

**ATHARVA EDUCATIONAL TRUST
ATHARVA COLLEGE OF ENGINEERING MALAD, MUMBAI**



Smart Health Consultant

Submitted in partial fulfilment of the requirements

of the subject of

Third Year of Engineering

by

Gaurav Baheti

Saloni Ghag

Yash Kamble

Supervisor:

Prof. Pankaj Kunekar

Department of Information Technology

Year: 2020-21



ATHARVA COLLEGE OF ENGINEERING

MALAD (W), MUMBAI 400 095

YEAR: 2019-2020

CERTIFICATE

This is to certify that

**Gaurav Baheti
Saloni Ghag
Yash Kamble**

*have submitted the project report for the requirements of the subject Internet
Programming in Information Technology satisfactorily*

on

“SMART HEALTH CONSULTANT”

As prescribed by the University of Mumbai Under the guidance of

PROJECT GUIDE

H.O.D.

PRINCIPAL

INTERNAL EXAMINER

COLLEGE SEAL

EXTERNAL EXAMINER

Approval for T. E. Project Report

This project report entitled '**Smart Health Consultant**' by **Gaurav Baheti, Saloni Ghag and Yash Kamble** is approved for the subject of *Third Year of Engineering in Information Technology*.

Internal Examiners. -----

Project Guide. -----

Date:

Place:

Declaration

I declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

--- Gaurav Baheti(03)

--- Saloni Ghag(22)

--- Yash Kamble(36)

Date:

ACKNOWLEDGEMENT

We would like to thank our guide Prof. Pankaj Kuneekar for his support during the entire phase of the report. His invaluable guidance played a pivotal role in smooth implementation of the project. Also, we would like to thank our entire staff of IT Department whose encouragement and support enabled us shape our report the way it has. Ultimately, we would like thank all the people of the open source community, without whose effort, it wouldn't have been possible to fulfil the requirement of the report.

ABSTRACT

Smart technology is improving day by day because of the easy usage options, efficiency of the applications. Medical science and technology is no exception, but that they are almost beginning to overlap upon each other and in certain situations even combining with each other to help the end user. This paper presented here is the one that will be very useful and effective in helping the users to find out appropriate doctors for the diseases/symptoms. The purpose of this project is to enable the user or the patient to get all the required details like availability, contact information about the doctors who are specialized in the issues given by the patient.

This application allows user to get instant supervision on their health issues through a smart health care application online. The application is feed with various symptoms and the diseases associated with those systems. This system provides Quality Health Care to everyone and error free and smooth communication to patients. Web technology is also used in hospital management by serving with search hospitals; improve health outcomes and medical scheme efficiency measures.

CONTENTS

Chapter No	Topic	Page No
Chapter 1	Introduction to Title	1
Chapter 2	Literature Survey	5
Chapter 3	Requirement Analysis	15
Chapter 4	System Design	20
Chapter 5	Hardware And Software Used	29
Chapter 6	Testing Procedure	32
Chapter 7	Gantt Chart	37
Chapter 8	Result and Discussion	40
Chapter 9	Conclusion	49
Chapter 10	Future Scope	51

CHAPTER 1

INTRODUCTION TO TITLE

1 . INTRODUCTION

The immense value of health to human life has been universally acknowledged. As declared in 1948 in Article 25 of the Universal Declaration of Human Rights

“Everyone has the right to a standard of living adequate for the health and well-being of himself and his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.”

The meaning of ‘health’ can be individually viewed from various perspectives. Understanding how different individuals consider health on a personal level could provide professionals with useful indications on what can influence behaviour with respect to health and wellness within the general population

So as we all have heard the famous saying “HEALTH IS WEALTH”. Health has become a very important factor for each and every human being among the world. Health has been an important factor for a particular individual to be successful in his/her life. But unfortunately this factor has been now neglected by most of the human beings as all have busy schedules going on in everyone’s life.

So people have less time to go and consult the doctor regarding their health they need a fast and fine solution for this. So if the humans can check or consult their health online, wouldn't that be a great solution for them? Considering this and many other factors, the project is made.

1.1 NEED

The need for the website defines not only the usefulness of the website but the expectations of the development team involved. The application is user friendly towards every people. It is an application for general people. It has an application in health therapy.

1.2 PROBLEM STATEMENT

Consulting a doctor has become but obvious thing in our daily life, but availability of doctor at the time of our requirement is quite unpredictable.

specialist doctor due to insufficient or we can say that half information about the hospital and doctors schedule given on the sites.

This may be a serious concern as it can cause unexpected harm to the patient during the mean time.

The patients also sometimes misinterpret the diseases guessing from the symptoms which also is a factor to be looked into , but most of sites do no predict the disease.

1.3 AIM AND OBJECTIVE

The project entitled 'SMART HEALTH CONSULTING' now-a-days consulting a doctor is a quite obvious thing in our day to day life, but the availability of the

doctor during the time of our requirement is unpredictable. In order to overcome this issue, the proposed web application is made.

This website enables user to express their issues. It then processes user's input of the disease and gives the symptoms for various health issues that could be associated with the disease given by the user. It will provide a facility for all the patients to get appointment through this site.

It will display all the personal information of doctors like phone numbers, specialization and qualification degree.

Website will be totally user friendly that will be easy to maintain the administrators.

1.4 PROPOSED SYSTEM

In this system the patients or the user has to register into the application. After registration patient will be given a unique username and password. Patient can use this for logging into this application to get the required information.

Patient can search the doctors specifically.

Patient has to select a particular doctor as per requirements. Patient (user) can see doctor's profile. From that patient can search the specific doctor. Also the patient can view doctor's schedule, contact details like phone number to look for an appointment according to his convenience.

CHAPTER 2

REVIEW OF LITERATURE

REVIEW OF LITERATURE

2.1 LITERATURE REVIEW

Ayaskanta Mishara et.al (2018) proposed the social insurance framework utilizing AD8232 heart rate sensor. The framework is chiefly made out of three critical stages initially is the accumulation of information's through the sensors and fallowing stage is transmitting the information's to the web with help of microcontroller through WLAN module lastly preparing the information's in the server . The ECG sensor AD8232 Joined to the patient measures electrical exercises of heart over some undefined time frame. The information procurement is done utilizing arduino uno and is transmitted through the ESP 8266 to cloud. The ESP8266 module has been pre-customized with an arrangement of firmware .Thus we can interface this to the arduino specifically and after that transmit the information. This phase of information taking care of prompts the addition of minor blunders while transmission from the shield to the web. As a finding to this minor mistake a successful convention can be utilized for secure transmission of information. This proposed framework fundamentally weight on the financially savvy innovation and simple method for getting to information utilizing IoT.

