concept includes not only the forward motion but also have the possibility that returns that is cycle back to an activity previously completed. This cycle back or feedback may occur as a result of the failure with the application/system to meet the performance objective or as a result of changes in redefinition of system activities. Like most systems, the life cycle of the computer-based system also exhibits different phases.

The different phases are:

- Requirement Analysis
- Designing
- Development
- Coding
- Validation

#### 3.1. Requirement Analysis:

The Requirement analysis phase includes the identification of the problem, in order to identify the problem, we must know information about the problem, the purpose of the evaluation for problem to be known. We should clearly know about the client's requirements and also the objectives of the application which needs to be created. Feasibility analysis involves the benefits of various approaches and the determination of the alternative approaches a\through methods like questionnaires and interviews etc., different data about the project is collected and the data throughout the project is represented in the form of UML Diagrams.

### **3.2. Design**

Software design is the process through which the requirements are translated into a representation of a software. One of the software requirements have been analyzed and specified, the software design involves three technical activities: design, coding generation and testing. The design of the system is in modular form i.e., the software is logically partitioned into components that perform specific functions and sub functions. The design phase leads to modules that exhibit independent functional characteristics. It can even lead to interfaces that reduce the complexity of the connections between modules and with the external environment. The design phase is of main importance because in this activity, decisions ultimately affect the success of s/w implementation and maintenance.

#### **3.2.1. Use case Diagram:**

A use case diagram is a dynamic or behavior diagram in UML. Use case diagrams model the functionality of a system using actors and use cases. Use cases are a set of actions, services, and functions that the system needs to perform. In this context, a "system" is something being developed or operated, such as a web site. The "actors" are people or entities operating under defined roles within the system.

#### **3.2.2. Class Diagram:**

Class diagram is a static diagram. It represents the static view of an application. Class diagram is not only used for visualizing, describing and documenting different aspects of a system, but also for constructing executable code of the software application. Class diagram describes the attribute and operations of a class and also the constraints imposed on the system. The class diagrams are widely used in the modeling of object oriented systems because they are the UML diagrams, which can be mapped with object oriented languages. Class diagram shows a collection of classes, interfaces, associations, collaborations and constraints. It is also known as “Structural Diagram”.

### **3.2.3. Sequence Diagram:**

A Sequence Diagram is an interaction diagram that shows how the objects can operate with one another and in which order. It is a construct of the message sequence chart. A sequence diagram that shows the object visualizations arranged in the time sequence. It can depict the objects and classes that are involved in the scenario and the sequence of the messages exchanged between the objects needed to carry out the functionality of the scenario. Sequence diagrams are typically associated with the use case realizations in the Logical View of the system under the development process. Sequence diagram shows parallel vertical lines (lifelines), different processes or objects that live simultaneously, and as horizontal arrows, the messages exchanged between them, in the order in which they occur. This allows the specification of simple runtime scenarios in the graphical manner.

### **3.3. Develop:**

The development phase includes the choosing of a suitable software or tool like eclipse IDE to solve the particular problem given. The various facilities and the sophistication in the selected software gives a better development of the solution. In the development phase, all the documents from previous phase are transformed into the actual system. The two primary activities involved in the development phase are as follows:

