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Healthcare Management System in Android – "meD4U"Application

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Abstract – *The purpose of the project is to computerize the Front Office Management of Hospital to develop software which is user friendly, simple, fast, and cost – effective. It deals with the collection of patient's information, diagnosis details, etc. Traditionally, it was done manually. The main function of the system is register and store patient details and doctor details and retrieve these details as and when required, and also to manipulate these details meaningfully System input contains patient details, diagnosis details, while system output is to get these details on to the screen on the fingertips. Additionally it will manages the appointments of doctors so that patient will not suffer from the waiting in the queues of OPD. The Portal shall be entered using a username and password. It is accessible either by an administrator or receptionist and Patient Only they can add data into the database. The data can be retrieved easily. The data are well protected for personal use and makes the data processing very fast.*

Key Words*: Online Appointment, prior- Notification, keep track of Diagnose*

1. INTRODUCTION

Healthcare consistently has been an important thoughtful concern all the time for humankind. In the last decade, with the fast development in web and internet technologies, smart hospitals have developed manifest in our lives. Advancement in the technology has changed the world so far along with development of smart phones and other handheld gadgets. Good health is the basic necessity of good life. Several technologies and gadgets in last few years have been developed and have promoted to monitor the healthcare and other hospital's critical assets.

1.1 Overview

The hospital Management system includes registration of patients, sorting their details into the system. The software has the facility to give a search facility for every patient and the staff automatically. It includes the search facility to know the current status of each room. User can search about the doctor whether they are available or not and the details of a patient. The hospital management system can be entered using a username and password. It is accessible either by an administrator or receptionist. Only they can add data into the database. The data can be retrieved easily. The interface is very user- friendly. The data is well protected for personal use and fast data processing. Hospital Management System is designed for multispecialty hospitals, to cover a wide range of hospital administration processes. Hospital Management System is a useful to improve the management of hospital in the area of clinical process analysis and activity-based costing. Hospital Management System enables you to develop your organization and improve effectiveness and quality of work.

1.2 Motivation

The real motivation for the hospital management system project is to make easy process of all the management process like patients' registration, billing, doctor's appointment, doctor's prescription, etc. We always see that to find out the patient's history, the user has to go through various registers. This results in wastage of time. So, by this system it will become easy to manage all process.so now by taking the motivation of this scenario which was regularly done in hospitals we are designing this system which can be benefited for the patients and hospital staff. So, we'd like to possess this system which help hospital to do work fast and effective.

1.3 Objectives

- Define hospital
- Recording information about the Patients that come.
- Generating bills.
- Recording information related to diagnosis given to Patients
- Keeping record of the Immunization provided to children/patients

2. METHODOLOGY

2.1 Problem Definition

- Lack of immediate retrievals: - It is very difficult to retrieve information and to find particular information like- E.g. - To find out the patient's history, the user has to go through various registers. This results in wastage of time.
- Lack of immediate information storage: - The information generated by various transactions takes time to be stored at right place.
- Lack of prompt updating: - Various changes to information like patient are difficult to make as paper work is involved.
- Error prone manual calculation: - By manual calculations error can be occur and take a lot of time this may result in incorrect information. For example, calculation of patient's bill based on various treatments.
- Preparation of accurate and prompt reports: - It is difficult task to collect information about patients from various register.

2.2 Proposed System

The system will be able to improve the workflow of the hospital starting from registration until billing to the patient. At the same time, it will maintain all the data that can be accessed anytime. In this system the entire process will be managed by the admin. Our project Hospital Management System includes registration of patients, storing their details into the system and also computerized billing in the pharmacy and labs. Our software has the facility to give a unique id for every patient and stores the details of every patient and the staff automatically. It includes a search facility to know the current status of each patient id. Admin alone can add data into the database. The data can be retrieved easily. The interface is very user-friendly. The data are well protected for personal use and makes the data processing very fast. The main thing of our project is patient does not submit any previous reports. In this system user get a separate user id. It holds the all details of patient. So the doctor easily understand the Patient full detail. Admin also get the separate user id for the individual hospital.

