**Kathmandu University**

**Department of Computer Science and Engineering**

**Dhulikhel, Kavre**

**A Project Proposal**
**on**
**"Doctor Sewa - An Online Doctor Appointment System"**

**[Code No : COMP 206]**

**(For partial fulfillment of II Year / I Semester in Computer Science/Engineering)**

**Submitted by**

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**Submitted to**

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**Department of Computer Science and Engineering**

**Submission Date: 12 February, 2023**

# Cover Letter

To,

The Coordinator of Department

Department Of Computer Science and Engineering

Kathmandu University, Dhulikhel, Kavre

12 February, 2023

Subject : Approval of project proposal

Respected Madam,

We are extremely pleased to present a proposal for our project, which provides a detailed comprehensive approach of the same. We, the students of Computer Science, have intended to perform a project, entitled “Doctor Sewa” which is an online doctor appointment system. The main objective of this proposal is to explain the possibility and feasibility of the project, that can be done for the required fulfillment of the course designed for II Year | I Sem.

We hope that you go through the document and leave your signature if you agree with the proposed plan and ideas, any suggestion for modification and improvements are highly appreciated.

With best regards,

Mr Kapil Adhikari

Mr Rojan Gautam

Mr Siddhant Khadka

Mr Anish Pradhan

# Abstract

The increasing demand for healthcare services and the growing need for convenience has led to the development of online doctor appointment systems. This capstone project entitled “Doctor Sewa” aims to create a user-friendly and efficient online doctor appointment web application for the patients to schedule appointments with doctors. The system will allow patients to search for doctors, view their profiles and availability, and book appointments online.

Our project “Doctor Sewa” uses JavaScript as the programming language, MongoDB as the database management system. We will be using ReactJS for front-end and Node.js for back-end development. ReactJS is a declarative, efficient, and flexible JavaScript library for building reusable UI components. Node.js is a back-end JavaScript runtime environment.

The system will be designed to ensure that patients have access to quality healthcare services from the comfort of their homes. The use of the system will reduce waiting times, increase accessibility and decrease the crowd in hospitals. The implementation of our project “Doctor Sewa” will help healthcare providers to provide better client management. The analysis and implementation result shows that our project is feasible and implementation is highly recommended by the researchers.



**Keywords:** capstone, user-friendly, database, front-end, back-end, UI components, runtime environment.

# Acronyms/Abbreviations

| | |
|---|---|
| UI | User Interface |
| JSON | JavaScript Object Notation |
| SQL | Structured Query Language |
| NoSQL | Not only - SQL |

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# Chapter 1: Introduction

## 1.1 Background

The healthcare industry is constantly evolving and adapting to meet the growing needs of patients. With the advancements in technology, there has been an increasing trend towards digitalization of healthcare services. One area that has seen significant growth in this regard is online doctor appointment systems. Online doctor appointment systems have been developed to provide patients with the ability to schedule appointments with healthcare providers from their homes or workplace. This eliminates the need for patients to physically visit a healthcare facility to schedule appointments, reducing waiting times and increasing accessibility to healthcare services.

Despite the growth of online doctor appointment systems, there are still a significant number of patients who are unable to access these services due to various reasons, such as lack of access to technology or lack of awareness. Moreover, many existing systems are not user-friendly, making it difficult for patients to use them effectively.

Our project aims to address these challenges by developing an online doctor appointment system that is user-friendly, efficient, and accessible to all patients. The system will be designed to make it easier for patients to find and book appointments with healthcare providers, improving the overall healthcare experience.

## 1.2 Objectives

The main objective of this project are :

- To develop a user-friendly online doctor appointment system for patients to schedule appointments with healthcare providers.
- To improve waiting time and provide convenience to patients.
- To provide real-time updates to patients regarding their appointments and any changes or updates.
- To contribute to the growth of the digitalization of healthcare services and improve access to quality healthcare for patients.

