

INTEGRATED HOSPITAL MANAGEMENT INFORMATION SYSTEM

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ABSTRACT

The goal of the "HOSPITAL MANAGEMENT SYSTEM" project is to create software that is quick, easy to use, and economical while digitizing the front office management of the hospital. It has to do with getting patient data, testing patients, and so forth. It was done by hand earlier. The major functions of the system are the registration, maintenance, access, and meaningful modification of patient and physician data. Data about the patient and the diagnosis are input into the system, and these details are displayed on the screen via the system output. To use the Hospital Management System, you need to provide your login and password. An administrator or a receptionist may use it. The information is solely accessible to them.

Keywords:Hospital Management, Information System, database; Interface

1 INTRODUCTION

Patients can register, enter their information into the system, and schedule medical visits through our project's hospital information management system. Every patient can receive a unique ID from our program, which also automatically saves all of the patient and staff information. Using the ID, the user can look up a doctor's availability and a patient's data. With a login and password, one can access the Hospital Management System. An administrator or a receptionist can access it. The database can only contain data that they add. It is simple to retrieve the data. It has an extremely user-friendly interface. The data processing is incredibly quick and is well-protected for personal usage. There are mostly two modules in it. There is an administration level one and a secondary one involving patients and physicians. To access the application, one must maintain authentication with the application. Managing patient and doctor data is part of the administrator's job. In order to accomplish this, an admin-accessible database was created, one for the patient and another for the doctors. Authorities will forward user concerns to appropriate parties. Prescription and appointment checks are included in the patient modules. Also, users can pay doctor fees online.

2.LITERATURE SURVEY AND RELATED WORK

A literature review for a hospital information management system (HIMS) would entail looking up and summarizing academic publications that have already been published, including books, journals, and other scholarly sources. The following are important things to think about while performing a HIMS literature review:

1. Overview of HIMS:

a. Give a general explanation of what a hospital information management system is and why it is important to the medical field.

2. A Historical Angle:

Examine the HIMS's historical development and evolution.

3. Important Elements and Features:

a. List and explain the essential elements and functionalities of a typical HIMS, including patient data, appointment scheduling, invoicing, and inventory control.

4. Advantages and Difficulties:

Examine the benefits and difficulties of HIMS implementation in healthcare institutions.

5. Cooperation and Integration:

a. Talk about how HIMS systems guarantee interoperability for data interchange and connect with other healthcare systems.

6. Privacy and Security:

Examine the security protocols and privacy aspects of HIMS, taking into account adherence to laws such as HIPAA.

7. User Acceptance and Experience:

Analyze patient and healthcare provider adoption of HIMS and user experiences.

8. Case Studies and Success Stories of Implementation:

a. Draw attention to actual case studies and glowing testimonials of HIMS deployment in various healthcare environments.

9. Upcoming Innovations and Trends:

a. Talk about new developments and trends in HIMS, like the use of telehealth integration, mobile applications, and artificial intelligence.

10. Obstacles and Prospects for Further Research:

a. List the problems that HIMS is now facing and make recommendations for future study and development. a. List the problems that HIMS is now facing and make recommendations for future study and development.

Three systems currently in place

This speaks about the current state of hospital administration before making any adjustments or enhancements. It could involve using antiquated software, paper-based procedures, or manual record-keeping.

4 WORK AND ALGORITHM PROPOSED

This describes the proposed adjustments or enhancements to the hospital administration system. It can entail introducing cutting-edge technologies like Electronic Health Records (EHR) systems, optimizing workflows, or installing new software.

Five Approaches

Sections

Python.

At the moment, Python is the most popular high-level, multipurpose programming language.

Python programming supports both procedural and object-oriented paradigms. Compared to other programming languages like Java, Python programs are typically smaller.

Because of the language's indentation requirements, programmers type comparatively less, which makes their work consistently readable.

Nearly all of the major tech businesses, including Google, Amazon, Facebook, Instagram, Dropbox, Uber, and others, employ the Python programming language.

Python's largest asset is its vast library of standard libraries, which can be utilized for the following purposes:

- Artificial Intelligence
- GUI programs (such as PyQt, Tkinter, Kivy, etc.)
- Django web frameworks, which are utilized by Dropbox, Instagram, and YouTube
- Image processing using tools like Pillow and OpenCV
- Web scraping (Selenium, BeautifulSoup, Scrapy, etc.)

- Frameworks for testing
- Multimedia6

5 TECHNICAL LEARNING

Let's start by examining what machine learning is and isn't before delving into the specifics of different machine learning techniques. Although machine learning is frequently classified as a branch of artificial intelligence, I believe that classifications are frequently initially deceptive. While research in this area undoubtedly contributed to the field's development, it is more useful to consider machine learning as a method of creating data models when applying its techniques to data science applications.

Machine learning is essentially the process of creating mathematical models to aid in the interpretation of data. Giving these models workable parameters that can be modified in response to observed data brings "learning" into the picture; in this sense, the computer can be said to be "learning" from the data. These models can be used to predict and comprehend elements of newly seen data once they have been fitted to data that has already been seen. The reader will have to ponder over the more philosophical aside about how close this kind of model-based, mathematical "learning" is to the "learning" that occurs in the human brain. Since using these tools effectively requires an understanding of the machine learning problem setting, we will begin with some general classifications of the kinds of approaches we'll cover here.

