



Hospital Finder Application

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ABSTRACT

During medical emergencies, patients are often shunted from hospital to hospital due to lack of ICU beds leading to loss of many lives. Also crucial time is lost calling up every individual blood bank trying to find blood of the required group in an emergency. In a crisis, as those precious seconds slip away, knowing where the nearest vacant ICU bed is or how many blood bottles of the required type the nearest blood banks have, can mean the difference between life and death. However no service that provides such crucial real time information exists in most parts of the world - information that would be invaluable during personal medical emergencies as well as natural disasters, terrorist attacks and public health epidemics. On any case of emergency, the relatives or public take the patients to the nearest hospitals for treatments. There are chances that the further treatment and required services might not be available at that hospital. The hospital management may suggest taking the patient to some other hospital. Again moving the patient to other hospital for treatment is time consuming, expensive and it leads to discomfort of patient. This situation occurs because the relatives or public are unaware of the services provided by the hospital. So we need a system which gives all information related to different hospitals. This is the application which provides the information related to different hospitals via online and through texts. A healthcare application is proposed which facilitates the patients a list of nearest hospitals and along with the feature of services availability. So this application provides the hospital details such as services types, specialization details etc.

1. INTRODUCTION

In recent years, there has been a notable upswing in the widespread adoption of communication tools, particularly mobile devices, aimed at bolstering communication and collaboration in professional settings. Recent research indicates a swift rise in the usage of mobile applications, attributed to the increasing social presence and collaborative awareness within groups. Presently, a global interest in a variety of mobile applications is burgeoning, with dynamically informative apps emerging as a favored choice for their substantial educational value. These informative apps serve as invaluable tools for easy and patient learning, meeting the evolving preferences of users worldwide. Android devices, known for their diverse range in terms of size, features, and prices, have become ubiquitous. Each iteration of the Android operating system is playfully named after a dessert, with the current version being Lollipop, solidifying Android's influence on the mobile experience. Consequently, developers across various domains are increasingly favoring Android-based application development.

Its design revolves around meeting the fundamental requirements of users, offering an array of essential functionalities. These include Diet Chart management, Vaccination management, Doctor Management, Medical History management, and more. The project, titled "Design and Development of an Android Application for Hospital Finder," presents an advanced and readily accessible application tool that users can conveniently utilize through Android-based mobile devices. This application ensures user-friendly access for everyone, making it simple to manage both family and personal healthcare effectively.

2. OBJECTIVES

- **Patient Information Management** : Efficiently store and manage patient data, including medical history, prescriptions, and contact details. This involves creating a system to efficiently store and manage patient data. It includes collecting and organizing medical history, prescriptions, contact details, and other relevant information. By having a centralized database, healthcare professionals can easily access and update patient records, leading to more accurate and coordinated care.
- **Appointment Scheduling** : Enable users to schedule, modify, or cancel appointments with healthcare professionals. This feature allows users to schedule, modify, or cancel appointments with healthcare professionals. It streamlines the process by eliminating the need for manual appointment booking, reducing the chances of scheduling conflicts, and ensuring a smooth patient experience. Users can access the system to check available time slots, select a convenient appointment time, and receive reminders as the appointment approaches.

- **Electronic Health Records (EHR) :** Implement a secure system for maintaining electronic health records, ensuring easy accessibility for authorized healthcare providers. Electronic Health Records (EHR) are digital versions of patient health records. Implementing a secure system for maintaining EHR ensures that patient information is stored and accessed in a safe and organized manner. Authorized healthcare providers can quickly retrieve patient information, view medical history, track diagnoses and treatments, and make informed decisions about patient care.
- **Medication Management :** Facilitate tracking and reminders for medication schedules, helping patients adhere to their prescribed treatments. This feature helps patients manage their medications effectively. It can include features such as medication tracking, reminders, and alerts for refills. Patients can receive notifications for when to take their medications, ensuring proper adherence to the prescribed treatment plan. By promoting medication compliance, this feature aims to improve patient outcomes.

3. LITERATURE REVIEW

- Frost & Sullivan [9] (2017) - prevent medical accidents in advance by using an integrated solution based on information and communication.
- Karen Taylor [10] (2017) - improving treatment procedures for existing patients and introducing new functions.
- European Union Agency for Network and Information Security [11] (2016) - A hospital that improves the patient treatment process based on IoT.
- Korea Embedded Software and System Industry Association [12] (2018)
- Seoul Asan Hospital Innovation Design Center [2] (2020) - A next-generation hospital that exceeds the limits of existing hospitals in terms of quality of care.
- Ministry of Health and Welfare [13] (2020) - provides medical services by applying ICT such as 5G and IoT to improve medical services such as enhancing patient safety.

4. METHADODOLOGY

Agile is an iterative and incremental approach to software development that emphasizes flexibility, collaboration, and customer satisfaction. It's particularly well-suited for projects where requirements are expected to change or evolve over time. The Agile methodology is based on the principles outlined in the Agile Manifesto and is often implemented using various frameworks such as Scrum or Kanban.