## 1.3 Motivation and Significance

The motivation behind the development of our project “Doctor Sewa” is to address the growing need for efficient healthcare services. In Nepal, there is use of a manual appointment scheduling system which makes the patients plagued by several problems such as long wait times and limited availability of doctors. In the context of rural areas, doctors visit only once or twice a month. There is a tradition of first come first serve in Nepal and it will be difficult to manage the patients and the quality health services can’t be provided because the number of patients will be more and they are unknown of schedule.

The significance of our project “Doctor Sewa” lies in the potential impact it can have on the healthcare industry and the general public. By providing a comprehensive and integrated platform, the online doctor appointment system will streamline the appointment scheduling process, reduce wait times, and improve patient experience.

## 1.4 Expected Outcomes

Our project “Doctor Sewa” will provide a user-friendly user interface. One with the basic knowledge can interact with our web application. Doctors can login with their own credentials, notify the patients if he/she is unavailable and see the list of appointments. Clients also can register and login with their credentials. Clients will be able to take appointments with doctors online. They also can check the availability of doctors. There will be features of online payment from E-wallet like esewa and khalti.

# Chapter 2: Related Works/Existing Works

## 2.1 Mero Doctor

The Mero Doctor app is the quickest and easiest way to book appointments and consult online with top doctors of Nepal.

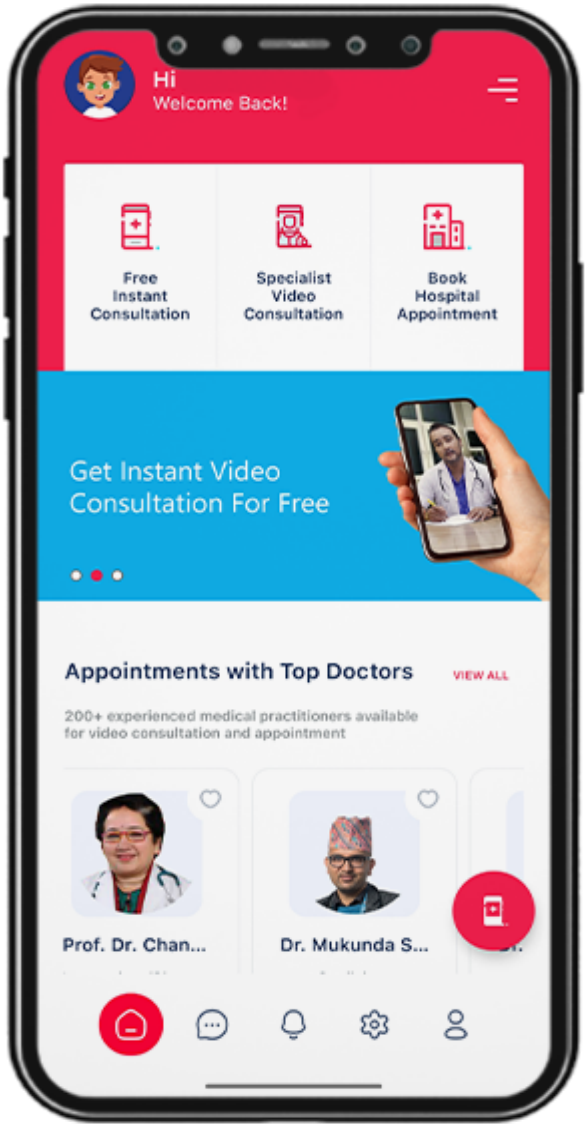


Fig : 2.1 Mero Doctor App

## 2.2 Hamro Doctor

Hamro Doctor is the First Online Healthcare Service Provider from Nepal where patients can consult certified medical personnel and get additional health related services along with other information related to health online.

