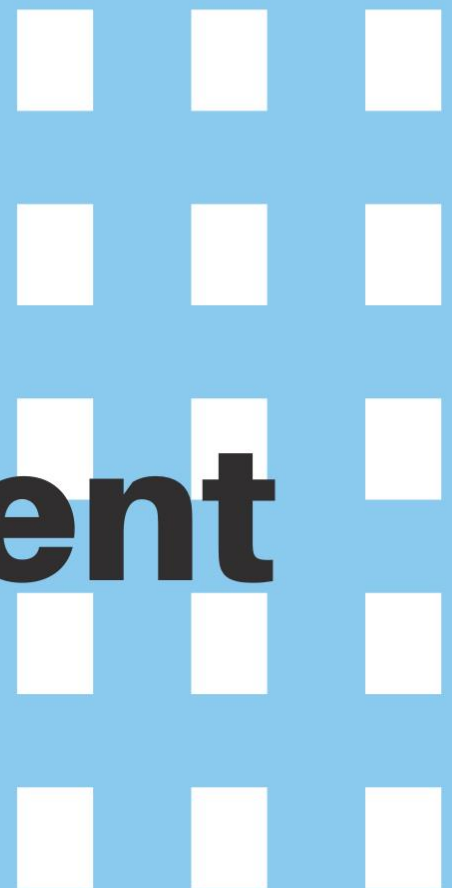# D

DUSKWOOD
HOSPITALS

Hospital Management System

Enterprise Applications Development Project documentation

DCSD 22.1-P

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Introduction

For this project, we took a Hospital Management System for Duskwood Hospital as our subject. This application is mainly based on Java which is mainly used in many enterprise applications. Our aim was to increase the efficiency of this Hospital through managing patient information, medications, medical records, employee details, and insights through this application rather than with physical files & folder.

Current System

The current manual system at Duskwood Hospital relies heavily on handwritten records and paper-based documentation, presenting several significant weaknesses.

One notable drawback is the inherent inefficiency of manual data entry and retrieval processes, which are prone to errors and inaccuracies. With handwritten records, legibility issues may arise, leading to misunderstandings and potential mistakes in patient treatment.

Moreover, the reliance on physical storage mediums like paper charts and files poses challenges in terms of organization and accessibility, often resulting in time-consuming searches for relevant information.

Additionally, the manual system lacks real-time updates and centralized data management capabilities, making it difficult to track medication stock levels, patient histories, and other vital information efficiently.

Overall, the reliance on a manual system hampers operational efficiency, increases the risk of errors, and impedes the delivery of timely and effective patient care at Duskwood Hospital.

Our Solution

Our primary objective is to revolutionize the operational efficiency of Duskwood Hospital by transitioning from its current manual record-keeping system, reliant on handwritten records in books, to a Hospital Management System (HMS) developed using Java.

Through this transition, we aim to digitize and streamline the management of patient information, medications, medical records, employee details, and insights.

By doing so, we seek to significantly enhance accuracy, efficiency, and accessibility while minimizing errors and improving overall operational effectiveness. Our goal is to elevate the standard of care provided by Duskwood Hospital, ensuring seamless coordination, enhanced productivity, and improved patient outcome.

Cost Effectiveness:

Our goal is to implement a Hospital Management System (HMS) that offers cost-effective solutions for Duskwood Hospital. By transitioning from manual record-keeping to a digital system, we aim to reduce expenses associated with paper-based documentation, storage, and manual data entry.

Reliability:

We strive to establish a reliable system that ensures the seamless management of patient information, medications, medical records, and employee details. By leveraging Java technology, we aim to create a robust and dependable platform that minimizes downtime and ensures uninterrupted access to critical data.

Accuracy:

Accuracy is paramount in healthcare management. With our HMS, we aim to eliminate errors commonly associated with manual data entry and handwritten records. By automating processes and implementing validation checks, we seek to improve the accuracy of patient records, medication tracking, and employee details.

Efficiency:

Efficiency is key to optimizing hospital operations. Our objective is to streamline workflows and reduce administrative burdens by digitizing record-keeping processes. Through intuitive user interfaces and automated functionalities, we aim to enhance productivity and enable hospital staff to focus more on patient care.