Akshyakanta Mishara et.al (2018) proposed an online ECG observing framework. The procedure starts at the sensor AD8232 which gathers the ECG signal from the patient and pass it on to simple to advanced convertor ADS1115. It changes over the simple information got by sensor AD8232 and passes it to Raspberry Pi3 .Raspberry Pi3 convert them into computerized information. At that point MQTT was introduced on Raspberry pi utilizing python charges. At that point a profile was made on MQTT cloud alongside the heart beat screen and afterward we could

get to it utilizing raspberry pi. Framework utilizes MQTT convention over HTTP convention as it utilized less payload information , has a straightforward distribute buy in design and its message estimate is little along these lines making it perfect for memory compelled gadgets . Also, the extra point in regards to the MQTT is that it is the lightweight open convention it is helpful for associations with remote areas where a little code impression is required The above reviewed content focuses on monitoring the ECG data and sending them to the cloud, they have used a light weight protocol MQTT which is an easy way of sending data than using ESP8266 [1]Bhaskar Niraghatam et.al (2017)is expected at building up an ECG checking framework utilizing an android stage. Diverse ECG beats are taken by interfacing the cell phone to the emulator and the got information is put away for reference by the specialist. We can likewise contrast the already put away information and present information. This framework can't be utilized for remote territories. Future work of this framework can be made accessible for remote places and making them accessible on the play store

R.Harini et.al (2017) proposed an ECG observing framework utilizing framework utilizing android application. The framework depends on ECG sensor, microcontroller and android innovation .The framework utilizes e-Wellbeing Sensor Shield that permits the Arduino UNO board to perform biometric and therapeutic applications where imperative sign checking is required by utilizing different sensors like, Electrocardiogram (ECG),Heartbeat ,oxygen in the blood (SPO2), Body Temperature, Glucometer, Wind current (breathing) and so on for the capacity of information in the web XAMPP is utilized. The proposed framework enables specialists to see his patient's fundamental parameter remotely and progressively in genuine time. A comprehensive review on ECG monitoring are proposed by AyaskantaMisharaet.al, Bhaskar Niraghatamet.al, R.Harini et.al.

Gaurav Raj et.al(2017) built up an IOT based EMG observing gadget, which will investigate the EMG flag, created from biceps bronchi to check the execution of exhaustion in that muscle. Moreover, the produced crude EMG flag are spared and send over web by means of WIFI module esp8266 utilizing TCP/IP convention. The EMG flag was recorded on spike recorder programming. At that point recorded flag was separated in four investigation sets and each set was additionally isolated into four stage. After this, the estimations of each eliminate were found. Subsequent to getting estimations of each period of each member, mean power recurrence (mpf) is computed by recognize 4.1. This will give best outcome to investigation. The minitab version 18 was utilized to look at the signs. Contingent upon the size of the signs, this investigation can perceive the muscle weariness in manual lifting.

Ho-Murmur Kao et.al (2018) has incorporated a framework for versatile wellbeing application. the executed versatile table care engineering incorporates a home box associated with a circulatory strain check, an android so advanced mobile phone related with inescapable registering, a UI in the PDA and a cloud-based silverware data framework. The framework can perform information observing and administration of patient imperative signs and day by day action, giving a powerful interface between clinical staff and remotely helped patients. The framework mostly centres around the self administration and in enhancing the telecare systems.

Godavarthi Rajesh et .al(2017) proposed a framework to screen the patient's energetic signs, for example, EMG, circulatory strain, blood glucose, ECG, bilirubin check and so forth. The detected incentive by the sensors are refreshed on the database and sent to the specialist's cell phone as android application. Here cc3200 microcontroller is utilized in view of in-manufactured system processor to

deal with famous conventions. Ho-Murmur Kao et .al, Godavarthi Rajesh et.al has designed different framework for monitoring the vital signs of individuals but is developed with self administration technique for enhancing telecare system rather than sending the data using an effective protocols.

SpurthyTalakalaet.al(2017) have planned an original thought for observing the patients points of interest, for example, ECG, EMG, pulse, blood glucose , heart rate ,temperature utilizing a web server and android platform, where specialist can continuously monitor the patients using a simple application. In android application it gets the Bluetooth information with help Bluetooth attachment Programming interface and read the information with the assistance of read stream. The principle favourable circumstances are remote checking framework, area can be explored without utilizing GPS, naturally acquire the situation with no constraint.

2.2 EXISTING SYSTEM

In existing system, consulting any doctor is very tiresome task for the patient. There are many cases where the patient is unable to find out the required doctor for his disease, this become even worse if there is an emergency case especially when the patient is in an unknown area. This situation might harm the patient in the meantime.

Even knowing the proper address, contact details of the doctor for required disease has become a very tough task.

Also, sometimes doctor's schedule may get change during such cases patient's appointment might be cancelled. This might not be known by the patient due to lack of communication between the patients and the doctor. A doctor can have many patients in a day which becomes even more difficult for the doctor to

intimate his schedule for each and every patient. Because of this time of patient get wasted.

2.3 SURVEY OF EXISTING SYSTEMS

1. Smart Health Consulting Website:

<https://www.scribd.com/document/340987704/Survey-Novel-Framework-for-Smart-Health-Consulting-Using-Android-Device-IJAERDV04I0284872>

Feature:

This application allows user to login and sign up the screens. Then it proceeds to the search module where user can search related issues. If the database contain the related issue it shows prescription or else user not satisfied with it they can make call by clicking call option to consult the doctor. This application contain doctor as an admin and they maintain the server. If there is no related result the user can send query to the doctor. Doctor can view all the queries from the user or patient side and update solution to their queries. The security related issues have been managed and reduced. In order to achieve better quality in patient care, the above problems will be solved.

Limitations:

The limitations of the above mentioned app is that it doesn't provides the patient to book an appointment for the treatment of the disease. Also the whole server is maintained by the doctors themselves so they are giving most of the time here,

which they can use elsewhere if the whole system is treated by another administrator.

2. Indian Health Care Tourism:

<http://indianhealthcaretourism.com/medical-care/>

Feature:

Destination for patients seeking world class treatment at competitive rates. Website specifies all the medical treatment as well as aayurvedic treatment available in India. And also give the details of hospital in specific city.

Limitation:

They do not specify the disease with the help of the symptoms which can be a measure concern at the time of emergency especially when the patient is in rural area , this mean time of reaching to the hospital can be dangerous for the patient.

3. Customsoft

<https://slideplayer.com/slide/13495764/>

Feature:

Software is developed for the purpose of maintaining patient health records and manage appointments for various treatments under single roof and minimum time. Smart Health Consultation Software is developed for the purpose of maintaining patient health records and manage appointments for various treatments under single roof and minimum time.

Limitation:

If patient have any other issue other than change in heart rate or oxygen saturation then there is no guidance for that in this application.

In our website we are going to have a feature in which website will tell the user what disease they might be having according to their symptoms.

2.4 SUMMARY OF LITERATURE REVIEW

S.NO	AUTHORS	TITLE	OBSERVATION
1	AyaskantaMishra, BiswarupChakraborty	AD8232 based Smart Healthcare System using Internet of Things (IoT)	Ad822 is used ,Cost effective technology , errors may occur
2	AyaskantaMishra, AkankshaKumari, PoojaSajit, PranjalPandey	Remote Web Based Ecg Monitoring Using MQTT Protocol For IOT In Healthcare	Sensors are used for collecting the data , MQTT protocol is used for transferring data to the cloud
3	Bhaskar Niraghatam ,M V Ramanamurthy	Heart Beat Monitoring System And Security Using Android	Different ECG pulses are taken by connecting the mobile phone to the emulator and the received data is stored for reference by the doctor. Does not used in remote areas
4	R.Harini, B. Rama Murthy , K.TanveerAlam	Development Of ECGMonitoring System UsingAndroid App	ECG sensor, microcontroller & android technology are used for processing ,storing and retrieving Xampp is used