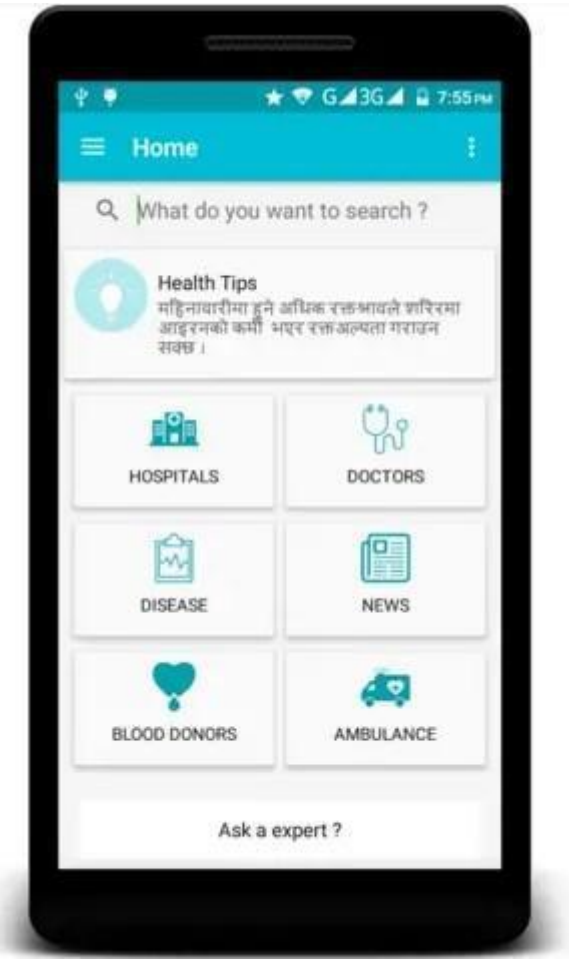


Fig : 2.2 Hamro Doctor App

# Chapter 3: Procedure and Methods

The following points illustrate our current plan for the project. We will go through each step thoroughly to take this project to its completion.

1. Researching similar applications
2. Building the wireframe
3. Front-end development
4. Back-end development
5. Testing and debugging
6. Hosting and deployment
7. Finalising the project and documenting

