

ANDROID APP FOR “SMART CARE IN SMARTPHONES”

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ABSTRACT

The Smart Care has made quite an easy and quick way to not only register appointment but also provide other many facilities. The credit-card sized application is capable of many of the things that you will need for better life and health care of yourself and your family. It also plays high-definition map facility to locate nearest blood banks and ambulance and restaurants. It will allow patients to upload their documents like prescription and x-ray photos on cloud itself.

Smart Care, is the best way to keep your data backed up and stream and access content from all the devices connected to the internet using cloud database that is firebase

In today's fast growing world of technology smart phones and its proper utilization is very important. Our proposed project's motto is to make available an efficient platform at very low cost which could be affordable by each and every one having smart phone. Our project will be developed using the concepts of configuring with different applications, open source codes and tools to sum-up a perfect android application with multiple functions and facilities. This project is applicable for both Commercial and Public Utility Model. But sponsored by "Suman Clinic And Hospital, Aurangabad."

Keyword: - Smart Care, firebase, open source

1. Introduction

Android is an open source project of the Open Handset Alliance that has revolutionized the user experience of a mobile device. With Android, it is a fact that mobile devices will have more user-friendly applications than ever before and putting the internet in the handsets of many, many people around the world. The biggest advantage is that the success of Android depends on the availability of unique and engaging user applications created by developers

just like you. Practically anyone can contribute applications to the Android community, making it more possible for the world to experience your innovative ideas.

As more and more people use smart phones, the need for high-quality Android Developers becomes more vital than ever. People in this profession are responsible for developing apps on phones so that the device possesses increased functionality. Since many employers focus on the objective statement more than any other part of the resume, you should make sure to emphasize your qualifications and accomplishments in this section.

1.1 Problem Statement

Most of the hospitals and clinics maintain records of patients in files that is it is paper work only. Here we come with problems like redundancy of data, insecurity of data, difficulty in updating information of patients, hassles in managing appointment timing of patients. One more problem is that the hospital staff has to maintain separate file for each patient and if the patient revisits, it becomes more complicated to verify the same patient. The same scenario was happening in 'Suman Clinic & Hospital'. As more and more people use smart phones, we got an idea to develop an Android application for this hospital. Dr. Baviskar, the main physician of Suman Hospital also agreed with our idea and sponsored our project. Following several problems has arisen:

- i. Lack of immediate retrievals: -The information is very difficult to retrieve and to find particular information like- e.g. To find out about the patient's history, the hospital staff has to go through various registers. This results in inconvenience and wastage of time.
- ii. Lack of immediate information storage: -The information generated by various operations takes time and efforts to be stored at right place.
- iii. Lack of prompt updating: -Various changes to information like patient details are difficult to make as paper work is involved.
- iv. Error prone manual stock taking: -Manual stock taking are error prone and take a lot of time this may result in incorrect information. For example, about the doctor availability.
- v. Preparation of accurate and prompt reports: -This becomes a difficult task as information is difficult to collect from various registers.

1.2 Problem Solution:

Using Android application (Smart Care): By using Smart Care application the system will be smarter and quicker. As application will be installed on smart phone, it is easy to use. Due to the use of Smart care application the information is very easy to retrieve and to find particular information. The hospital staff has need not to refer various registers and this results in convenience and it will reduce time required. The updating of information like patient details is easy to maintain and stored data at right place.

Using Website : If some patients don't have smart phones then they can use websites for registration of appointment. Due to the use of website patients get efficiency and data also stored in right place. By using website it will reduce paper work and redundancy. It will avoid wastage of time.

2. Objectives

The project "Smart Care" application is aimed to develop to maintain the day-to-day state of records of patients, available doctors, health tips, register appointments, home visit, food facilities, feedback, etc. There are following main objectives of the Smart Care application:

- Keeping records of patients.
- Keeping patient-care as utmost priority.
- Scheduling the appointment of patient with doctor to make it convenient for both.
- Providing the services of specialized doctor and emergency properly so that facilities provided but Smart Care are fully utilized in effective and efficient manner.
- Keeping details about the consultants, their prescription and treatments, reports, etc.
- Keeping food facilities, nearest blood bank, about hospital, etc.
- Keeping the data of patients and reduce redundancy.