2.2 System Model

- The Software Architecture of the proposed system as shown in figure No.1 displays the workflow of the system. It describes how the user is guided while using the system.
- In the system, actors are Doctors, Patient, and Admin.
- System will take inputs from the patients for the appointment, checks the schedule of a doctor and will gives a particular time slot for the patients
- Patients can view the status of empty bed.
- The Patients can contact the doctors easily from their home if needed.

2.3 Merits of Proposed system

- Easy to Access
- Improve Efficiency
- Increased Data Security and Retrieve ability
- Patient can easily find the hospitals and medicines

3. DESIGN AND IMPLENTATION

The System is restricted to evaluate English Language only. The basic constraint of the system is to keep the data of the patient confidential to the System and Doctors only. Also, the maintenance of the patient's medical prescriptions are to be considered. In addition to these, since the user information is stored in a database and this database can be hacked and user information will be no longer private to the user. An Internet connection is must for the web application to operate. To sum up, this system has constraints in terms of regulatory, reliability, safety and security but these constraints can be manageable.

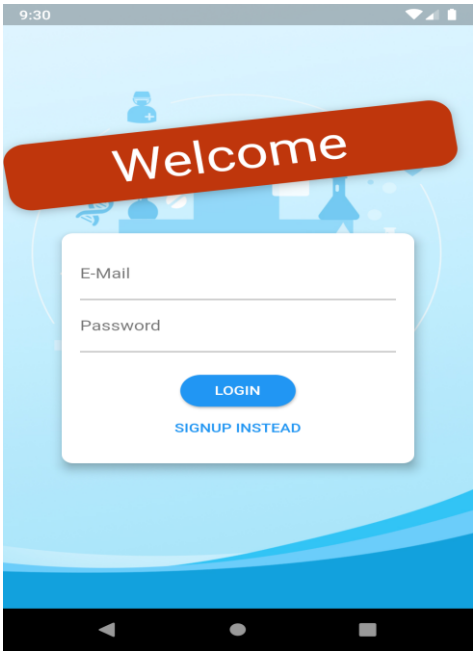

Fig -01 Log in Screen

3.1 Patient Module

- Login
- Registration
- Search Hospital Name
- View Symptoms
- Add Symptoms
- View Report
- View Treatment and Cost Details

3.2 Doctor Module

- Login
- Registration
- View Patient Details
- View Patient Symptoms and Report details
- Add Symptoms
- Add Reports for Patient
- Add treatment details

3.3 Admin Module

- Login
- View patient details
- View doctor details
- Upload cost details for treatment • Blood donator
- Upload pharmacy details
- Update stock availability

4. IMPLEMENTATION DETAILS

4.1 System Requirements

For System Running Windows OS

- Microsoft® Windows® 7/8/10 (32- or 64-bit)
- 3 GB RAM minimum, 8 GB RAM recommended; plus 1 GB for the Android Emulator
- 2 GB of available disk space minimum, 4 GB Recommended (500 MB for IDE + 1.5 GB for Android SDK and emulator system image)
- 1280 x 800 minimum screen resolution
- For accelerated emulator: Intel® processor with support for Intel® VT-x, Intel® EM64T (Intel® 64), and Execute Disable (XD) Bit functionality

5. APPLICATION OF A PROPOSED SYSTEM

The diverse advantages of the Internet, such as easy accessibility, availability, collaboration with various services and intermutual communication, has made diffusing healthcare information very basic and easy, moving towards an era of information revolution. The proposed developed system can be utilized by doctors, patients, Healthcare Mobile Applications, etc. which will help to save the life of an individual and also help them to connect with the needful services on time.

6. CONCLUSION

Our application provides quick guidance to the users, in search of the doctor and hospital nearby with the current update. It will render the information about the availability of beds and the ICU. It will also help the patient to take appointment using this app. In case of any emergency contact details of doctors are visible and can easily contact doctors for any emergency. The future work of this paper is linking all the hospitals irrespective of government or private sectors. By implementing this web based application the website and customized application on the tablet. The management of the patients will be very much easier, efficient and less time consuming. It will be easy for the doctors and patient to access the records. The patient details are already present in the database while registration so there is no need to fill a form during emergency cases. The doctors can check details of the patients on their system, provide prescription. The communications among the doctor and patient is enhanced as the patient can get as much help online. It will help to reduce many manual efforts, time taken and cost.

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