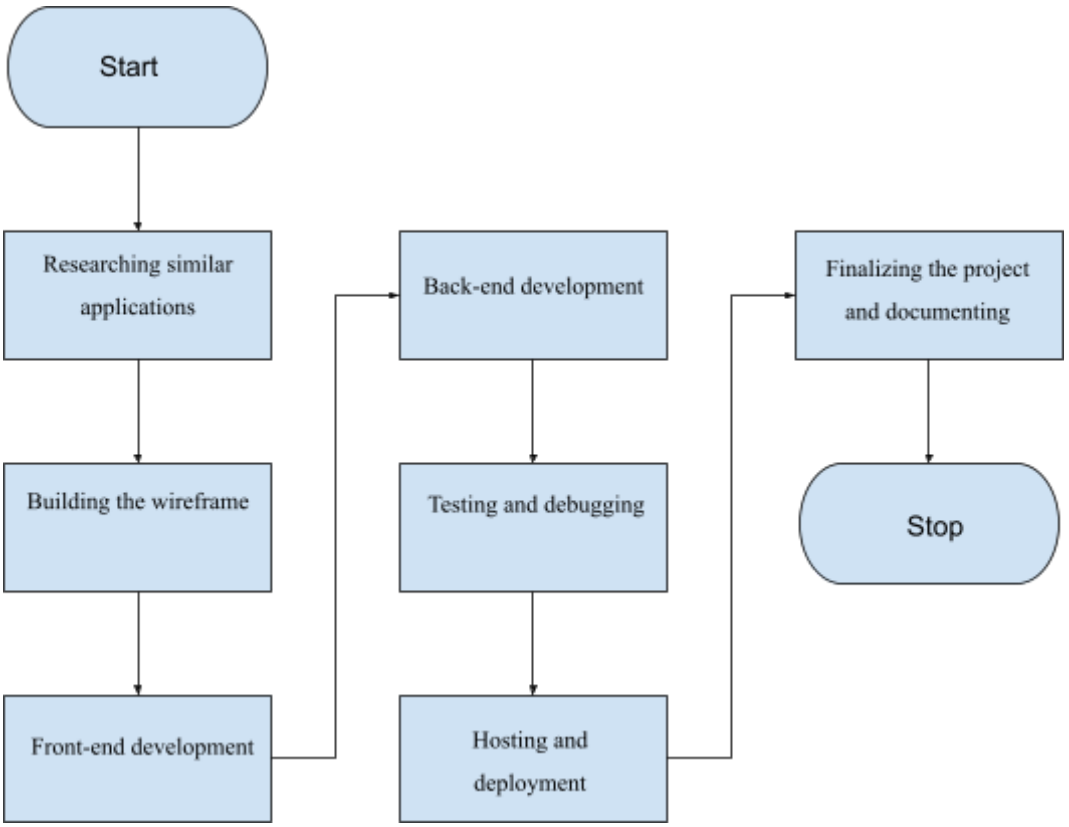


Fig : 3.1 Web Application Development Flow Diagram

# Chapter 4: System Requirement Specifications

## 4.1 Software Specification

### 4.1.1 JavaScript

JavaScript is a lightweight, interpreted, or just-in-time compiled programming language with first class function.

### 4.1.2 MongoDB

MongoDB is a source-available cross-platform document-oriented database program. Classified as a NoSQL database program, MongoDB uses JSON-like documents with optional schemas

### 4.1.3 ReactJS

ReactJS is an open source and component-based framework responsible for creating the application's view layer.

### 4.1.4 Node.js

Node.js is an open source, cross-platform runtime environment for executing javascript code.

## 4.2 Hardware Specification

Any Web browser with the latest version along with javascript enabled can smoothly run our application. Chrome or Mozilla Firefox is highly recommended.

# Chapter 5: Project Planning and Scheduling

We have planned to dedicate about 7 days to thoroughly researching similar systems and planning our own project. After that, we will design the interface of the system. Then we will begin the development of the front-end of the system. In this step, we will also add additional features. Once the development is done, we will test the whole system and address the bugs that we might encounter. Next, we will polish the finished system and start the deployment process.

