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SYNOPSIS

On

Hospital Management System

Subject : DataBase management system

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Hospital Management System

The Hospital Management System is like giving hospitals a digital brain that never forgets. In many hospitals today, receptionists still shuffle through paper files and bulky registers, which makes the process slow, error-prone, and stressful for everyone.

This system changes the game by turning the receptionist into a smart information hub. From registering patients and updating guardian details to assigning rooms, storing medical history, uploading reports, and tracking payment status—everything is managed in one place. Doctors can instantly access accurate records through the receptionist, while patients enjoy faster and more organized care.

Objectives

The objectives include:

- Efficient storage of patient details such as name, guardian's name, age, and medical history.
- Giving each hospital its own secure account with a username and password.
- Helping doctors quickly access accurate patient information through the receptionist.
- Ensuring that reports and medical histories are safe, organized, and easy to retrieve.
- Allowing only the receptionist of a hospital to edit and manage its patient records.
- Tracking whether payment has been completed or is still pending
- Encouraging a paperless, time-saving approach in healthcare.

Scope of the Project

This system can be useful for clinics, private hospitals, and large healthcare institutions. It replaces manual files with secure digital records, reduces paperwork, and keeps data safe. The receptionist becomes the central authority for adding and updating records. The system is flexible and can grow to include features like appointment scheduling, billing, or even linking multiple hospital branches through cloud integration.

Modules of the System

• Hospital Account Module - Manages hospital account registration.
• Receptionist Module - Adds/edits patient details, manages medical history, reports.
• Patient Module - Stores personal details, guardian details, and hospital linkage.
• Doctor Module - Allows doctors to request patient records via receptionist.
• Medical Records Module - Stores prescriptions, and history in a timeline format.
• Payment Module - Tracks payment status (Paid/Pending) for each patient.

Database Design Requirements

Entities & Attributes:

- Hospital (hospital_id, hospital_name, username, password)
- Receptionist (receptionist_id, name, hospital_id)
- Patient (patient_id, name, guardian_name, DOB, gender, contact, hospital_id, payment_status)
- Doctor (doctor_id, name, specialization, contact, hospital_id)
- Bills(Status, payment_id, patient_id, Amount)
- Room(patient_id, floor_type, capacity, room_no)

Relationships:

- One Hospital → Many Receptionists
- One Hospital → Many Doctors
- One Hospital → Many Patients
- One Patient → Many Medical_Records
- One Patient → One Payment_Status

Software Requirements

• Operating System: Windows
• Frontend Technology: HTML, CSS, JavaScript, React.js
• Backend Technology: Node.js with Express.js
• Database: MySQL
• Authentication: JWT / OAuth
• Deployment: AWS / Vercel / Heroku
• IDE/Tools: VS Code

Conclusion

In conclusion, the Hospital Management System provides an efficient and modern solution to overcome the limitations of traditional record-keeping methods. By centralizing patient information, streamlining administrative tasks, and ensuring quick access to accurate data, it enhances both hospital operations and patient care. This system not only reduces errors and delays but also transforms the reception desk into a well-organized hub for communication between doctors, staff, and patients. Ultimately, it brings hospitals closer to the goal of delivering faster, smarter, and more reliable healthcare services.