5	Gaurav Raj, Neelam Rup Prakash, Jagjit Singh Randhawa	IoT Based EMG Monitoring System	The system is provided with WIFI module ESP8266 it uses TCP/IP protocol for storing the ECG data sensed by the sensor
6	Hao-Yun Kao, Chun-Wang Wei, MinChun Yu, Tyng-Yeu Liang, WenHsiungWu, Yenchun Jim Wu	Integrating a Mobile Health Applications for SelfManagement To enhance Telecare System	Tele care system is developed to monitor the health of the patients .focus mainly on the selfmanagement of health using tableware
7	Godavarthi Rajesh, M.K.	Srilekha Advanced Healthcare Monitoring System Using CC3200 microcontroller	CC3200 microcontroller is used because of in- built network processor to handle popular protocols such as TCP and UDP, secure connectivity
8	Spurthy Talakala, M. Hari Krishna	Instantaneous Health Care Monitoring System d Smart Phone	Remote monitoring system ,location can be navigated without using GPS, automatically obtain the position without any constrain

CHAPTER 3

REQUIREMENT ANALYSIS

REQUIREMENT ANALYSIS

Requirements analysis in systems engineering and software engineering, encompasses those tasks that go into determining the needs or conditions to meet for a new or altered product, taking account of the possibly conflicting requirements of the various stakeholders, such as beneficiaries or users. A software requirements specification (SRS) is a document that is created when a detailed description of all aspects of the software to be built must be specified before the project is to commence. It is important to note that a formal SRS is not always written. In fact, there are many instances in which effort expended on a SRS might be better spent in other software engineering activities. Requirements analysis is critical to the success of a development project. Requirements must be actionable, measurable, testable, related to identified business needs or opportunities, and defined to a level of detail sufficient for system design. By analyzing different hardware components and familiar software following are hardware & software used in our project:

3.1 HTML

Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. With Cascading Style Sheets (CSS) and JavaScript it forms a triad of cornerstone technologies for the World Wide Web. Web browsers receive HTML documents from a web server or from local storage and render them into multimedia web pages.

HTML describes the structure of a web page semantically and originally included cues for the appearance of the document. HTML elements are the

building blocks of HTML pages. With HTML constructs, images and other objects, such as interactive forms, may be embedded into the rendered page. It provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links and quotes.

3.2 CSS (CASCADING STYLE SHEET)

Cascading Style Sheets, fondly referred to as CSS, is a simple design language intended to simplify the process of making web pages presentable. CSS handles the look and feel part of a web page. Using CSS, you can control the color of the text, the style of fonts, the spacing between paragraphs, how columns are sized and laid out, what background images or colors are used, layout designs, variations in display for different devices and screen sizes as well as a variety of other effects. CSS is easy to learn and understand but it provides powerful control over the presentation of an HTML document. Most commonly, CSS is combined with the markup languages HTML.

3.3 JAVASCRIPT

JavaScript is a high-level, interpreted scripting language that conforms to the ECMA Script specification. JavaScript has curly-bracket syntax, dynamic typing, prototype-based object-orientation, and first-class functions. Alongside HTML and CSS, JavaScript is one of the core technologies of the World Wide Web. JavaScript enables interactive web pages and is an essential part of web applications. The vast majority of websites use it and major web browsers have a dedicated JavaScript engine to execute it. As a multi-paradigm language, JavaScript supports event-driven, functional, and imperative (including object-

oriented and prototype-based) programming styles. It has APIs for working with text, arrays, dates, regular expressions, and the DOM, but the language itself does not include any I/O, such as networking, storage, or graphics facilities. It relies upon the host environment in which it is embedded to provide these features. Initially only implemented client-side in web browsers, JavaScript engines are now embedded in many other types of host software, including server-side in web servers and databases, and in non-web programs such as word processors and PDF software, and in runtime environments that make JavaScript available for writing mobile and desktop applications, including desktop widgets.

3.4 PHP

The PHP Hypertext Preprocessor (PHP) is a programming language that allows web developers to create dynamic content that interacts with databases. PHP is basically used for developing web based software applications. This tutorial helps you to build your base with PHP. PHP is a server side scripting language that is embedded in HTML. It is used to manage dynamic content, databases, session tracking, even build entire e-commerce sites. It is integrated with a number of popular databases, including MySQL, PostgreSQL, Oracle, Sybase, Informix, and Microsoft SQL Server. PHP is pleasingly zippy in its execution, especially when compiled as an Apache module on the Unix side. The MySQL server, once started, executes even very complex queries with huge result sets in record-setting time.

3.5 XAMPP SERVER

XAMPP 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. Since most actual web server deployments use the same components as XAMPP, it makes transitioning from a local test server to a live server possible. XAMPP's ease of deployment means a WAMP or LAMP stack can be installed quickly and simply on an operating system by a developer. With the advantage a number of common add-in applications such as WordPress and Joomla! can also be installed with similar ease using Bitnami.

3.6 MYSQL

MySQL is an open-source relational database management system (RDBMS). MySQL is free and open-source software under the terms of the GNU General Public License, and is also available under a variety of proprietary licenses. MySQL was owned and sponsored by the Swedish company MySQL AB, which was bought and can be use by Sun Microsystems (now Oracle Corporation) In 2010, when Oracle acquired Sun, Widenius forked the open-source MySQL project to create MariaDB.

CHAPTER 4

SYSTEM DESIGN

SYSTEM DESIGN

4.1 UML DIAGRAM:

In the Unified Modelling Language (UML), a use case diagram can summarize the details of your system's users (also known as actors) and their interactions with the system. To build one, you'll use a set of specialized symbols and connectors. An effective use case diagram can help your team discuss and represent:

Scenarios in which your system or application interacts with people, organizations, or external systems

Goals that your system or application helps those entities (known as actors) achieve

The scope of your system

Use case diagram components:

Actors: The users that interact with a system. An actor can be a person, an organization, or an outside system that interacts with your application or system. They must be external objects that produce or consume data.

System: A specific sequence of actions and interactions between actors and the system. A system may also be referred to as a scenario.

Goals: The end result of most use cases. A successful diagram should describe the activities and variants used to reach the goal.

Use case diagram symbols and notation:

The notation for a use case diagram is pretty straightforward and doesn't involve as many types of symbols as other UML diagrams.

Use cases: Horizontally shaped ovals that represent the different uses that a user might have.

Actors: Stick figures that represent the people actually employing the use cases.

Associations: A line between actors and use cases. In complex diagrams, it is important to know which actors are associated with which use cases.

System boundary boxes: A box that sets a system scope to use cases. All use cases outside the box would be considered outside the scope of that system. For example, Psycho Killer is outside the scope of occupations in the chainsaw example found below.

Packages: A UML shape that allows you to put different elements into groups. Just as with component diagrams, these groupings are represented as file folders.

