

# A Review on Hospital Management System

**Prof. Pallavi Sambhare**

Asst. Prof Dept. of Information Technology  
G.H. Rasoni College of Engineering, Nagpur.

**Atharv Chaukone**

Department of IT  
GHRCE  
Nagpur

**Sumit Barai**

Department of IT  
GHRCE  
Nagpur

**Swapnil Dhande**

Department of IT  
GHRCE  
Nagp

**Abstract -** A project called the Hospital Management System can schedule a doctor's appointment. The system's main function is to arrange patient information and make the scheduled appointment convenient for the patient and the doctor. Python was the only language used in the creation of this software.

The project is a console program that allows for navigation through the use of specific numeric keys. When it comes to data entry, the system can help individuals work more quickly and accurately. You may quickly and effectively check patient information using this system, including room information, designated doctors, and departments. The Client and the Admin are the only users of the system. After entering a secure password to gain access to the features, the admin is in charge of entering patient data, scheduling appointments, doctor data, and status updates. While the user can only see the departments that are open, meetings that have been scheduled, and available doctors.

**Keywords:** Schedule, console program, python, status update.

## Introduction

A Python-based software project called the Hospital Management System attempts to automate and streamline the management of numerous hospital operations. Modules for handling patient records, appointments, medical staff, and report generation are all included in the system. The project's goal is to make managing a hospital easier by giving authorized staff access to a user-friendly interface from anywhere. The system is safe, protecting patient information and allowing only authorized users to access it.

The Hospital Management System is a vital piece of equipment for hospitals since it manages patient data,

keeps track of facility performance, and optimizes resource use. Hospital administrators can enhance patient care and results, boost employee productivity, and lower

administrative expenses by utilizing the system. The system may be adapted to fit the unique requirements of any institution because of its high degree of customizability. Also, it is expandable, allowing for expansion as the hospital develops and new needs surface.

The Hospital Management System is a potent software tool that may assist hospitals in enhancing patient care, operating more efficiently, and achieving better results.

In terms of improving patient care and outcomes, hospitals can benefit from the Hospital Management System in a variety of ways. The system offers a complete solution for controlling hospital operations with modules for handling patient records, appointments, medical staff, and report generating. Hospital administrators can make sure that patients receive fast and adequate care while avoiding wait times and pointless delays thanks to the system's capacity to optimize resource use. The method can also aid in locating potential improvement areas, such as cutting down on patient wait times, maximizing staffing, and enhancing the effectiveness of medical operations.

## I. LITERATURE SURVEY

Computer-based systems known as hospital management systems (HMS) are used to oversee a number of operations at healthcare facilities, such as patient care, staffing, and financial management. These systems, which are widely used in hospitals and other healthcare facilities around the world, have been demonstrated to enhance patient outcomes, cut expenses, and boost productivity.

### Definition of Hospital Management System:

A hospital's numerous departments, including patient registration, appointment scheduling, medical record keeping, inventory management, invoicing, and other administrative functions, are all integrated by the HMS, a comprehensive software system. Healthcare professionals can use the system to handle patient data, maintain medical histories, and coordinate care among various departments.

**Benefits of Hospital Management Systems:**

HMS offers healthcare facilities and providers a number of advantages, including enhanced productivity, better patient outcomes, and lower costs. Healthcare providers can save time and provide better patient care with the aid of HMS by automating administrative processes and optimizing workflows. Moreover, HMS can offer real-time access to patient data, empowering healthcare professionals to make better choices and enhance patient outcomes.

**Types of Hospital Management Systems:**

There are various HMS types available, each with a unique set of features and capabilities. One of the most popular forms of HMS, electronic health record (EHR) systems are used to store and manage patient health data. Patient Management Systems (PMS), Laboratory Information Systems (LIS), and Radiology Information Systems are examples of further HMS categories (RIS).

**Limits and Difficulties for Hospital Management Systems:**

Although HMS have several advantages, there are a number of difficulties and restrictions related to their use. For instance, putting in place an HMS can be costly, time-consuming, and call for considerable adjustments to current workflows and procedures. In addition, patient information must be maintained and stored securely in order to comply with legal standards, which can be a significant burden.

**Future Trends in Hospital Management Systems:**

HMS are no exception to the ongoing evolution of the healthcare sector. To improve patient care, increase efficiency, and lower costs, emerging technologies like telemedicine, mobile health applications, and artificial intelligence (AI) are being integrated into HMS. These developments are anticipated to improve the use, effectiveness, and intuitiveness of HMS in the future.

**II. PROPOSED METHODOLOGY**

A mixed-methodologies research design that combines quantitative and qualitative research methods is the suggested methodology for this study on hospital management systems. The current trends and difficulties in hospital management systems, the ways in which hospital management systems can be improved to improve patient care and safety, and the difficulties in adopting and implementing hospital management systems are the research questions that this study seeks to answer. Medical experts will be interviewed for the project, and information will also be gathered through document analysis of prior research on hospital management systems. The interviews will be semi-structured, allowing the participants to be flexible in their responses.

In order to find themes and patterns in the data, the researchers will use content analysis to examine the information gathered from the interviews and document

analysis. As it will shed light on the current status of hospital management systems, the difficulties and chances for change, and the potential implementation hurdles, the content analysis will be used to meet the research questions and study objectives. Throughout the study, ethical issues will be taken into account, including informed consent and maintaining participant replies' confidentiality. The study's restrictions and limitations, including any potential biases that might result from the sample of healthcare professionals who took part in the interviews, will be recognized.

Overall, the proposed methodology attempts to offer a thorough and all-encompassing strategy for looking into Hospital Management Systems and their influence on healthcare delivery.

**III. SYSTEM FRAMEWORK**

A hospital management system's framework typically consists of a number of essential elements, each of which is essential to the system's operation.

1. **User Management Module:** Users can log in and use the system thanks to this module, which controls user accounts and permissions. It gives hospital employees the ability to add new patients, manage patient accounts, see patient records, and make appointment requests. Users can also view their appointments, update their personal information, and sign up for appointment reminders using the module.
2. **Admin Management Module:** The administrative tasks of the Hospital Management System are managed by this module, including system settings, report generation, and staff account management. Administrators can specify system-wide settings including billing rates and inventory thresholds, as well as set user accounts and rights.
3. **Patient Records Management Module:** The patient's medical history, diagnoses, treatments, and medications are all managed by this module. Authorized users can create reports on patient data, search for specific patient records, and access and change patient information.
4. **Appointment Management Module:** This module controls the scheduling, rescheduling, and cancellation of patient appointments. It enables users to check available time slots, book patient appointments, and send reminders for appointments.
5. **Security and Access Control Module:** Patient data security and ensuring that only authorized individuals have access to it are the responsibilities of this module. Hospitals can comply with rules like HIPAA since it handles user authentication, data encryption, and other security-related activities.

### III. CONCLUSION

Hospitals need the Hospital Management System because it automates procedures, lowers expenses, and enhances patient care. Our suggested approach to creating an admin and user module-based hospital management system can improve hospital performance, while drawbacks like staff training expenses and implementation costs are exceeded by the system's advantages. By enhancing productivity, efficacy, and patient outcomes, the technology has the potential to change healthcare.

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