Digital Object Identifier 10.1109/ACCESS.2017.DOI

Hospital Management System DBMS

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ABSTRACT Digitalization has completely changed a lot of industries, including healthcare. Hospital Management Systems (HMS) have become essential instruments for optimizing patient care, streamlining procedures, and strengthening healthcare administration. A thorough database management system (DBMS) project with the goal of creating an effective HMS is presented in this paper. The project intends to handle important issues that healthcare institutions deal with, like managing doctors and personnel, scheduling appointments, controlling inventories, and managing patient records. The suggested system provides a consolidated platform for effortlessly managing various hospital operations by utilizing database technologies. The deployment of this HMS is expected to maximize resource use, improve operational effectiveness, and eventually raise the standard of patient-care services. Overall, the HMS holds great promise in enhancing hospital operations and advancing patient care delivery.

I. INTRODUCTION

IN contemporary healthcare settings, the effective management of hospital operations plays a pivotal role in ensuring the delivery of high-quality patient care. Hospital Management Systems (HMS) have become essential tools for optimizing administrative processes, augmenting productivity, and elevating the quality of healthcare services in general with the introduction of digitalization. This study employs React.js, a well-liked JavaScript user interface toolkit, along with Database Management Systems (DBMS) to give a thorough investigation of the design and implementation of a hospital management system.

A. CURRENT LANDSCAPE OF HOSPITAL MANAGEMENT SYSTEMS

Hospitals are gradually implementing tech-driven solutions to streamline their operations as part of a paradigm change in the healthcare sector toward digitization. The ineffective and antiquated practices of maintaining patient records, appointments, bills, and inventories through paper-based systems have been adopted by many. Hospital Management Systems have developed to offer integrated platforms that streamline data interchange, automate procedures, and enhance decision-making in response to these difficulties.

B. IMPORTANCE OF DATABASE MANAGEMENT SYSTEMS IN HOSPITAL MANAGEMENT:

Database Management Systems (DBMS) form the backbone of Hospital Management Systems, serving as the foundation for storing, organizing, and retrieving vast amounts of healthcare data. By leveraging the capabilities of DBMS, hospitals can create centralized repositories that ensure data integrity, security, and accessibility. Moreover, DBMS enable efficient querying and analysis of patient information, leading to better clinical outcomes and resource utilization.

C. ROLE OF REACT.JS IN USER INTERFACE DEVELOPMENT

User interface (UI) design plays a crucial role in the usability and adoption of Hospital Management Systems. React.js, a JavaScript library developed by Facebook, has gained widespread popularity for its ability to create interactive and responsive user interfaces. By utilizing React.js, developers can build dynamic UI components that enhance the user experience, facilitate seamless navigation, and improve overall system usability.

D. PREVIOUS WORK ON HOSPITAL MANAGEMENT SYSTEMS

Numerous research studies and projects have focused on the design and implementation of Hospital Management Systems using DBMS and other technologies. Previous works have explored various aspects of HMS development, including data modeling, system architecture, functionality implementation, and user interface design. These studies have contributed valuable insights into the challenges and opportunities associated with building robust and scalable HMS solutions.

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