Mini Project Report

on

PERSONAL HEALTH MANAGER

submitted by

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In partial fulfilment of the requirements for the award of degree of Bachelor of Technology in Computer Science and Engineering.

DIVISION OF COMPUTER SCIENCE AND ENGINEERING
SCHOOL OF ENGINEERING
COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY

APRIL 2018

DIVISION OF COMPUTER SCIENCE AND ENGINEERING
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CERTIFICATE

Certified that this is a bonafide record of the Mini Project titled

PERSONAL HEALTH MANAGER

done by
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of VI Semester, Computer Science and Engineering in the year 2018 in partial fulfillment requirements for the award of degree of Bachelor of Technology in Computer Science and Engineering of Cochin University of Science and Technology.

Dr.Sheena Mathew	Preetha S	Dr.Sheena S
Head of Division	Project Coordinator	Project Guide

Acknowledgement

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Declaration

We, Ms. Sreelakshmi R Syam, Ms Sruthy Annie Santhosh, Ms. Sara Ranjit hereby declare that this mini project is the record of authentic work carried out by us during the academic year 2017 - 2018 and has not been submitted to any other University or Institute towards the award of any degree.

Abstract

Health Manager is a mobile application developed for ease of managment of a persons health. In this busy world ,where one requires a reminder for even small things, when everybody needs everything at their fingertips a mobile application for managing health is quintessential. This application is a replacement for going directly to the hospital for consultation. It includes registration, logging in,giving prescription , setting reminder , accessing and viewing health related data, bmi calculation and viewing health history of each user.

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Chapter 1

Introduction

This application is mainly for use by three types of users. They are the hospitals, doctors and common users. Each user is given an id , username and password which are used for further visits of that user. The hospital can register doctors. Doctors can login to view the details of the consultations and give prescriptions.The user homepage perform many functions which include consultation with doctor , setting reminder for medicines , calculate bmi and view previous bmi , access and view data(gallery pictures and pdfs).

PHM can be directly used by the hospitals , doctors and users. This can be used convieniently and frequently. User can interact with doctor without directly meeting. The doctors also benefit from the system as they need not directly meet patients for giving prescription.Another user of the system is the hospitals which can add the doctors.

Chapter 2

System Analysis

2.1 Proposed System

Personal health manager is an application which helps the user to manage their health.It eliminates the need to wait in queue to meet a doctor.By using this app a person can specify his or her symptoms and can get prescription from the doctor.The user can maintain a health record too.User can make use of the provisions like bmi calculator to keep track of his health.He can also upload and view images and pdfs related to his health.

Before the proposed system there were problems like: Inconvenience of the patient: Usually inorder to meet the doctor a peson will have to stand in long queues and get an appointment.This app eliminates that inconvenience by connecting the doctor and patient directly. Difficulty in saving hardcopies of health records:this app gives provision to upload,view and access images or pdfs relating to the health of a person.Thus all the health related details will be safe.He can also create multiple folders for the records.Other disadvantages include Difficult to search records, Cost and time consuming

Chapter 3

System Study

In this section, we are going to present the SRS, system objectives and hardware and software tool requirements.

3.1 Software Requirements Specification

A software requirements specification (SRS) is a document that captures complete description about how the system is expected to perform.

Purpose

The purpose of this project is to provide consultation online .The system can add user, validate user and is also bug free. Taking Appointment and meeting a doctor is cost consuming.This app helps to reduce that cost.The app eliminates the need to stand in long queues and thus saves time.When the number of records are high then there is difficulty in searching them. To see previous Bmi values and check whether any improvement is there.