6. RESULTSANDDISCUSSION

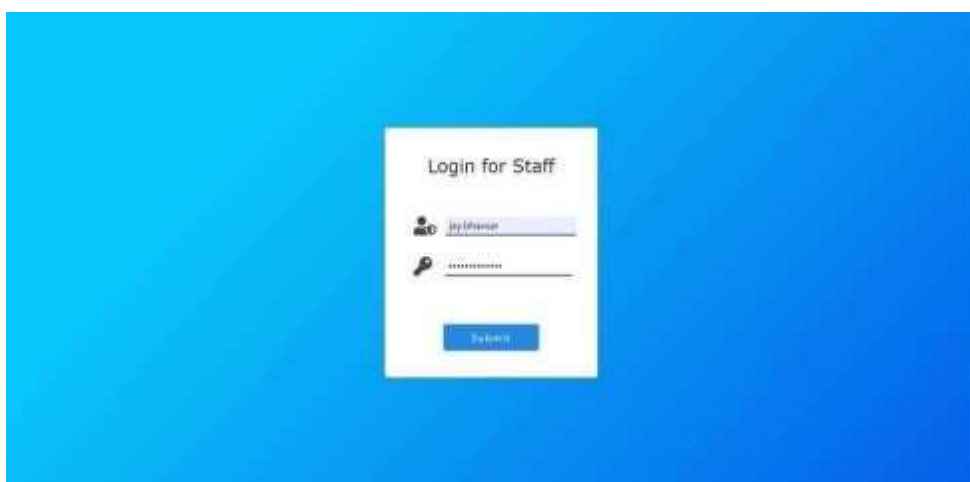


Figure 1: LOGIN PAGE

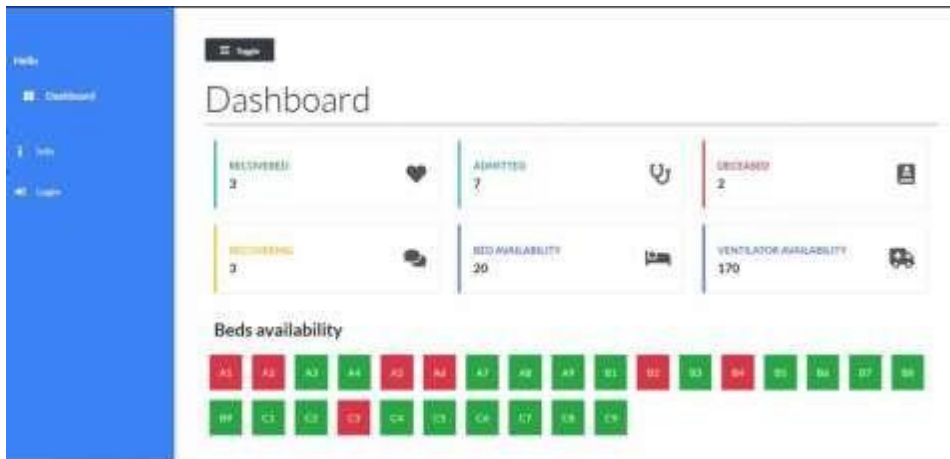


FIG 2 :DASHBOARD



Fig 3:- ADDPATIENT1

The form includes the following fields and options:

- Address: [Text input]
- Phone number (e.g., 98765, 12345): [Text input]
- AD: [Dropdown menu]
- Ad-see-pvv: [Text input]
- CRIME: [Dropdown menu]
- Dr. Kamesh Thangaj: [Text input]
- Gender: [Radio buttons for Male, Female]
- Symptoms: [List of checkboxes including Fever, Dry cough, Shortness of breath, etc.]
- add Patient: [Submit button]

Fig 4:- ADDPATIENT2

| Name | Bed no | Status | Edit |
|-----------------------|--------|------------|------------------------|
| Shyree Mark | A1 | Recovered | Update |
| Jay Shastri | A2 | Recovered | Update |
| Dhivraj Desai Lalmani | A6 | Recovering | Update |
| Shreyas Sand Jadhav | A5 | Deceased | Update |
| Rishi Venkatar | B6 | Critical | Update |
| Aman Anand | B0 | Deceased | Update |
| Shashankar Moha | C3 | Recovered | Update |

Fig 5:- Patient List



Fig 6:- ADDED PATIENT DETAILS



Fig 8:- IPAD View

7.CONCLUSION AND FUTURE SCOPE

Conclusion: This can be a powerful tool to help healthcare organizations improve their processes and streamline their operations. It can provide an integrated, comprehensive solution to managing patient records, billing and scheduling, as well as provide real-time insights into hospital performance.

FUTURE SCOPE

Data in a hospital information management system refers to the structured and unstructured information collected, stored, and managed within the system. It includes patient demographics, medical records, laboratory results, imaging reports, medication history, billing details, and administrative data.

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