Accessibility:

Accessibility to information is crucial for timely decision-making and effective patient care. With our HMS, we aim to provide secure and convenient access to patient records, medication stock updates, and employee details from any authorized device with an internet connection. This ensures that healthcare professionals can access vital information whenever and wherever needed.

Security:

Security is a top priority in healthcare data management. Our objective is to implement stringent security measures to protect sensitive patient information, medication records, and employee details from unauthorized access, data breaches, and cyber threats. Through encryption, access controls, and regular security audits, we aim to safeguard the confidentiality, integrity, and availability of data within the HMS.
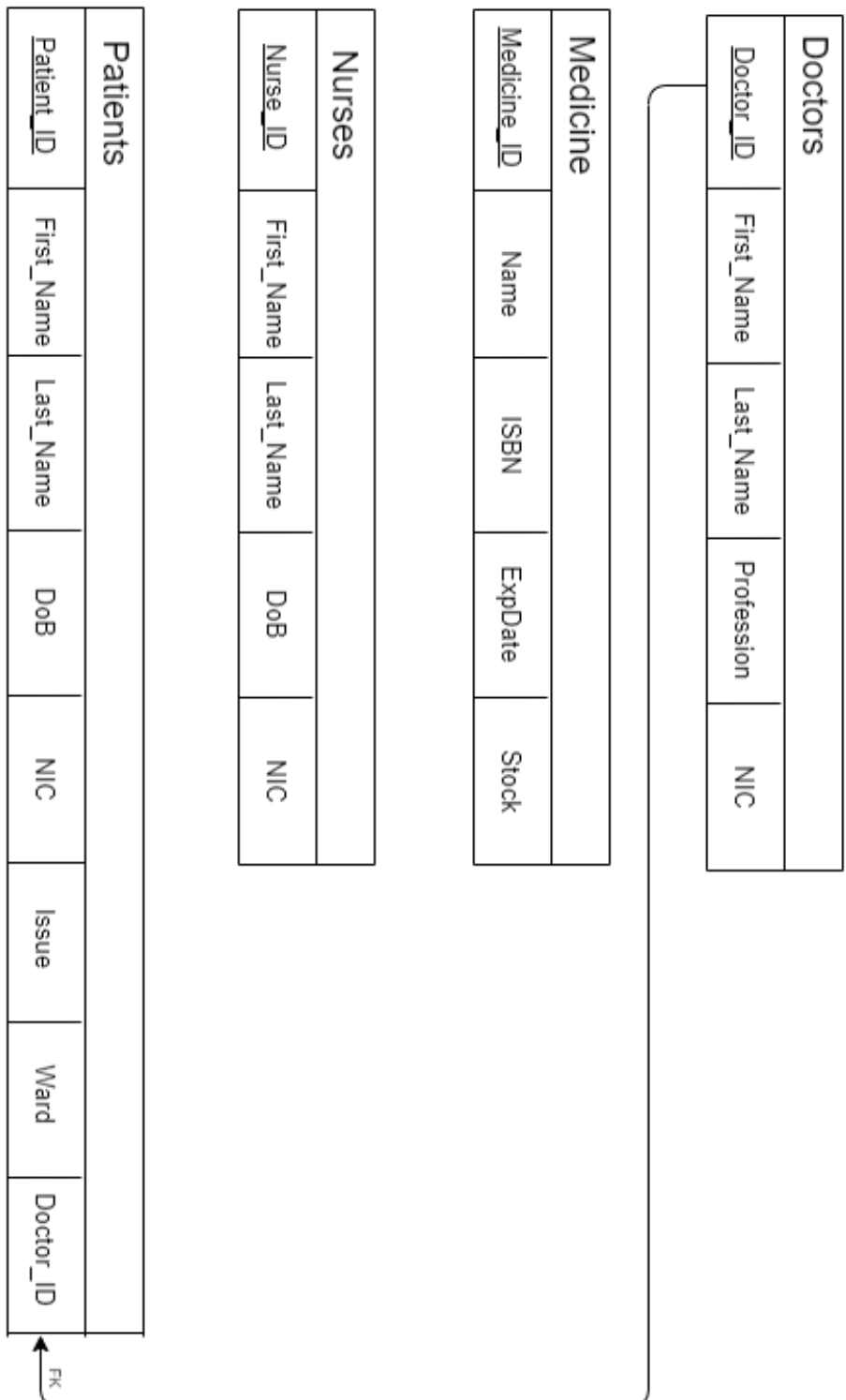
Operational Effectiveness:

Our objective is to enhance the overall operational effectiveness of Duskwood Hospital. By implementing a comprehensive HMS solution, we aim to streamline processes, improve communication and coordination among hospital staff, and elevate the standard of care provided to patients.

System Flow

1. **LOGIN** - User can login to the HMS system by entering personal username which defines the role of the use along with the password.

2. **SELECT OPTION** - The user can select from doctor / nurse/ patient/medicine options to access databases.

3. **ENTER/VIEW DATA** - Data can be viewed or entered depending on the user. Entered data will be updated to the database.

Database Structure

Doctors

Doctor_ID	First_Name	Last_Name	Profession	NIC

Medicine

Medicine_ID	Name	ISBN	ExpDate	Stock

Nurses

Nurse_ID	First_Name	Last_Name	DoB	NIC

Patients

Patient_ID	First_Name	Last_Name	DoB	NIC	Issue	Ward	Doctor_ID

FK
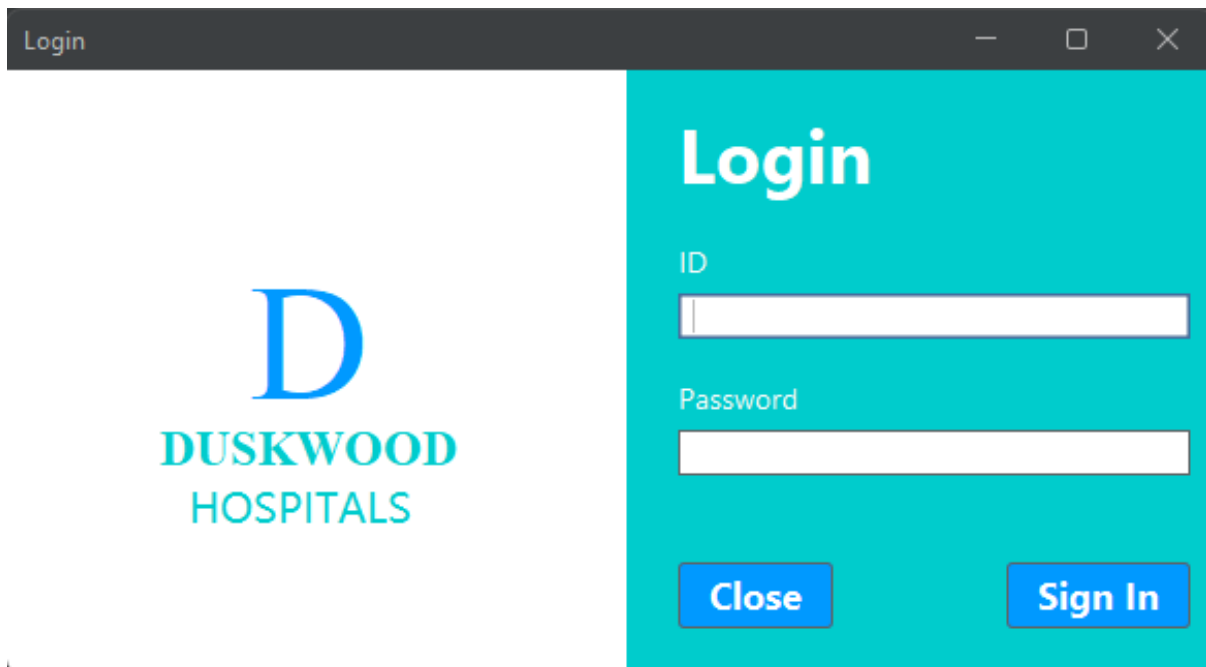
System User Interface

Login page