Project Overview

The project has following functionalities:

Functional Requirements

- Registration
  Purpose: This feature is used to register new users and create accounts.
  Actor: User includes doctor,hospital and patient.
  Input: name,address,phone,username,password,security question ,answer
  Output: After these values are stored in the database registration will be successfully completed.
- LogIn
  Purpose: Used by users to log in to the system.
  Actor: User,Doctor and Hospital
  Input: Username ,password and type of user
  Output: If correct username and password is given then log in is successful else reset option can be availed
- Consultation
  Purpose: From the user homepage user can consult the doctors.
  Actor: user
  Input: Hospital name, Department name,Doctor,Symptoms
  Output: Booking id will be automatically generated and if no previous booking is present then values are added to the booking table and a message "Booked Successfully" is toasted.
- Prescription
  Purpose: From the doctor's homepage ,prescription can be given for each booking and previous history can be viewed.
  Actor: Doctor
  Input: Medicine name
  Output: Booking status is changed and prescription is added to the

database.Prescription can be viewed by the user.

- BMI Calculator
  Purpose: Calculate and display bmi values and view previous bmi calculations.
  Actor: User
  Input: Height and weight
  Output: Bmi value and status

- Viewing and accessing of data
  Purpose: To select,add and view images and pdfs
  Actor: User
  Input: Description,userid,path
  Output: Images and pdfs added to database can be viewed and accessed.

- Setting Reminder
  Purpose: To set reminder for medicines.
  Actor: User
  Input: Medicine name and course completion date
  Output: Notification is enabled in notification bar after checking date

Non Functional Requirements

1. Performance Requirements

   Login should be verified for each user. Test cases corresponding to each problem must be present in the database.

2. Safety Requirements

   The system must not be damaged or manipulated by unauthorized access to the database.

3. Security Requirements

The user information should not be accessed by other users and the username and password are unique for each user..

3.2 Hardware and Software Requirements

Hardware Interface

- Client Side:

  Processor: Snapdragon

  RAM: 512 MB

- Server side: Intel Core i3 and higher

  RAM: 1 GB

Software Requirements

- Front end: Android studio, Java
- Back end:Netbeans(jsp)
- Database: MySQL(phpMyadmin)
- Operating System: Windows

- Local server: Xamp Server

Chapter 4

System Design

4.1 Introduction

Designing requires a careful planning and thinking on the part of the system designer. Designing a system means to plan how the various parts of it are going to achieve the desired goal. After the software requirements have been analysed and specified, design is the first of the three technical activities. Designing, coding and testing are required to build and verify the mobile application.

4.2 Data Flow Diagrams

Data Flow Diagram is a pictorial way of showing the flow of data into/within the system, around the system and out of the system. It is a graphical representation of flow of data within a system. Unlike flowcharts, DFDs do not give detailed descriptions of modules but graphically describe data and how the data interact with the system. The DFD enable us to visualize how the system operates, its final output and the implementation of the system as a whole including modification if any. The purpose of data flow diagram is to provide a semantic bridge between users and system developers.