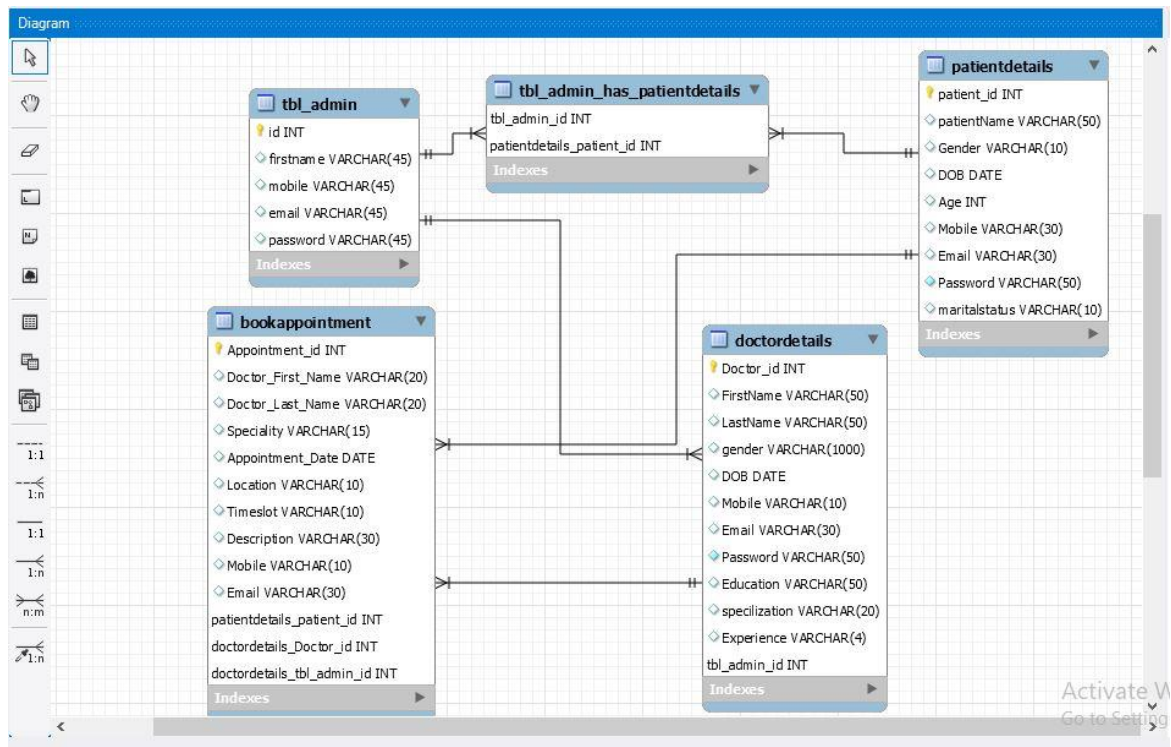
- Development of Application code
- Development of Schema/Database and Querying

### **3.4. Validate:**

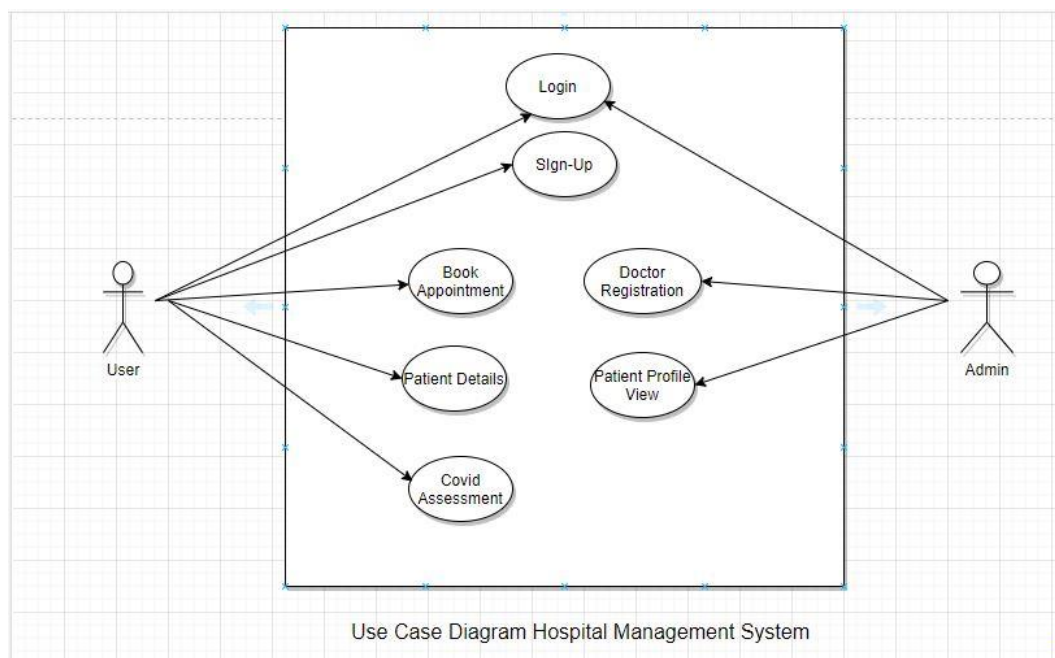
Verification and validation are intended to display that the created application can conform to its specification and also meet the requirements of the client. System testing involves the execution of the system with all the test cases that are extracted from the specification of the practical data that needs to be processed by the system. Testing is done in various ways such as testing the algorithm, programming code. Sample data debugging is also one of the testing techniques.