- The application should be menu-driven and must have a user-friendly graphical user interface.
- The prescription of patients or other documents of patients should be kept up to date and there records should be kept in the database of application.
- Doctor will able to see all patients' details and he will get analysis report of patients.
- Patients can also give a feedback to the Smart Care.
- It provides a simple way to control for the administration.
- Highly defined by user.
- The details about doctors, patients can be maintained and controlled in the form of a database.
- Records of patients are kept and appointments are made according to schedule so that the patients can meet doctors in right it is convenient for both doctor and patient.
- Prescriptions provided by doctor are kept in records.

3. System Development

Waterfall Methodology: All projects can be managed better when segmented into a hierarchy of chunks such as phases, stages, activities, tasks and steps. It follows a linear structure starting from requirement analysis, through design, implementation and maintenance. Most widely accepted methodology for student projects, this model has been well tried and tested. Each phase of it has sub phases which produce deliverables. Requirements are fixed at initial stages before proceeding with development plans in system development projects; the simplest rendition of this is called the "waterfall" methodology, as shown in the following figure:

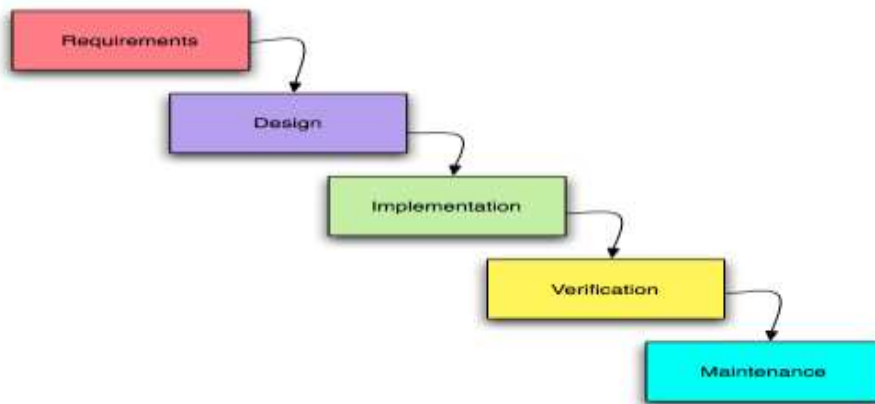


Fig : Waterfall model

The graphic illustrates a few critical principles of a good methodology:

- Work is done in stages,
- Content reviews are conducted between stages, and
- Reviews represent quality gates and decision points for continuing.

The waterfall provides an orderly sequence of development steps and helps ensure the adequacy of documentation and design reviews to ensure the quality, reliability, and maintainability of the developed software. While almost everyone these days disparages the "waterfall methodology" as being needlessly slow and cumbersome, it does illustrate.

Waterfall approach was first SDLC Model to be used widely in Software Engineering to ensure success of the project. In "The Waterfall" approach, the whole process of software development is divided into separate phases. In Waterfall model, typically, the outcome of one phase acts as the input for the next phase sequentially.

The sequential phases in Waterfall model are:

Requirement Gathering and analysis: All possible requirements of the system are captured in this phase and documented in a requirement specification doc. Here we took all the necessary requirement from respected Doctor collected in the form of SRS document.

System Design: The requirement specifications from first phase are studied in this phase and system design is prepared. System Design helped in specifying hardware and system requirements and also helped in defining overall system architecture. All the design was done on the paper that was helpful to decide our layout structure and background design.

Implementation: With inputs from system design, the system is first developed in small programs called units, which were integrated in the next phase. Each unit is developed and tested for its functionality which is referred to as Unit Testing. Thus, both modules(doctor, patient)were created independently and then tested .

Integration and Testing: All the units developed in the implementation phase are integrated into a system after testing of each unit. Post integration the entire system is tested for any faults and failures.

Deployment of system: Once the functional and non functional testing is done, the product is deployed in the customer environment or released into the market.

Maintenance: There are some issues which come up in the client environment. To fix those issues patches are released. Also to enhance the product some better versions are released.

4. CONCLUSION

The project 'Smart Care' is for smart and efficient working in a hospital. The project takes care of all the requirements of a hospital and is capable to provide easy and effective storage of information related to not only patients that come up to the hospital but also doctors who work in hospital.

It helps to upload and save documents related to patients (like their X-Ray reports, Medical prescription photos, etc); provide prescription details including various tests, diet advice, and medicines prescribed to patient and doctor.

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