LEVEL 0 DFD

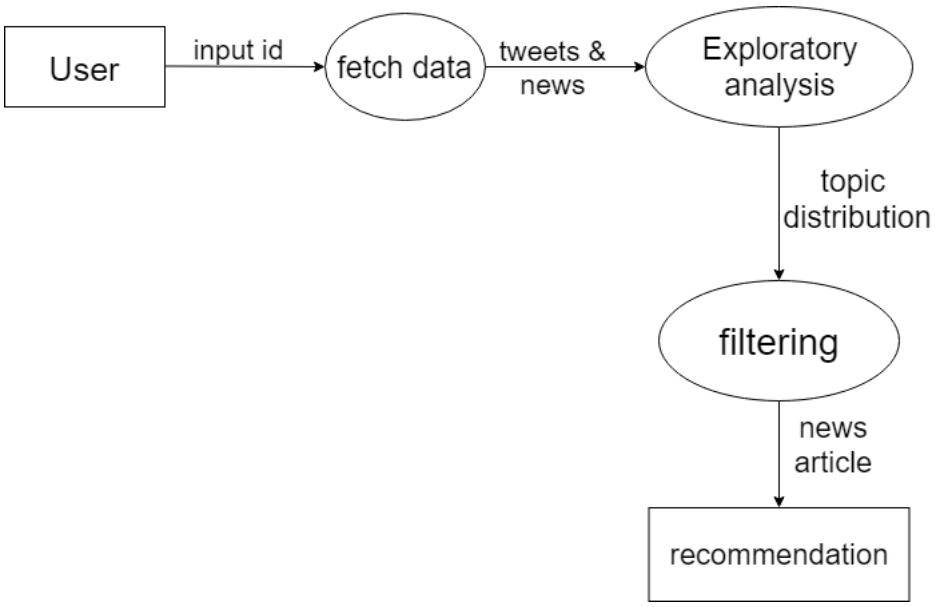

Figure 4.1: Level 0 DFD

Level 1 FETCH DATA DFD

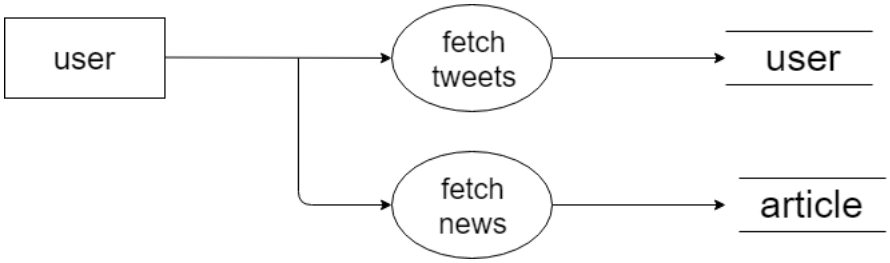

Figure 4.2: Fetch Data

Level 1 Exploratory Analysis:Tweets DFD

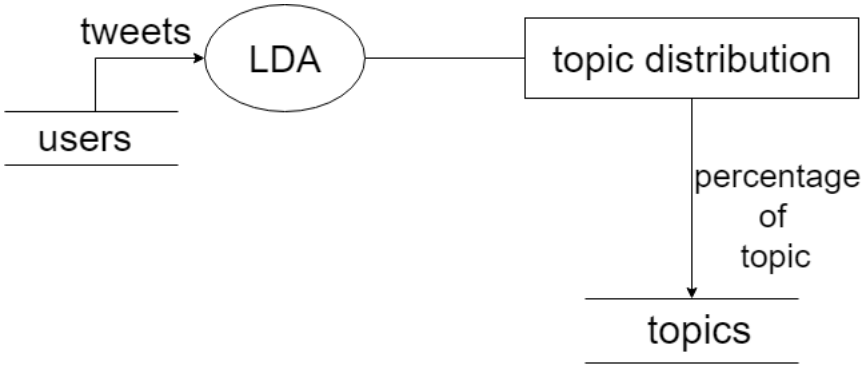

Figure 4.3: Exploratory Analysis:Tweets

Level 1 Exploratory Analysis:News DFD

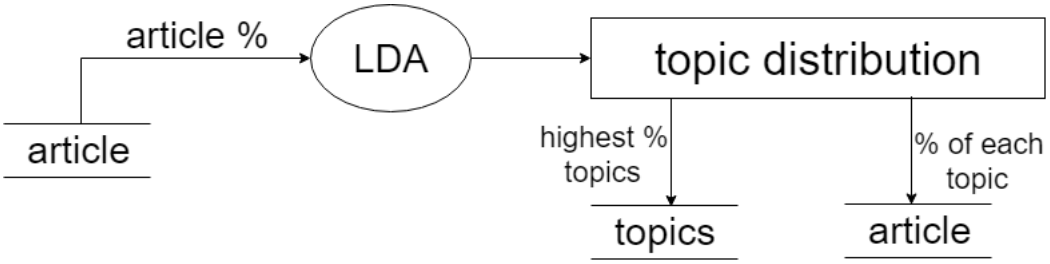

Figure 4.4: Exploratory Analysis:News

Level 1 Filtering DFD

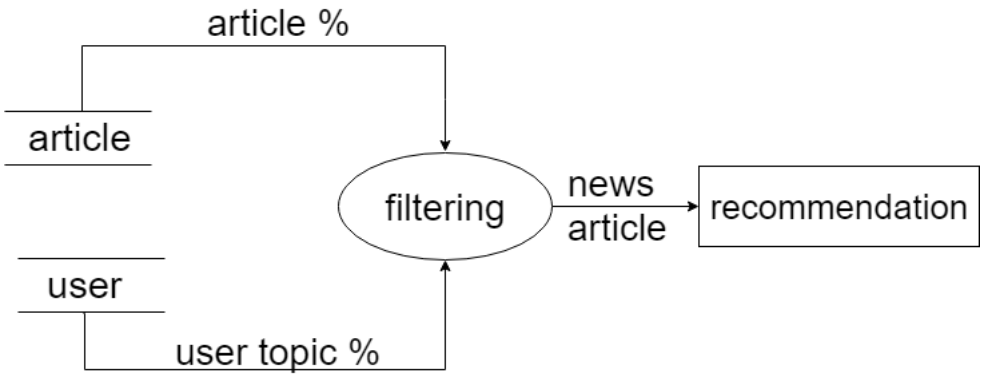

Figure 4.5: Filtering

4.3 Tables Used

The system has the following tables:

- Users: Stores the tweets pulled from users; their topic distribution
- Articles: Stores news articles and their topic distribution
- Tweets: Stores the tweets scrapped from the user

4.4 Database Design

A database is accessed, read from and written to, using an interface that allows applications to store and retrieve data. This interface is called an interface driver or database driver. There is usually more than one driver for an RDBMS. ODBC (Open DataBase Connectivity) is a popular database driver. So, if you write a program that needs to store and read data, you would use the API (Application Programming Interface, a collection of functions) provided by ODBC to do so. Similarly, there is JDBC (Java DataBase Connectivity) and others.

4.5 Modular Design

The project is divided into independent modules for

- User

  On entering the name,address,username,security question and answer the user is successfully registered.User can login to the account and can access various functions like booking the doctor,viewing prescriptions,accessing imagesand pdfs,setting reminder and calculating bmi.

- Hospital

  After giving inputs like name,address,phone,username,password,security question,answer the hospital will be registered.It can do two functions;add departments and add doctor.

- Doctor

  The doctor is registered when the name, address,phone, email,username,password,security question and answer are given.the doctor can perform two functions.view patient history and add prescription.

4.6 Input Output Design

- Registration

  Input: name,address,phone,username,password,security question,answer
