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| **ASSIGNMENT** | |
| **Subject:** | Programming Fundamentals |
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| **Submitted To:** | Dr. Samia Riaz |
| **Project Name:** | Hospital Appointment System |

## Introduction

The project proposal is a smart management system that allows patients or users to easily book a doctor’s appointment, and where a doctor can arrange their appointments with the admin controlling the whole management system. This project overcomes the issue of managing and booking appointments according to the user’s choice or demands. It offers an effective solution where users can view various doctors and select the preferred date and time. This system also allows users to cancel their booking anytime. The application uses C++ programming language.

## Modules

### User Interface Module (Text-Based)

Description: This module provides a simple text-based interface for interacting with the system. It will stick to basic input/output operations.

#### Skills Involved:

* Console I/O using cin and cout.
* Menus using loops and switch statements.

### Admin Module

Description: The system is under the supervision of the admin who manages the booking made. He has to log in first to get access.

Key Features:

* Add, edit, and delete patients, doctors, hospitals, cities, and appointments.
* List the patients, doctors, hospitals, cities, and appointments in the text file.
* Reminder emails

### User Login-Logout/registration

Description: The user has to first register as a patient or a doctor to log into the system. He can log out of the system after registration or login.

### Patient Management Module

Description: Manage the basic operations for patients such as adding new patients, updating their records, and deleting them if necessary.

#### Key Features:

Create a Patient class with attributes like name, age, ID, and disease. Implement functions to add, delete, and modify patient data. Store data in an array or vector for simplicity. Also involves,

* Booking Appointment
* Cancelling appointment
* List of Hospitals
* List of Doctors

#### Skills Involved:

* Class creation and object manipulation.
* Basic file handling (if storing patient data persistently).
* Dynamic memory allocation (if using pointers).

### Doctor Management Module

Description: Similar to patient management, this module handles doctor details.

Key Features:

Create a doctor class with attributes like name, specialization, and ID functions to add, view, and update doctor details. The doctor can also delete or reschedule the appointment.

#### Skills Involved:

* Class structures
* Arrays or vectors to manage lists of doctors
* Functions and object methods

### Appointment Scheduling Module

Description: Allows patients to book appointments with doctors based on availability.

Key Features:

A function to schedule appointments and another to view them. Basic date and time management (simple, such as using integers or strings).

#### Skills Involved:

* Structuring conditional logic (checking availability)
* Arrays or lists for managing appointments.

1. Email or appointment booking

When the user cancels, apply an appointment to the doctor & patient, and notify them with an email message. When the user is successful in appointment confirmation and ‘thank you’ email regarding the lot booked.

1. Feedback

The system has a feedback form, where users can provide feedback into the system.

### Admin Module

1. Add, edit, and delete patients, doctors, hospitals, cities, and appointments.
2. List the patients, doctors, hospitals, cities, and appointments in the text file.
3. Reminder emails

## Purpose

Patients can easily

## Advantages

* First
* Second
* Third
* Fourth
* Fifth

## Conclusion