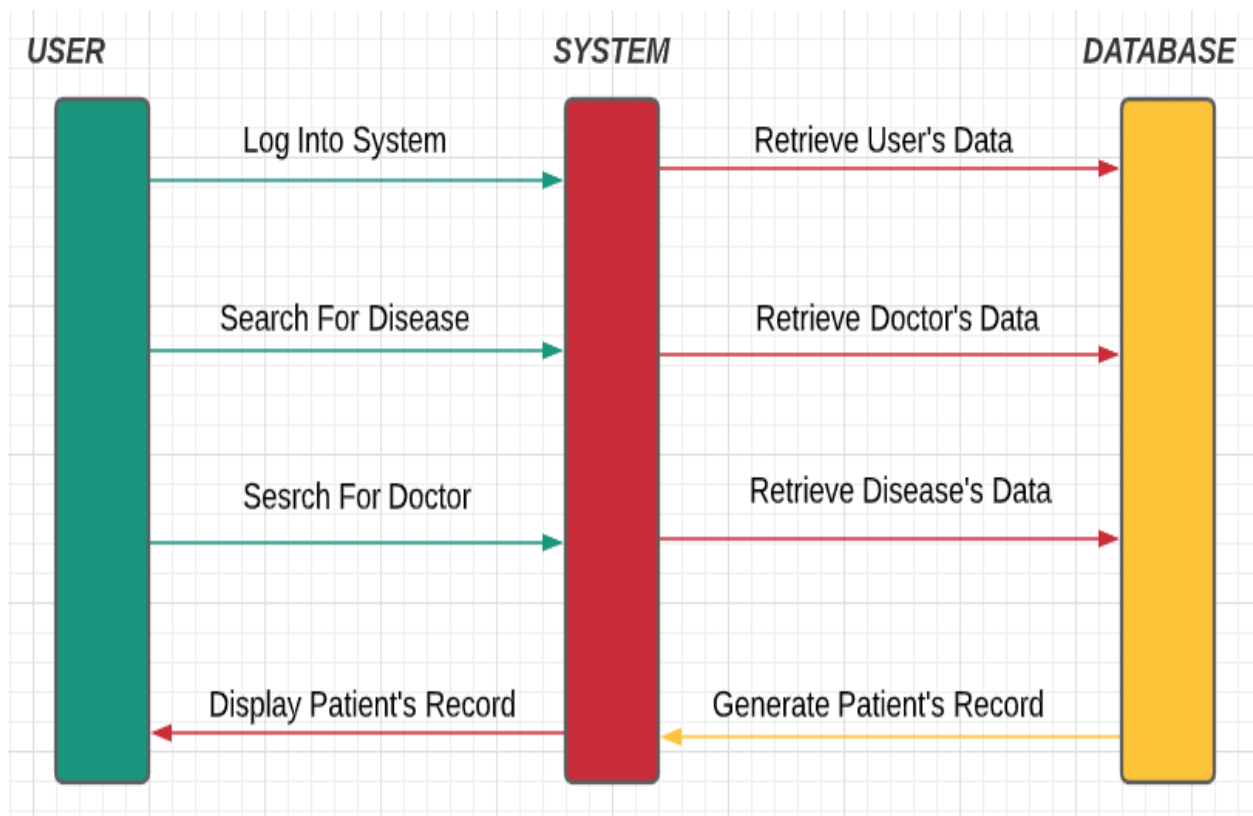


Fig: UML DIAGRAM

4.2 DFD DIAGRAM

Data flow diagrams are used to graphically represent the flow of data in a business information system. DFD describes the processes that are involved in a system to transfer data from the input to the file storage and reports generation. Data flow diagrams can be divided into logical and physical. The logical data flow diagram describes flow of data through a system to perform certain functionality of a business. The physical data flow diagram describes the implementation of the logical data flow. DFD graphically representing the functions, or processes, which capture, manipulate, store, and distribute data between a system and its

environment and between components of a system. The visual representation makes it a good communication tool between User and System designer. Structure of DFD allows starting from a broad overview and expands it to a hierarchy of detailed diagrams.

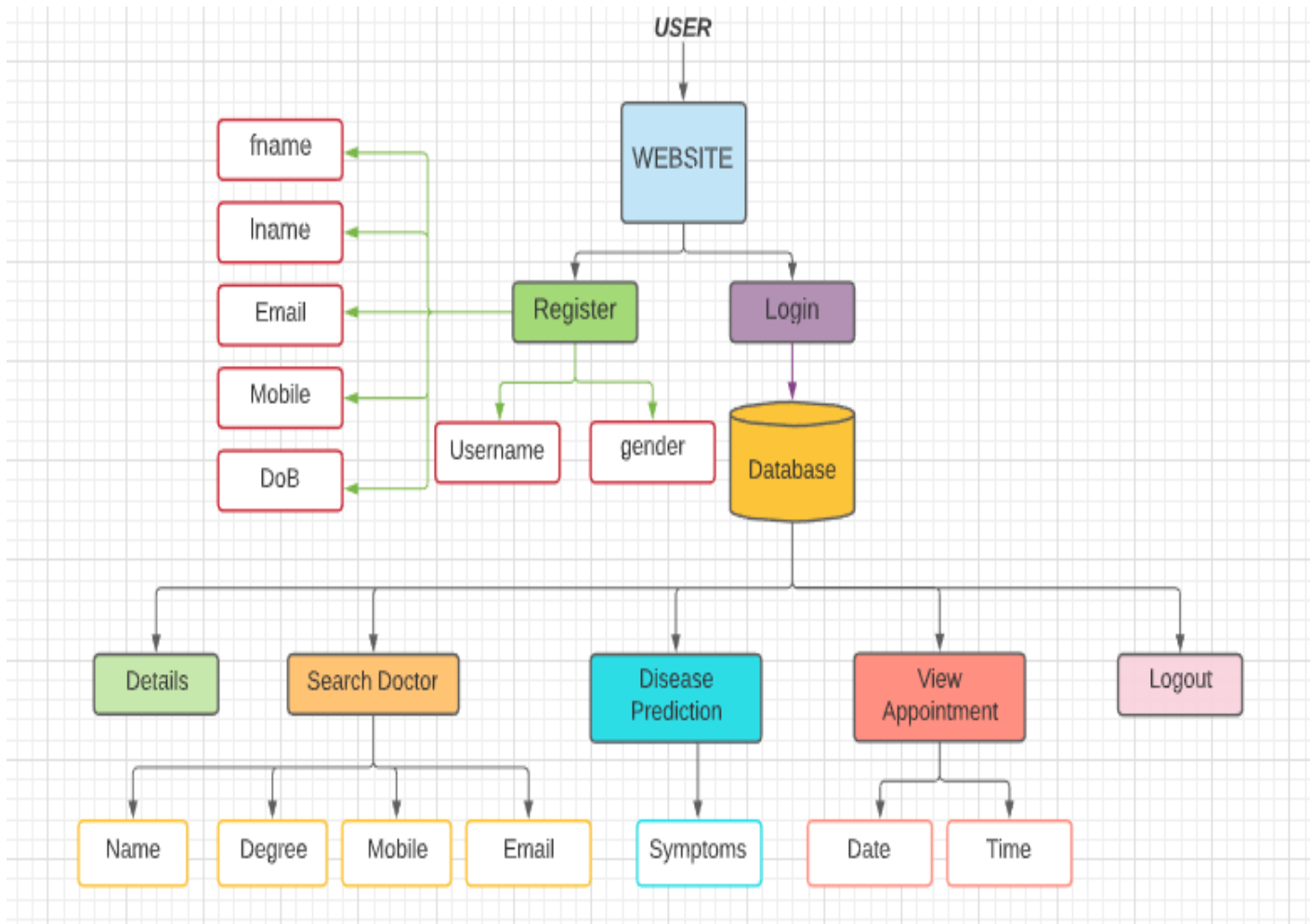


Fig: DFD DIAGRAM

4.3 SEQUENCE DAIGRAM

A sequence diagram shows object interactions arranged in time sequence. It depicts the objects and classes involved in the scenario and the sequence of messages exchanged between the objects needed to carry out the functionality of the scenario. Sequence diagrams are typically associated with use case realizations in the Logical View of the system under development. Sequence diagrams are sometimes called event diagrams or event scenarios. A sequence diagram shows, as parallel vertical lines, different processes or objects that live simultaneously, and, as horizontal arrows, the messages exchanged between them, in the order in which they occur. This allows the specification of simple runtime scenarios in a graphical manner. It represents the behavioural aspects of a system. Sequence diagram shows the interactions between the objects by means of passing messages from one object to another with respect to time in a system.

Elements in sequence diagram.