  Output: after these values are stored in database,registration will be successfully completed.
- Login
  Input: username,password,type of user.
  Output: login successful if the details are correct otherwise reset options can be availed.
- Consultation

  Input: hospital name,department name,doctor,symptoms
  Output: booking id will be generated.a message booked successfully is toasted.
- Prescription

  Input: medicine name
  Output: booking status is changed and prescription added to database.
- BMI calculator

  Input: height and weight
  Output: BMI values and status.
- Viewing and accessong of data

  Input: description,userid,path
  Output: images and pdfs added to database can be viewed and accessed.
- Reminder

  Input: medicine name,course completion date.
  Output: notification enabled in the notification bar after date is checked.

Chapter 5

System Implementation

The app aims at minimising time spend waiting in queue and consulting a doctor.All the health related matters are consolidated at one place.

Platform and Tools

The development of this project was done in Windows environment.It runs on android.

Platform

System - Windows is preferred for its user friendliness and vast set of available tools. It provides an easy way to configure a web server to run the application

Database Php My Admin as it easy to maintain and retrieve records by simple queries which are in English language which are easy to write.

Tools

Android studio and netbeans are used to develop.The programming language used is java.

Python libraries included are:-

- ANDROID STUDIO(front end) -Android Studio is the official integrated development environment (IDE) for Google's Android operating system

- NET BEANS(back end)- NetBeans is an integrated development environment (IDE) for Java. NetBeans allows applications to be developed from a set of modular software components called modules.

- XAMP- is a free and open source cross-platform web server solution stack package developed by Apache Friends,consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages.

- PhpMyAdmin- phpMyAdmin is a free and open source administration tool for MySQL and MariaDB.