## 4. Results (UML Diagrams)

### 4.1. Class Diagram

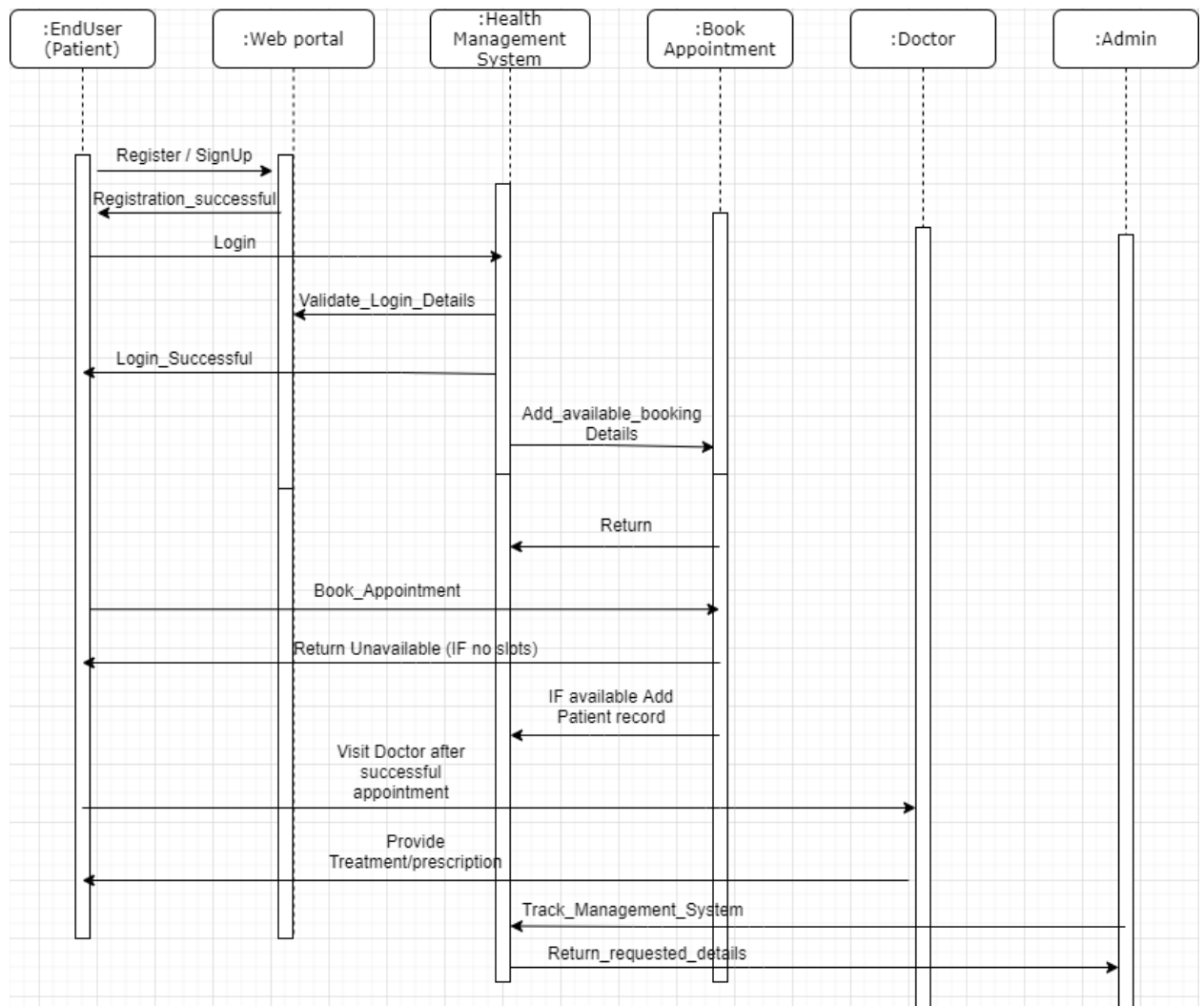


### 4.2. Use case Diagram





## 4.3. Sequence Diagram



### **5. Conclusion:**

The Online Healthcare Management System can help the end users (patients) to look out for an appointment and book it in case of any health issue which eliminates the work to go to the clinic physically and book an appointment. Apart from the patient, the doctors can also access the online healthcare management system to check their schedule and the appointments raised by the Patients. Admins can manage and track the health management system. Finally, this application can ease the healthcare experience by reducing the repetitive work by patients and doctors.