SMARTLY MAPPING NICU AVAILABILITY AND HOSPITAL SEARCH ON ANDROID

Abstract

ØThe NICU Locator app is an innovative Android application designed to revolutionize the search for Neonatal Intensive Care Units (NICU) in hospitals.

Øits primary objective is to provide real-time updates on NICU availability, ensuring quick and informed decision-making for parents, caregivers, and medical professionals.

ØLeveraging the GPS capabilities of Android devices, the app offers intuitive location-based services, enabling users to find nearby hospitals with NICU facilities easily.

ØWith a user-centric interface and robust data security measures, the NICU Locator app aims to reach a wider audience, including individuals in remote and underserved areas.

ØBy encouraging user feedback, it facilitates reviews and ratings for hospitals and NICU services, assisting future users in making educated choices.

Ø The NICU Locator app stands as a beacon of hope in neonatal care, bridging the gap between technology and real-time data to ensure the well-being of newborns in critical moments.

Objectives and Problem Statement

Objectives

Ø NICU Availability Information: Develop a robust database to store real-time information about the availability of Neonatal Intensive Care Units (NICU) in various hospitals. This database will serve as the foundation for providing accurate and up-to-date NICU availability details.

ØUser-Friendly Interface: Interface that allows users of all technical levels to easily navigate the app, search for NICU availability, and view hospital details.

ØUser Registration and Authentication: Implement a secure user registration and authentication system to make certain that only authorized users, such as parents, caregivers, and medical professionals, can access the app's features and data.

Ø Location-Based Services: Utilize the Android device's GPS capabilities to provide location based services, enabling users to find the nearest hospitals with available NICU units based on their current location.

Problem Statement

There was no proper booking of the ems in the present system, and the driver had difficulty reaching the accident site quickly due to heavy traffic, thus it would take a long time to reach the hospital. As a result, many people may be killed or wounded as a outcome of heavy traffic. This method would not benefit the ambulance get to the hospital on time.

Existing System

In the framework that difficult for doctors to search in hospitals in a smarter way.

It uses a web application that acts as a user interface for the users.

The authorized users can log in to the application, access their data, and find an option to check the availability of the NICU units. The framework is secure and reliable as it uses cloud storage to store data in an encrypted form.

Proposed System

ØDevelop a robust database to store real-time information about the availability of Neonatal Intensive Care Units (NICU) in various hospitals. This database will serve as the basis for providing accurate and up-to-date NICU availability details.

ØImplement a secure user registration and authentication system to make certain that only authorized users, such as parents, caregivers, and medical professionals, can access the app's features and data.

ØIntegrate mechanisms to continuously update the NICU availability information in real-time to reflect any changes or additions to the status of NICU units in hospitals.

ØUtilize the Android device's GPS capabilities to provide services that are location-based, allowing users to identify hospitals with available NICU units near their present location.

System Requirements

Hardware Requirements:

- Central-Processor: Intel i5 2.4GHz
- Hard-Disk: 4OGB
- Ram: 2GB or above

Software Requirements:

- Required operating_ system : Windows 10
- Programming-Spring
- Frontend Technology: Html, Css, JavaScript,
- Tools: MS Visual Studio 2O15

Functional requirement

ØUser Process and Login:

Ø Hospital Information:

Ø Doctor Availability:

Ø Bed Availability Tracking:

Ø Location-Based Services:

Ø Emergency Services:

Ø User Feedback and Reviews:

Ø Appointment Scheduling:

Ø Data Security and Privacy

Non-Functional requirement

ØPerformance: The app shall respond to user actions promptly, with minimal lag time, even during peak usage periods. The backend system shall support a high number of concurrent users to handle real-time updates and search requests efficiently.

ØReliability: The app shall maintain a high level of uptime, ensuring continuous availability to users.The backend server shall be designed with fault tolerance and redundancy to minimize downtime due to server failures.

ØSecurity:User data, including login credentials and personal information, shall be securely encrypted during transmission and storage.

ØScalability:The app and backend infrastructure shall be designed to accommodate a growing number of users without compromising performance.

Conclusion

Finally, the NICU Locator Android app offers a viable answer to the issues of getting medical care in rural and underdeveloped places. The software enables users to identify local hospitals with NICU units quickly and effectively by employing cutting-edge technology such as geolocation integration and real-time data updates. Furthermore, the administration module's deployment provides proper management of hospital and doctor information, enabling improved healthcare resource allocation.Security testing has been priority throughout the development process to secure user data and protect against any vulnerabilities. The app attempts to provide a safe and trustworthy user experience by following to best practices and using powerful authentication and authorisation procedures.