- JAVA -Java is a general-purpose computer-programming language that is concurrent, class-based, object-oriented,and specifically designed to have as few implementation dependencies as possible

5.1 Sample Code

Sample Python File

In here we define the analysis process

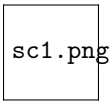

Figure 5.1: Sample code for Python

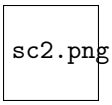

Figure 5.2: Sample code for Python

Base HTML Template

A basic html template for a page

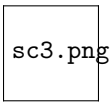

Figure 5.3: Sample code for HTML

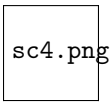

Figure 5.4: Sample code for HTML

Sample Module in PHP

Our js file in a modular design and the below show is the code

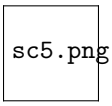

Figure 5.5: Sample code for PHP

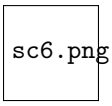

Figure 5.6: Sample code for PHP

Sample CSS File

In here we define the styling for the elements

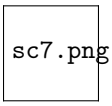

Figure 5.7: Sample code for CSS

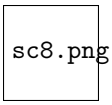

Figure 5.8: Sample code for CSS

Screenshots

HOME PAGE

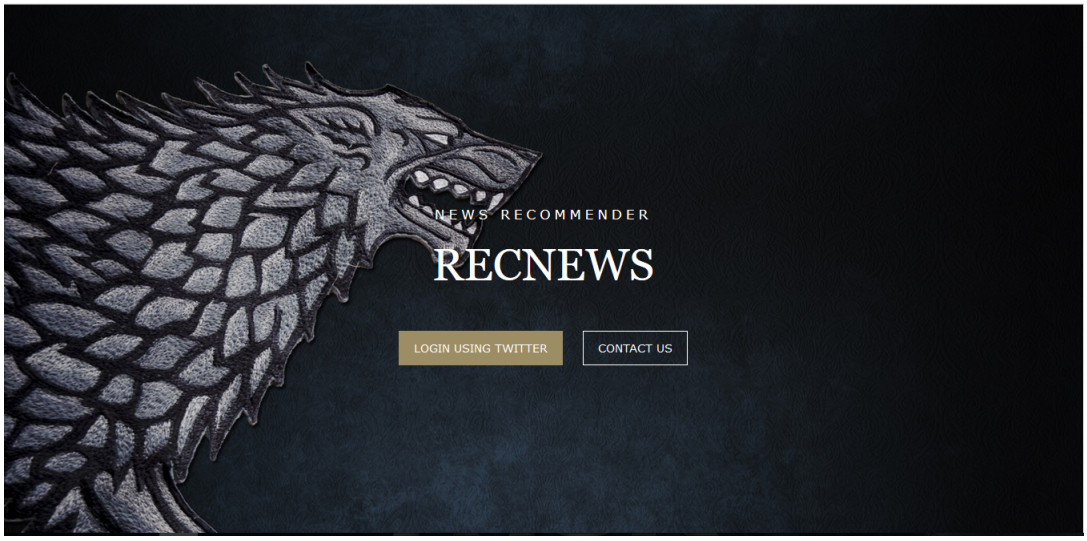

Figure 5.9: Screenshot of Home

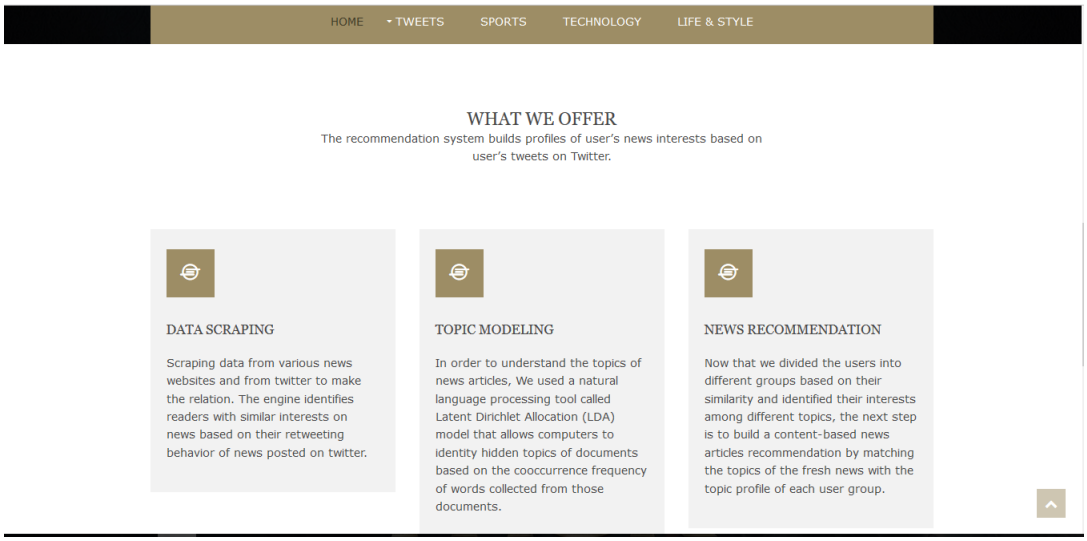

Figure 5.10: Screenshot of Home

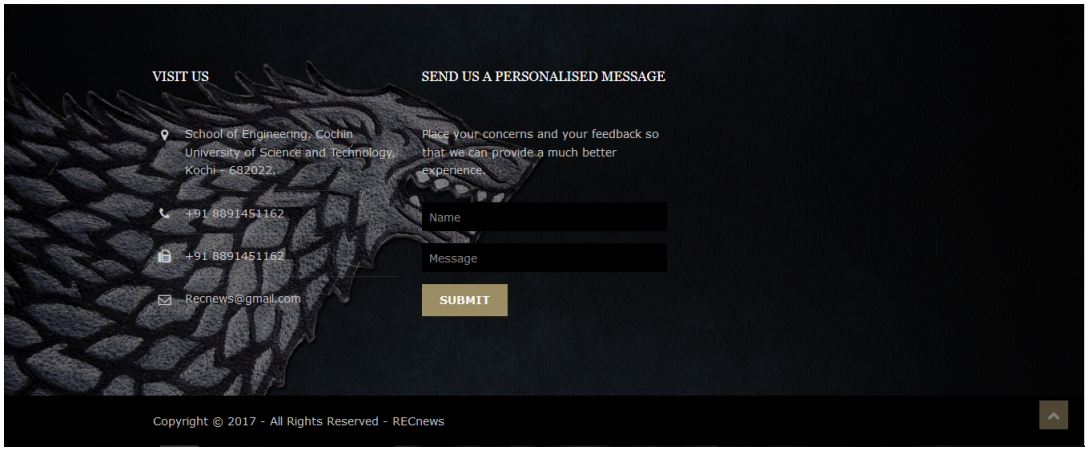

Figure 5.11: Screenshot of Home

Figure 5.12: Screenshot of Authorization

USER ID PAGE

Figure 5.13: Screenshot of Userid

PULLED TWEETS

Figure 5.14: Screenshot of Pulled Tweets

Figure 5.15: Screenshot of Pulled Tweets

Figure 5.16: Screenshot of News Recommended

RECOMMENDED NEWS

Chapter 6

Result

The project aims at providing a single platform to consolidate all health related matters at one place.The user can consult a doctor online and also perform many functions like calculation of bmi,accessing datas,and viewing prescription.

Chapter 7

Future Scope

There is a future scope for this project by adding a priority wise listing of patients in the doctors page so that the patients with more severe symptoms can be given more importance.A time limit can also be provided with each booking so that waiting time can be reduced.A provision for sharing health related data(images and pdf) can also be included.Downloading prescription reports can be implemented.

Chapter 8

Conclusion

This app is helpful for the patients,docors and hospitals. It makes the entire process of going to the hospital personally and taking appoinment into just making a few clicks on the app. The user can register and can log in any time.The hospitals will register the doctors.Patients can select the doctor.They can give the details of their symptoms.The app also allows to calculate the bmi.The doctors can see the list of patients when he logs into his account.He can then give prescription .There is a provision to add and access images and pdfs related to health of the user in this app.

Chapter 9

Reference

Books:

[1] Fundamentals of software engineering, Rajib Mall, Pearson Education, 2011.
[2] Learning PHP, MySQL, Javascript by Robin Nixon

Weblinks:

[1] https://ieeexplore.ieee.org/document/7176109/