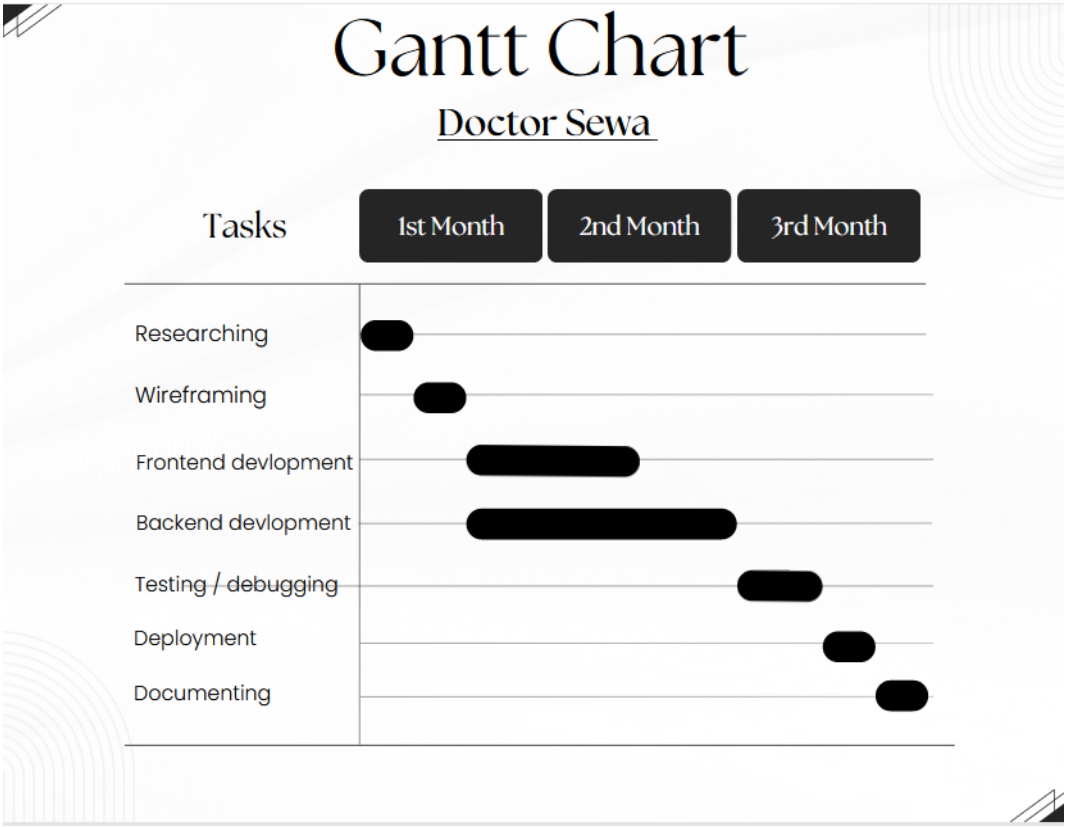


Fig : 3.1 GANTT Chart

# APPENDIX

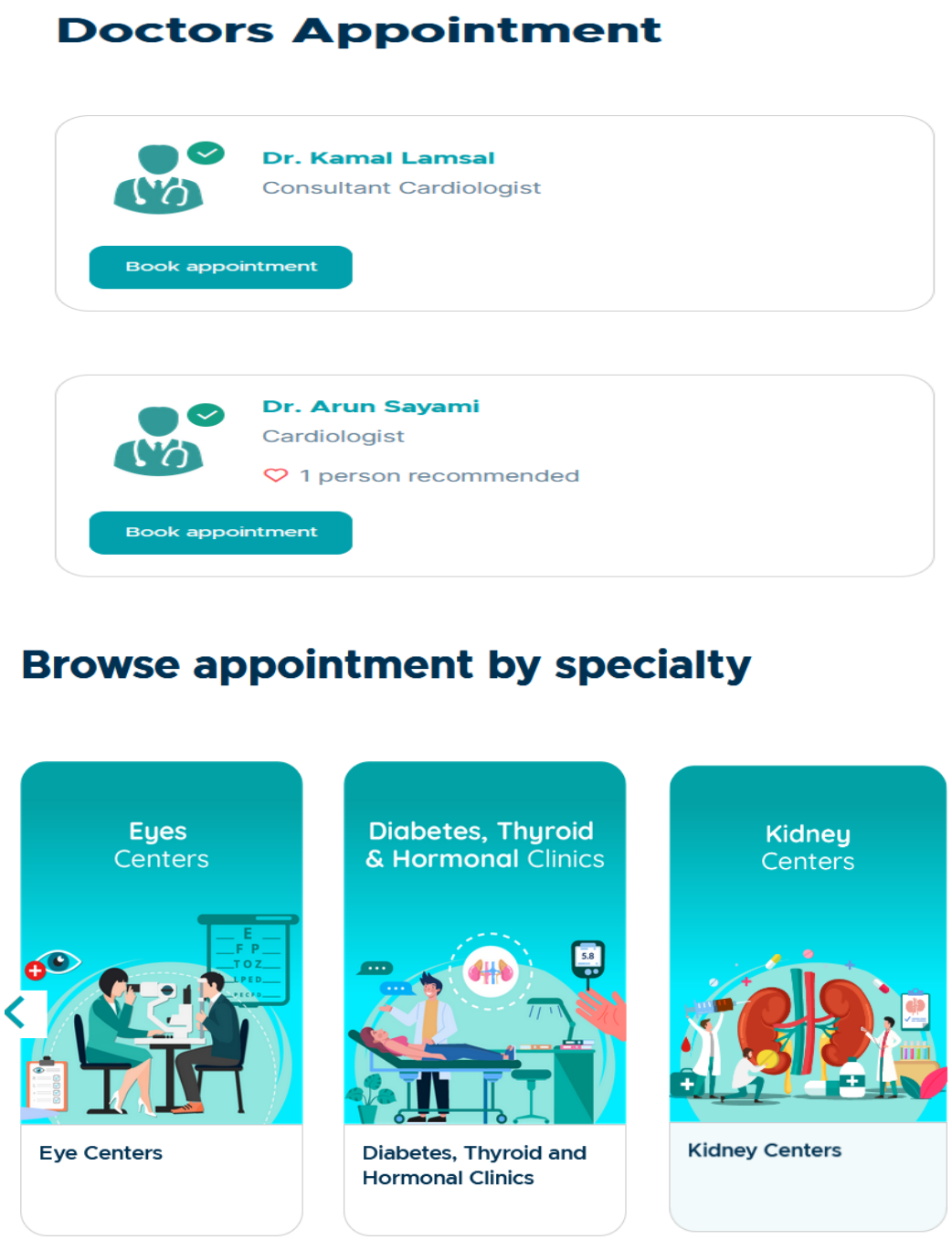


Fig :6.1 Hamro Doctor Web Application