Key Principles of Agile :

- **Individuals and interactions over processes and tools :** Agile places a strong emphasis on communication and collaboration among team members and stakeholders. Regular face-to-face interactions are encouraged.
- **Working software over comprehensive documentation :** While documentation is important, the primary focus is on delivering a working product. Agile values tangible results and functionality over extensive paperwork.
- **Customer collaboration over contract negotiation :** Agile encourages close collaboration with customers and stakeholders throughout the development process to ensure that the product meets their expectations.
- **Responding to change over following a plan :** Agile is adaptive and welcomes changes in requirements even late in the development process. The goal is to respond to changing needs and priorities quickly.

Agile in Android Hospital Finder App Development :

- **User Stories and Features :** Break down the healthcare management system into small, manageable features and user stories. These could include patient registration, appointment scheduling, medical record management, etc.
- **Sprints :** Divide the development process into short time frames called sprints, typically two to four weeks long. Plan what features or user stories will be addressed in each sprint based on priority and business value.
- **Scrum Roles :** Assign roles such as Product Owner, Scrum Master, and Development Team. The Product Owner represents the stakeholders and defines the features, while the Scrum Master facilitates the team and ensures adherence to Agile practices.
- **Daily Stand-up Meetings :** Conduct daily stand-up meetings where team members discuss progress, challenges, and plans for the day. This promotes communication and helps identify and address issues early.
- **Iterative Development :** Develop the healthcare app iteratively, releasing a potentially shippable product at the end of each sprint. This allows stakeholders to provide feedback, and the team can adapt to changing requirements.

- **Continuous Integration and Testing :** Implement continuous integration to ensure that code changes are integrated regularly. Automated testing is crucial to maintain the quality of the software.

5. HOSPITAL FINDER CHARACTERISTICS-

Characteristics of a Hospital Finder App for Healthcare Accessibility:

1. Appointment Scheduling:

- Allows users to schedule appointments with healthcare providers directly through the application.
- Streamlines the booking process and reduces waiting times.

2. Offline Accessibility:

- Offers offline access to essential information, recognizing that users may be in areas with limited internet connectivity.

3. Customization and Personalization:

- Enables users to customize preferences and save favorite healthcare providers for future reference.
- Provides a personalized experience based on user preferences.

4. Advanced Search and Filters:

- Implements search functionalities allowing users to find healthcare providers based on specific criteria.
- Includes filters for medical specialties, services offered.

5. Platform Compatibility:

- Ensures compatibility across various platforms, Android devices.
- Adapts to different screen sizes for a seamless experience on smartphones and tablets.

6. Data Security and Privacy:

- Implements robust security measures to protect user data.
- Adheres to strict privacy standards to ensure the confidentiality of user information.

These characteristics collectively contribute to the effectiveness of a Hospital Finder app in addressing healthcare accessibility challenges and empowering users to make informed decisions about their healthcare needs.

6. HOSPITAL FINDER APP CONTRIBUTION TOWARDS SOCIETY

- The usage of a Hospital Finder application in society has several significant impacts, contributing to improved healthcare accessibility, efficiency, and patient outcomes. Here are some key ways in which Hospital Finder applications are utilized in society:

The Usage of Hospital Finder App in Society.

Usage	Description
Healthcare	Hospital Finder applications play a crucial role in enhancing healthcare accessibility by providing individuals with a convenient and efficient way to locate nearby healthcare facilities. This is particularly valuable in emergencies or when individuals are in unfamiliar locations.
Emergencies	In emergency situations, a Hospital Finder app can help users quickly identify the nearest emergency rooms, urgent care centers, or specialty clinics. This can lead to faster response times and potentially life-saving interventions.
Appointment Scheduling	Users can use the application to schedule appointments with healthcare providers, reducing wait times and ensuring timely access to medical services. This feature contributes to a more organized and efficient healthcare system.
Patient Empowerment and Informed Decision-Making	Hospital Finder applications empower patients by providing detailed information about healthcare facilities, including specialties, services offered, and user reviews. This enables individuals to make informed decisions about their healthcare providers based on their specific needs and preferences.

- The usage of Hospital Finder applications in society reflects a paradigm shift towards patient-centric healthcare, leveraging technology to improve accessibility, efficiency, and overall healthcare experiences. As these applications continue to evolve, their societal impact is likely to grow, contributing to more effective and patient-friendly healthcare systems.

7. CONCLUSION

We have developed a system which gives all information related to different hospitals. This is the application which provides the information related to different hospitals via online. A healthcare application is developed which facilitates the patients a list of nearest hospitals and along with the feature of services availability. So this application provides the hospital details such as services types, specialization details etc. User can send the SMS request and can receive the required information. This application is working and giving results as per expectations.

There is always room for improvement in any field. By collecting surveys from its user the app can be revised according to the majorities need. A comparison and review feature of different hospitals and services by the user can be implemented. We can also create a forum to discuss patient's experience which will give new users what to expect.

8. REFERENCES

When citing references for a research paper on Hospital Finder applications, it's important to include a diverse range of sources, including academic articles, conference papers, books, and reputable online resources. Below is a sample list of references that you can use as a starting point:

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