

National University of Computer & Emerging Sciences
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HOSPITAL MANAGEMENT SYSTEM (HMS)

Project Proposal

Object Oriented Programming

Section: 2-F

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Project Proposal

- **Introduction**

An efficient hospital management system written in pure C++. It will record the health history of the patient. It will also track procedures, operations and drugs administered to admitted patients. Patients can also schedule appointments for different procedures as well as get regular checkups upon login.

- **Existing System**

A hospital information system (HIS) is an element of health informatics that focuses mainly on the administrative needs of hospitals. In many implementations, a HIS is a comprehensive, integrated information system designed to manage all the aspects of a hospital's operation, such as medical, administrative, financial, and legal issues and the corresponding processing of services. Hospital information system is also known as hospital management software (HMS) or hospital management system.

- **Problem Statement**

Most HMS software typically consist of a relational database which causes significant overhead. Also, the tracking lists are usually unencrypted and insecure.

- **Proposed Solution**

Write an HMS in pure C++, without the use of an RDBMS. The solution will be implemented using an object-oriented paradigm to simplify the program by making it easier to conceptualize hospital-related entities as physical objects. All object-oriented concepts (abstraction, inheritance, polymorphism) as well as C++ specific tools (classes, objects, constructors, destructors, initializer lists, etc). Also, use encryption and hashing algorithms to verify that only authorized personnel can view the tracking lists.

- **Salient Features**

- Ability to search and query admitted patients.
- Record the name and ID of patient along with timestamp and resident's name.
- Ability to admit and discharge current patients at a time.
- Functionality for reviewing the tracking list by authorized personnel.

- **Tools & Technologies**

C++98, The Standard C++ Library, Bloodshed DEV C++ (TDM-GCC), Windows 10

- **Unique Features(Excluding Login and Registration):**

1. Admit patients
2. Discharge patients
3. Schedule appointments
4. Cancel appointments
5. Search patients from given information
6. Perform routine COVID-19 checkup
7. Hire personnel(doctors and nurses)
8. Handle billing(using credit as well as cash)
9. Fire personnel(doctors and nurses)
10. Encryption of patient data records