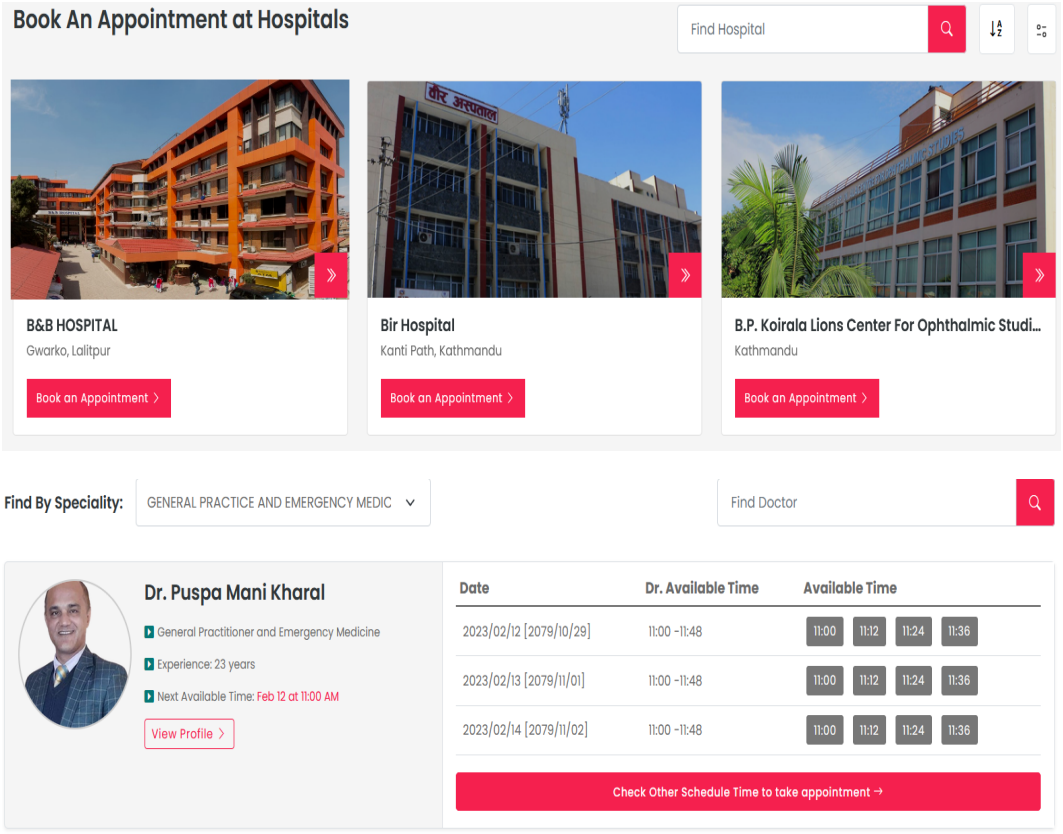


Fig :6.2 Mero Doctor Web Application

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