

## Second Demo: System Overview and Functionality

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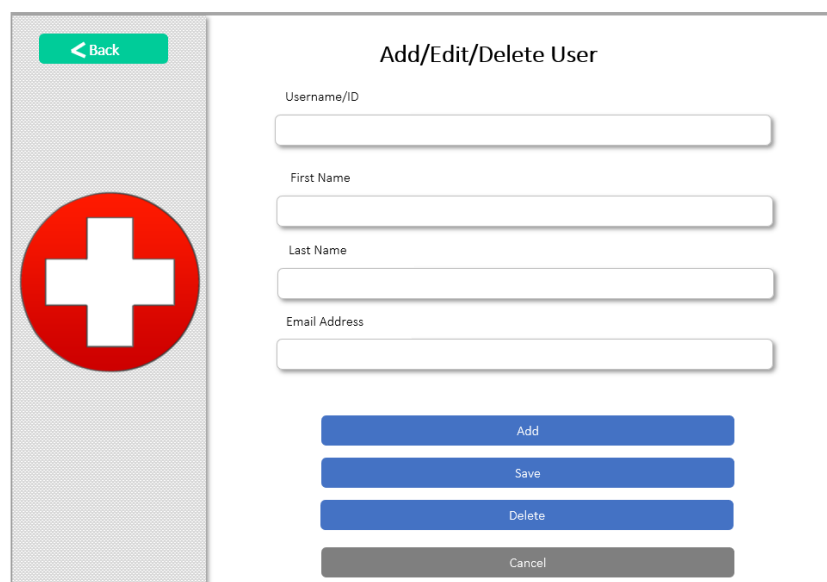
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## System Overview

Each stage of implementation needs to be accurate and explicit, the healthcare information management system, also known as a healthcare management system, is a software that provides sure automation of much vital health care daily processes. The healthcare system software covers the services that unify and simplify the work of healthcare professionals as well as their interaction with patients. Healthcare providers use the software to collect, store, retrieve, and exchange patient healthcare information more efficiently and enable better patient care. The system stores all the records in a relational database, making sure the data is secure and integrity is preserved. The system has a built-in billing feature that allows the healthcare facility to bill the patient on the go. The system also packs a lab test feature allowing doctors in the healthcare facility to request lab tests from the lab associated seamlessly.

## KEY FEATURES OF THE SYSTEM

**Patient information management.** This module is used to control patient information. This includes the identification and maintenance of patient records. It can be used to register patients, get the health data of the patients, view the medication, and check the medical records and reports as well as share the information with other authorized medical practitioners.



The screenshot displays a web-based form titled "Add/Edit/Delete User". On the left side, there is a vertical sidebar with a light gray background, featuring a prominent red circle with a white cross (a medical symbol) and a green button labeled "< Back" at the top. The main content area is white and contains four input fields: "Username/ID", "First Name", "Last Name", and "Email Address", each with a corresponding label above it. Below these fields are four horizontal buttons: "Add" (blue), "Save" (blue), "Delete" (blue), and "Cancel" (gray). The form is enclosed in a thin gray border.

For example, an associate selects the action they want to perform. If a user needs to be added, the associate will fill in the form, then click the add button. Once the add button is clicked, the system checks the validity of the data submitted then sends the data to the database. If an associate chooses to edit or delete a user, they'll fill in the patient's unique ID in the search text field then press the edit or delete button depending on their preference. When the search button is clicked, the system checks whether the patient's data exists. It then checks whether the associate that wants to perform that task has access rights to perform that task. If the associate has rights, they will be allowed to perform the task, and if not, they will be prompted that they do not have permission to perform the task. The system then updates the database.

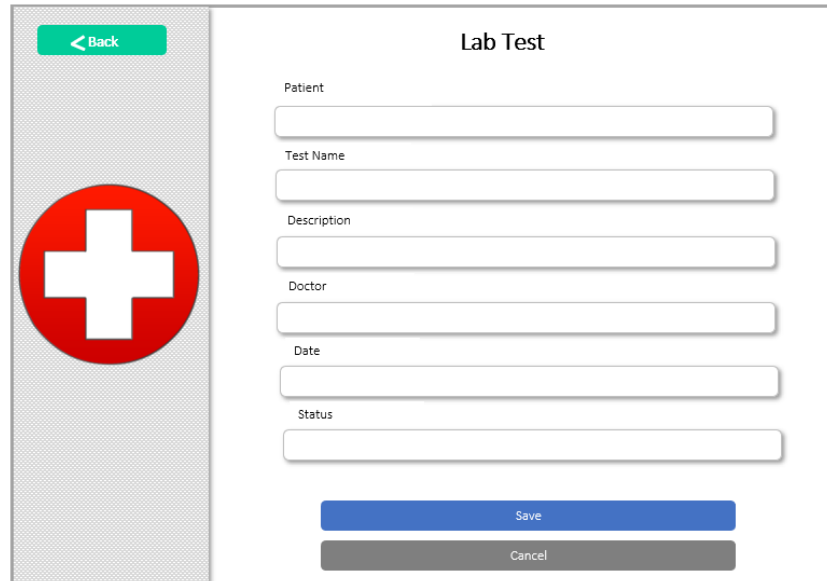
**Facility management.** The facility management module is responsible for following and managing room availability and occupation status. When a patient is admitted into in-patient, an associate will need to admit them to a given unit. Once on the units page, the associate clicks on the 'Available unit' tab, the system then checks for available rooms in the database and gives the list of available units in the healthcare facility. The ward list is arranged based on various illnesses and conditions. The system then allocates the patient a unit based on the patient's health condition.