Users are required to input their unique ID, specifying their role as a doctor, admin, or nurse, along with their corresponding password. Upon successful authentication, users are seamlessly redirected to their respective dashboards tailored to their roles. This streamlined login process ensures efficient access to relevant functionalities, enabling doctors, admins, and nurses to swiftly navigate and fulfill their responsibilities within the HMS.
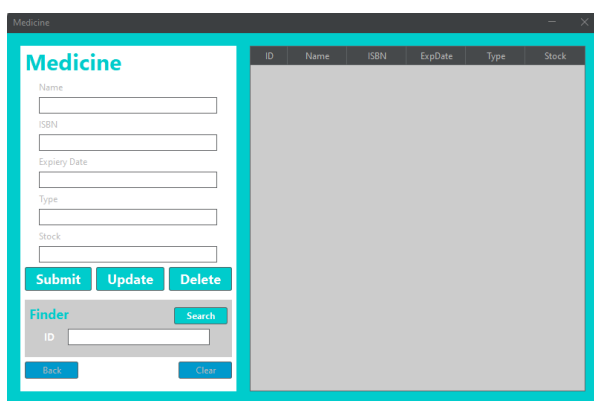
Dashboard

The dashboard functionality within our Hospital Management System (HMS) is tailored to the unique needs of each logged-in user, providing a personalized experience. Upon logging in with their respective credentials, users are directed to a dashboard that reflects their role within the system, whether they are a doctor, admin, or nurse. Each dashboard presents relevant options for viewing and entering data specific to the user's responsibilities and permissions.
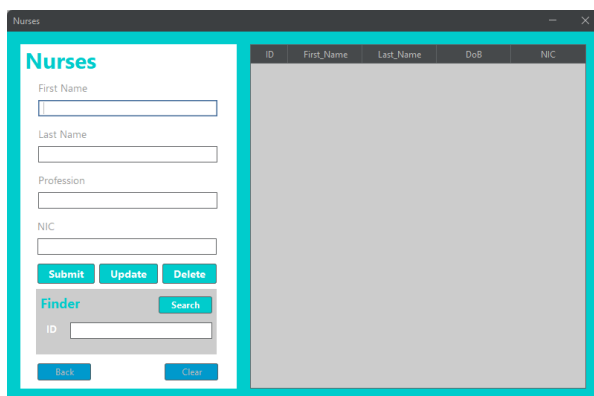