- **Object:** Objects appear at the top portion of sequence diagram. Object is shown in a rectangle box. Name of object precedes a colon and the class name, from which the object is instantiated. The whole string is underlined and appears in a rectangle box. Also, we may use only class name or only instance name.
- **Life-line bar:** A down-ward vertical line from object-box is shown as the life-line of the object. A rectangle bar on life-line indicates that it is active at that point of time.
- **Messages:** Messages are shown as an arrow from the life-line of sender object to the life-line of receiver object and labeled with the message name. Chronological order of the messages passing throughout the objects' life-

line show the sequence in which they occur . There may exist some different types of messages.

- **Synchronous messages:** Receiver start processing the message after receiving it and sender needs to wait until it is made. A straight arrow with close and fill arrow-head from sender life-line bar to receiver end, represent a synchronous message.

4.4 ER DIAGRAM

An entity relationship diagram (ERD), also known as an entity relationship model, is a graphical representation that depicts relationships among people, objects, places, concepts or events within an information technology (IT) system. An ERD uses data modeling techniques that can help define business processes and serve as the foundation for a relational database.

Importance of ERDs and their uses:

Entity relationship diagrams provide a visual starting point for database design that can also be used to help determine information system requirements throughout an organization. After a relational database is rolled out, an ERD can still serve as a reference point, should any debugging or business process re-engineering be needed later.

However, while an ERD can be useful for organizing data that can be represented by a relational structure, it can't sufficiently represent semi-structured or unstructured data. It's also unlikely to be helpful on its own in integrating data into a pre-existing information system.

There are five basic components of an entity relationship diagram. Similar components will be designated by the same shape. For example, all entities types might be enclosed in a rectangle, while all attributes are enclosed in a diamond.

The components include:

Entities, which are objects or concepts that can have data stored about them. Entities refer to tables used in databases.

Attributes, which are properties or characteristics of entities. An ERD attribute can be denoted as a primary key, which identifies a unique attribute, or a foreign key, which can be assigned to multiple attributes.

The relationships between and among those entities.

Actions, which describe how entities share information in the database.

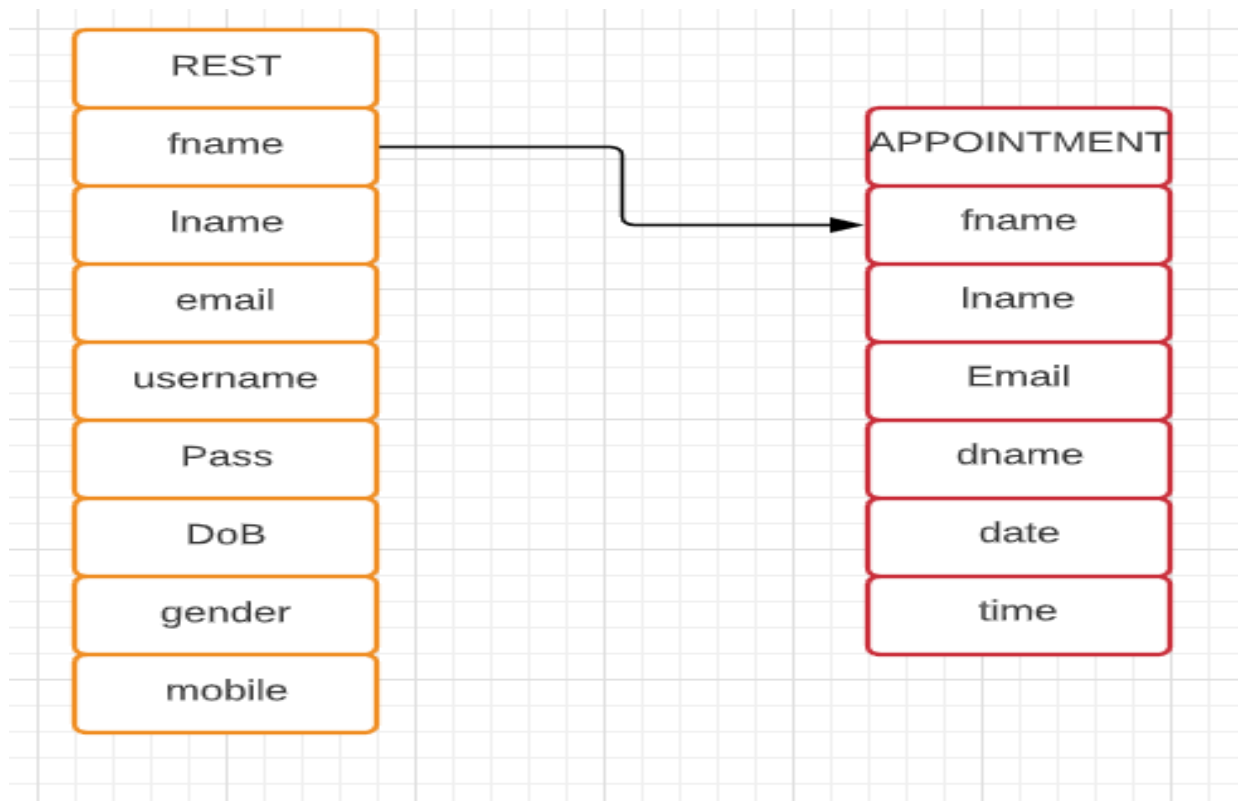
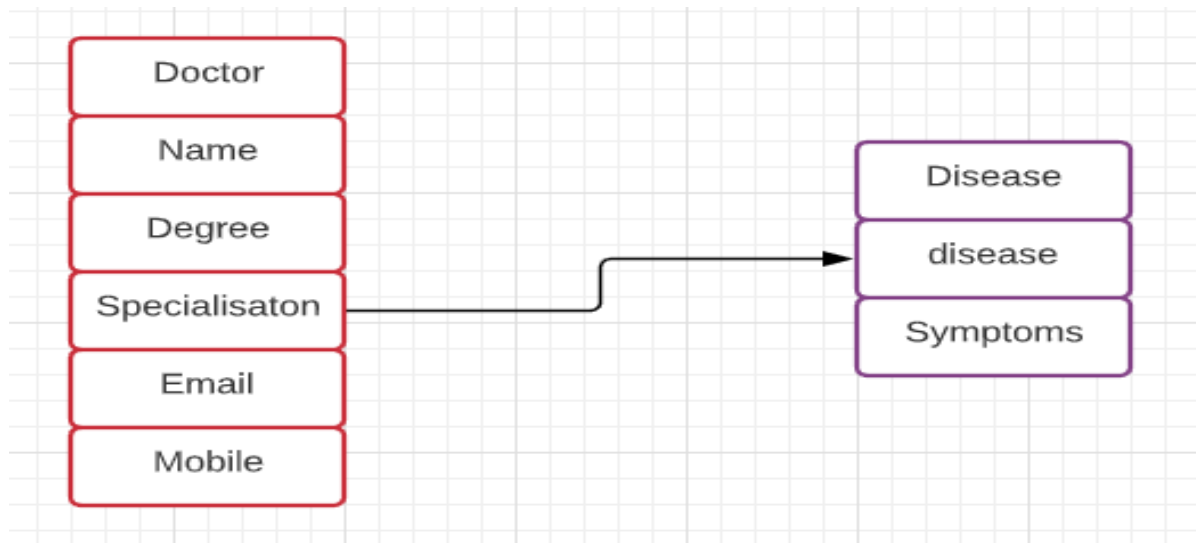


Fig: ER DIAGRAM

CHAPTER 5

DETAILS OF HARDWARE & SOFTWARE

DETAILS OF HARDWARE & SOFTWARE

5.1 HARDWARE SPECIFICATION

The hardware used for the development of the project is:

Processor	Pentium IV
Hard Disk	40GB
RAM	512MB or more
Keyboard	ASCII Keyboard with 108
Mouse	Optical Mouse
Monitor	LED Color

5.2 SOFTWARE SPECIFICATION

Operating System	Windows OS
Front End	Html, CSS, JS
Back End	MySQL, PHP, xamp server
Server Side Language	PHP 7.4
Browser	Supports all browser types

CHAPTER 6

TESTING PROCEDURE

TESTING PROCEDURE

6.1 TESTING

Testing is the process of evaluating a system or its component(s) with the intent to find that whether it satisfies the specified requirements or not. Testing is executing a system in order to identify any gaps, errors or missing requirements in contrary to the actual desire or requirements.

