Hospital Management System

1. Introduction:

We propose to develop a Hospital Management System using C++ programming language. The system will provide functionalities for managing doctors, patients, appointments, and hospital information. It will allow users to perform tasks such as adding doctors and patients, booking appointments, searching for doctors, displaying patient and doctor information, and managing records.

2. Features:

The proposed Hospital Management System will include the following features:

a. User Authentication:

Login functionality with username and password verification.

b. Doctor Management:

Add new doctors to the system.
Display a list of doctors.
Search for doctors by their ID.

c. Patient Management:

Add new patients to the system.
Display a list of patients.
Delete patient records.

d. Appointment Management:

Book appointments between doctors and patients.
Display a list of appointments.

e. Hospital Information:

Set and retrieve the hospital name.

3. Implementation Details:

The Hospital Management System will be implemented using object-oriented programming principles in C++. The system will consist of the following classes:

a. User:

Represents a user with a username and password.

b. Person:

Represents a person with basic information such as name, age, and ID.
Acts as a base class for the Doctor and Patient classes.
Includes a pure virtual function for printing person information.

c. Doctor:

Inherits from the Person class.
Represents a doctor with specialization information.
Includes functions for setting and getting specialization.
Overrides the Print() function to print doctor information.

d. Patient:

Inherits from the Person class.
Represents a patient with additional information such as gender, contact, address, disease, bill, entry, and exit dates.
Includes functions for setting and getting patient information. Overrides the Print() function to print patient information.

e. Date_Time:

Represents date and time information.
Includes functions for setting and getting date and time components.

f. Appointment:

Represents an appointment between a doctor and a patient. Includes functions for displaying appointment details.

g. Hospital:

Represents the hospital system.
Includes functions for managing doctors, patients, appointments, and user authentication.
Provides functions for adding, displaying, and deleting records.

4. Tools and Technologies:

The proposed Hospital Management System will be developed using C++ programming language. We will utilize the following tools and technologies:

C++ programming language Integrated Development Environment (IDE) such as Visual Studio Code or Code::Blocks
Git for version control and collaboration
GitHub or a similar platform for code repository

5. Conclusion:

The proposed Hospital Management System will provide a user-friendly interface for managing doctors, patients, appointments, and hospital information. It will facilitate efficient record keeping and enhance the overall management of the hospital. By implementing this system, hospitals can streamline their operations and improve the quality of patient care.