Admin's
Dashboard

Manager's
Dashboard

Doctor's
Dashboard
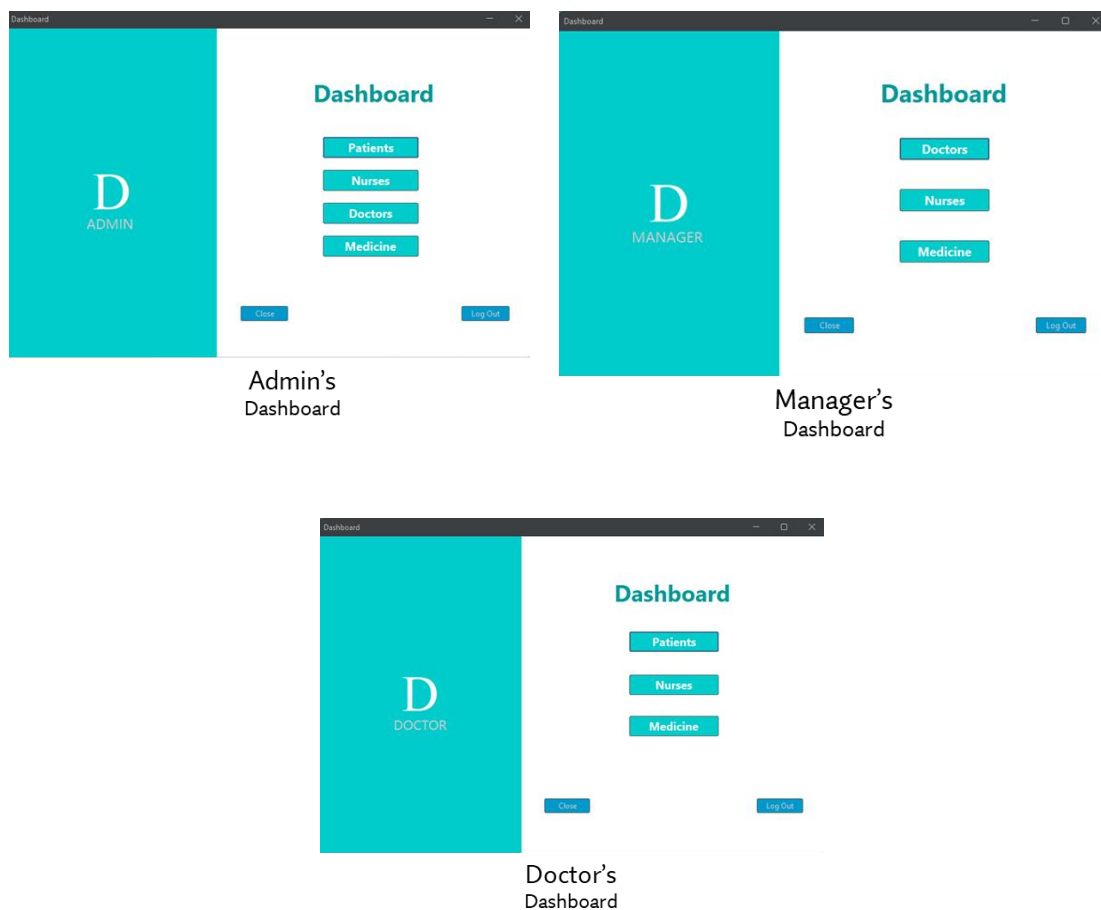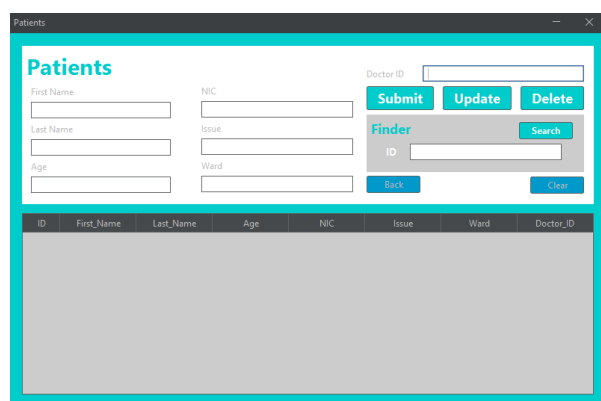
Data entry and view page

Upon selecting the desired option from their personalized dashboard, users can effortlessly access functionalities to either view existing data or update information as needed. Whether it is reviewing patient demographics, medical histories, or treatment plans, or entering new records into the system, our intuitive interface simplifies the process for healthcare professionals.
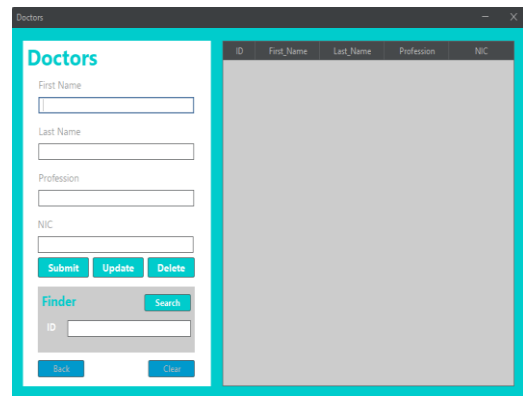
Summary

Our project endeavors to revolutionize the management system at Duskwood Hospital by introducing a Java-based Hospital Management System (HMS). Our objectives include digitizing record-keeping to enhance cost-effectiveness, ensuring reliability in managing patient data and medication records, and improving accuracy through automation and validation. Additionally, we aim to streamline workflows for increased efficiency, provide secure and accessible data management, and implement stringent security measures to protect sensitive information. Ultimately, our goal is to elevate operational effectiveness and enhance the quality of patient care at Duskwood Hospital.