A test case is a document, which has a set of test data, preconditions, expected results and postconditions, developed for a particular test scenario in order to verify compliance against a specific requirement.

Test Case acts as the starting point for the test execution, and after applying a set of input values, the application has a definitive outcome and leaves the system at some end point or also known as execution postcondition.

There are several rules that can serve as testing objectives.

They are

- Testing is a process of executing a program with the intent of finding an error.
- A good test case is one that has a high probability of finding an undiscovered error.
- A successful test is one that uncovers an undiscovered error.

If testing is conducted successfully according to the objectives stated above, it will uncover errors in the software

Testing is the process of executing the program with the intent of finding errors. Testing cannot show the absence of defects, it can only show that software errors are present.

The Testing principles used are

- Tests are traceable to customer requirements.
- 80% of errors will likely be traceable to 20 % of program modules
- Testing should begin ‘in-small’ and progress towards testing ‘in large’.

This provides the final assurance that the System meets all functional, behavioural and performance requirements. The system is completely assembled as a package. Validation succeeds when the system functions in which the user expects.

6.2 TEST CASE

Test Case	Test Description	Test Steps	Expected Output	Actual Output	Status
1.Login Form	To Test the validity	1.Load the Login Form. 2.Enter Correct username 3.Enter Correct Password 4.Login	Valid Username & Password	Valid Username & Password	Username & Password Is Correct. The Result is OK.
2.Login Form	To Test the validity	1.Load the Login Form. 2.Enter Incorrect username 3.Enter	Invalid Username & Password	Invalid Username & Password	Username & Password is Invalid.

SMART HEALTH CONSULTANT

		Incorrect Password 4.Login			
3.Signup Form	To Register	1.Load the Signup form. 2.Enter Correct details. 3.Submit	Registered Successfully.	Registered Successfully.	The Result is OK.
4.Home Page	To Display User's Detail	1.Load the Homepage. 2.Retrieve user's detail from database. 3.Display the details.	Details Displayed.	Details Displayed.	The Result is OK.
5.Doctor Page	To Search for Doctor	1.Load the Search Doctor page. 2.Enter the name of doctor. 3.Retrieve Doctor's Details from database. 4.Display Doctor's Details. 5.Fix	Doctor's Details Displayed & fix appointment option.	Doctor's Details Displayed & fix appointment option.	The Result is OK.

SMART HEALTH CONSULTANT

		appointment option			
6.Disease Prediction Page	To Search for Symptoms of Disease	1.Load the Disease Prediction page. 2.Enter the disease. 3.Retrieve data from databse. 4.Display the symptoms. 5.Related Doctor option.	Symptoms of Disease Displayed & Related Doctor option.	Symptoms of Disease Displayed & Related Doctor option.	The Result is OK.
7.Appointment Page	To get Details of User's Appointment	1.Load the appointment page. 2.Retrive user's appointment data from database. 3.Display the appointment details.	Appointment detail of users displayed.	Appointment detail of users displayed.	The Result is OK.

CHAPTER 7

GANTT CHART

GANTT CHART

A Gantt chart is a horizontal bar chart. Frequently used in project management, a Gantt chart provides a graphical illustration of a schedule that helps to plan, coordinate, and track specific tasks in a project. A Gantt chart is constructed with a horizontal axis representing the total time span of the project, broken down into increments (for example, days, weeks, or months) and a vertical axis representing the tasks that make up the project, for example, if the project is outfitting your computer with new software, the major tasks involved might be: conduct research, choose software, install software.

Table: Project Development Phase

1	Analysis Phase
1.1	Study of Existing System
1.2	Study of discussion and research paper
1.3.1	Problem Definition
1.3.2	Scope
1.3.3	Feasibility
1.4	Defining the problem
1.5	Requirement Analysis
1.6	Project Estimation
2	Design Phase
2.1	System Design
3	Coding
3.1	Coding Module
4	Testing
4.1	System Testing
5	Documentation

7.1 Timeline Chart

Table: Work Task- Analysis Phase

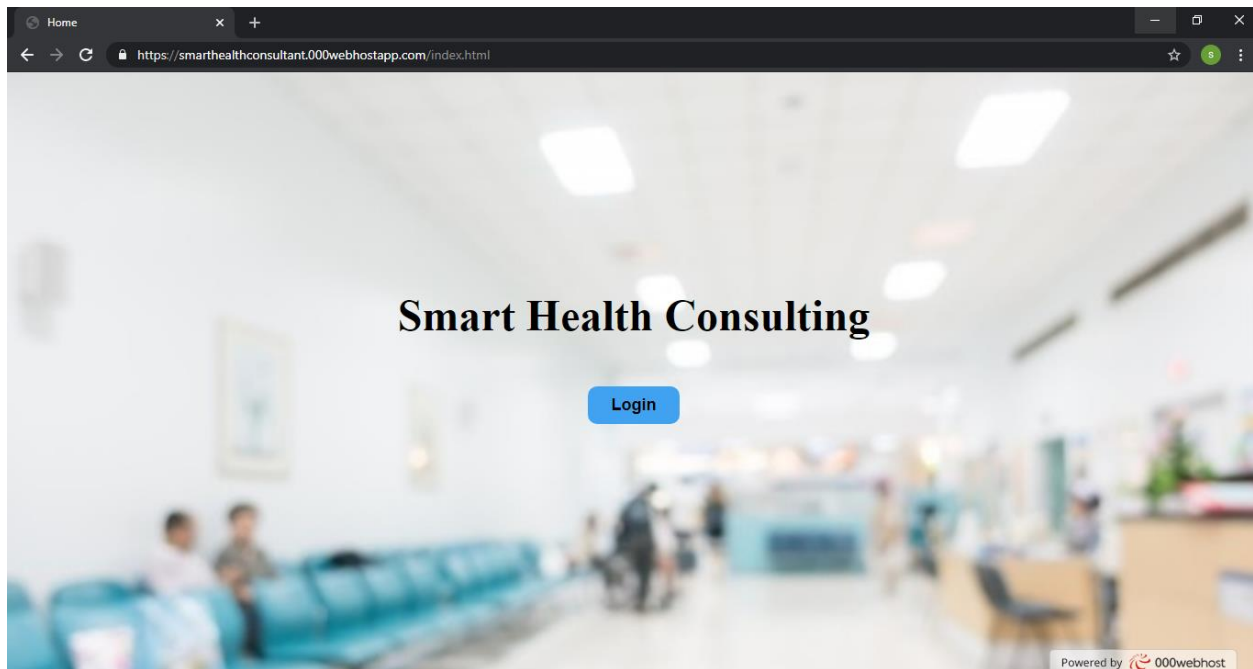
Work Task	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk 10	Wk 11	Wk 12	Wk 13
1.1													
1.2													
1.3.1													
1.3.2													
1.3.3													
1.4													
1.5													
1.6													
2.1													
3.1													
4.1													
5													