**Inventory management.** The inventory management module controls the amount of health care inventory. The inventory page gives associates in the procurement and inventory department to keep track of the healthcare facility's supplies. The Inventory Track page provides a weekly report of the procured supplies, used supplies, and remaining supplies. It also gives suggestions on what supplies need to be replenished.

**Staff management.** The staff management module provides human resources management. It updates the job description of employees, updates the healthcare facility structure, and tracks the recruiting records. When a new medical associate has been recruited, a Human Resource associate informs the system. The system then auto-creates an account for the new associate, depending on the associate's rank. It also defines the new associate's roles in their profile. It also auto-updates the associate's access levels in the system.

**Medicine management.** The medicine management module contains the list of drugs that are usually used for specific treatment. It keeps records of every patient's drugs used during their treatment. This feature is available in the Pharmacy page. The pharmacy associates can search if a given type of medicine is available by entering the medicine name in the search text field. The system then checks whether the medicine is available. The system also checks whether the prescribed medicine matches up to the diagnosis. If not, the system prompts the pharmacy associate to review the prescription.

**Lab management.** Lab management shows the test results of the patient. The lab data can be viewed by the associate and produced for the patients' reports. It is usually combined with other healthcare facility information system modules for the better overall functionality of the system. When a doctor or lab associate wants to view a patient's test results, they enter the patient's unique ID in the search text field, and then the system offers an option of auto complete. Once the search button has been clicked, the system then checks the DB for entries related to the lab results of the patient and returns a list of available data. The associate can then view the test result. The system offers an option of downloading the product in PDF form or sharing it directly to the patient's dashboard or the doctor's email.



The screenshot shows a web interface for a 'Lab Test' form. On the left is a vertical sidebar with a green '< Back' button at the top and a large red circular icon with a white cross in the center. The main content area is titled 'Lab Test' and contains several input fields: 'Patient', 'Test Name', 'Description', 'Doctor', 'Date', and 'Status'. At the bottom of the form are two buttons: a blue 'Save' button and a grey 'Cancel' button.

The system also allows for requests for lab tests. A doctor can fill in the Lab Test request form. The system then sends the form to the lab department where they can approve the test or not. Whether or not the lab associates approve the test request, the doctor will be notified of the outcome. A medical associate can check the progress of a test they requested. This is done on the Lab Tests Request page. The associate will have to input the patient's unique ID and press the SEND button. The system will check the database and return completed tests under the Completed Tests window.

**Automation.** The appointment module in healthcare facility management provides the schedule of doctors due to the patients' requests. It helps to establish the availability of medical professionals at any convenient time. Some healthcare facilities can even offer remote visits when you need immediate assistance. A patient logs into their portal. The Bookings and Appointment page enables a patient to schedule an appointment. On this page, the patient can search based on date or doctor; the system then gives a list of available doctors available on a given date or dates that a given doctor is available. The patient can then click the Book button.

The doctor will be notified of the appointment, and the patient will be notified whether their appointment application did go through.

**Billing.** When it comes to billing, the system automatically bills a given patient depending on the service offered to them. It then generates a billing report and sends it to the patient after every visit. In the case that there is a billing dispute, a patient can submit the billing report to the accounting department through the complaints page. The complaint will then be reviewed by the accounting associates and then resend to the patient. The billing module organizes the financial affairs of both customers and the medical institution. It stores and presents all the patient payment details, healthcare facility financial records on expenses, and overall profit. This helps in billing customers much more efficiently as customers can anticipate on the kind they want to pay.

The system helps to keep track of the healthcare facility's income, expenditures, and profits. Authorized personnel can view these statistics. It gives monthly and annual reports of the financial activities of the healthcare facility. The user interface provides a graphical representation of data hence easier comprehension of what the data represents. The system also offers projections of future trends to enable the executive team to make strategic decisions regarding the healthcare facility. These projections can be saved in the associate's profile or downloaded in PDF format. Authorized personnel can gain access to this data by going to the analytics tab of their profiles.

## **Conclusion**

Considering all the discussed details, we can conclude that the healthcare management system is a necessary part of the lifecycle of the modern medical institution. It automates

numerous daily operations and enables smooth interactions of the users. Developing the healthcare facility system software is an excellent opportunity to create a distinct, efficient, and fast delivering healthcare model. Implementation of healthcare facility management system projects helps to store all kinds of records, provide coordination and user communication, implement policies, improve day-to-day operations, arrange the supply chain, manage financial and human resources, and market healthcare facility services. This beneficial analysis covers the needs of the patients, staff, and healthcare facility authorities and simplifies their interactions. It has become the usual approach to manage the healthcare facility. Many clinics have already experienced its advantages and continue developing new healthcare facility management system project modules.