CHAPTER 8

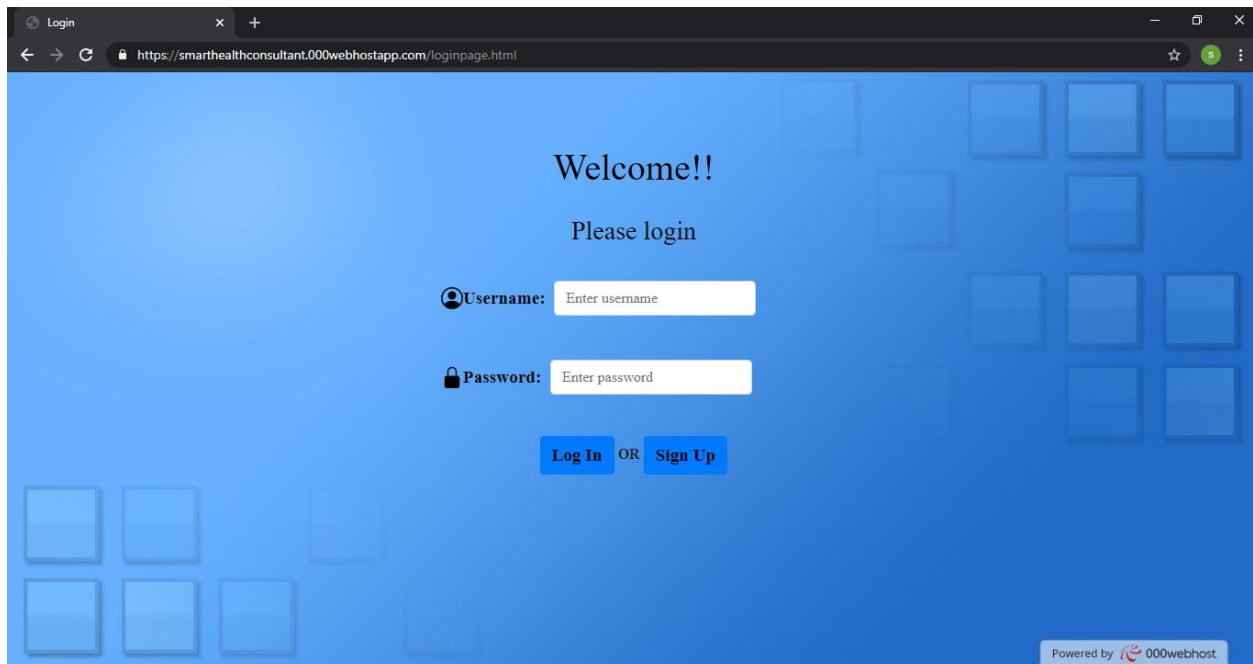
RESULTS AND DISCUSSION

RESULTS AND DISCUSSION

Home Page:



Login Page:



SignUp Page:

A screenshot of a web browser displaying a sign-up page titled "Sign Up Here". The page has a blue gradient background. The browser's address bar shows the URL "https://smarthealthconsultant.000webhostapp.com/signuppage.html". The form contains the following fields:

- First Name:** A text input field with the placeholder "Enter First name".
- Last Name:** A text input field with the placeholder "Enter Last name".
- Email ID:** A text input field with the placeholder "example@domain.com".
- Username:** A text input field with the placeholder "Enter username".
- Password:** A text input field with the placeholder "Enter password".
- Confirm Password:** A text input field with the placeholder "confirm password".

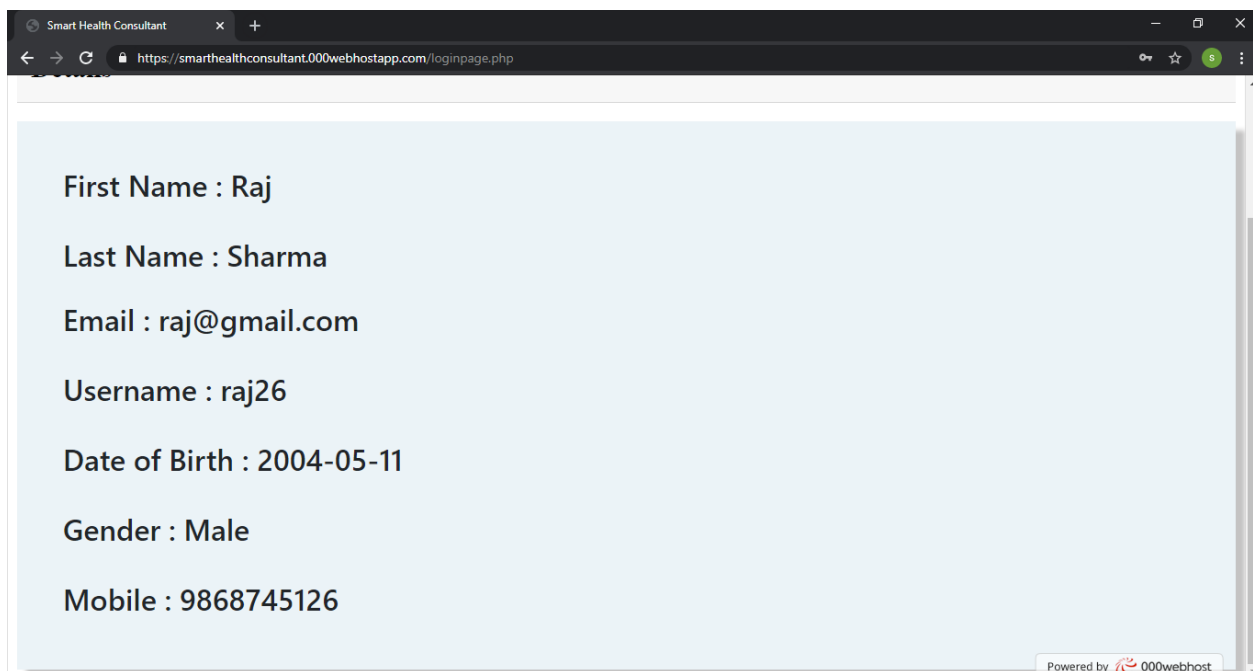
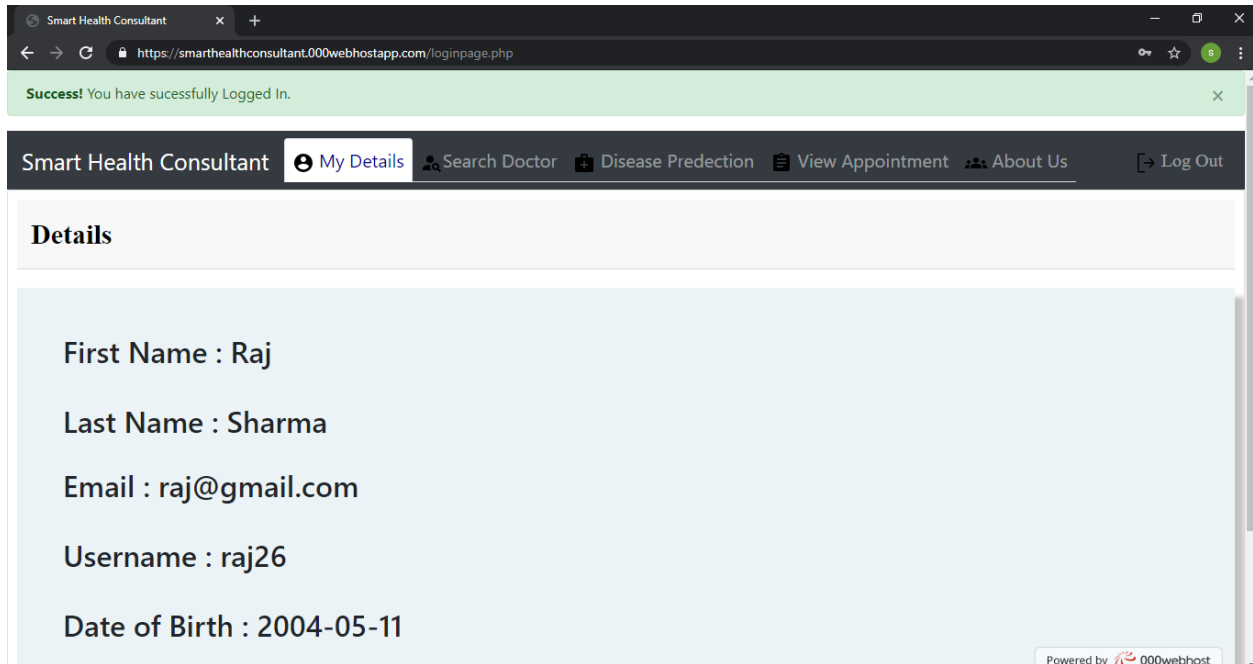
At the bottom right, there is a small text "Powered by 000webhost" with a logo.

A screenshot of the same web browser displaying the sign-up page, but with the "Email ID" field filled with "example@domain.com". The form now includes the following additional fields:

- Date of Birth:** A date input field with the placeholder "dd-mm-yyyy" and a calendar icon.
- Gender:** A dropdown menu with "Male" selected.
- Mobile No.:** A text input field with the placeholder "Enter mobile number".

A blue "Submit" button is located at the bottom of the form. The "Powered by 000webhost" text remains at the bottom right.

MyDetails Page:



Search Doctor's Page:

Smart Health Consultant

My Details Search Doctor Disease Predetection View Appointment About Us Log Out

Search Doctor

Dinesh

Search

Powered by 000webhost

Search For Doctor

Search

Doctor Name : Dinesh

Degree : M.B.B.S

Specialisation : Jaundice

Email : dinesh@gmail.com

Mobile : 9834212210

Make an Appointment

Powered by 000webhost

Appointment Booking:

Smart Health Consultant

My Details Search Doctor Disease Predetection View Appointment About Us Log Out

First Name:
Raj

Last Name:
Sharma

Email ID:
raj@gmail.com

Doctor Name:
Dinesh

Select Date :
12/16/2020

Select Time :

Powered by 000webhost

Smart Health Consultant

https://smarthealthconsultant.000webhostapp.com/make_appointment.php

Dinesh

Select Date :
12/16/2020

Select Time :
12:00

Subject:
Jaundice

Comments:
Any Comment

Send Message

Powered by 000webhost

Disease Prediction Page:

The screenshot shows a web browser window with the URL <https://smarthealthconsultant.000webhostapp.com/disease.php>. The page has a dark navigation bar with the following links: Smart Health Consultant, My Details, Search Doctor, Disease Prediction (active), View Appointment, About Us, and Log Out. Below the navigation bar is a blue header with the text "Disease Predetection". The main content area is a light blue box containing a text input field with the word "Malaria" and a blue "Search" button. At the bottom right of the page, there is a small logo and the text "Powered by 000webhost".

The screenshot shows the same web browser window as the previous one, but now the search results are displayed. The text input field contains "Search For Disease" and the blue "Search" button is still present. Below the search button, the results are shown: "Disease : Malaria" and "Symptoms : A High Temperature Of 38C Or Above,Feeling Hot And Shivery,Headaches,Vomiting,Muscle Pains". At the bottom left of the results area, there is a blue button labeled "View Related Doctors". The "Powered by 000webhost" logo and text are still visible at the bottom right.

SMART HEALTH CONSULTANT

Smart Health Consultant

My Details Search Doctor Disease Prediction View Appointment About Us Log Out

Disease Prediction

Related Doctors

Name	Degree	Specialised In	Email	Mobile Number	Fix Appointment
Keshav	M.B.B.s	Malaria	keshav@gmail.com	7894568123	Click Here

Symptoms : A High Temperature Of 38C Or Above,Feeling Hot And Shivery,Headaches,Vomiting,Muscle Pains

[View Related Doctors](#)

Powered by 000webhost

View Appointment Page:

Smart Health Consultant

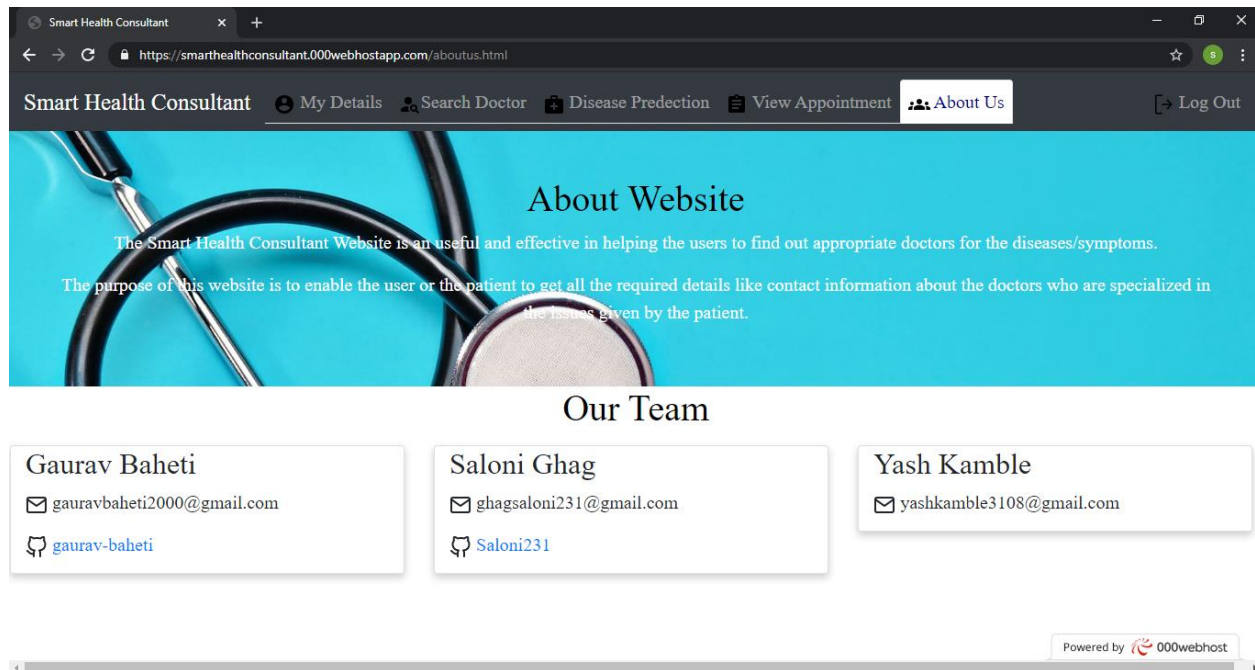
My Details Search Doctor Disease Prediction View Appointment About Us Log Out

Patient Record

First Name	Last Name	Doctor Name	Email	Date	Time	Subject
Raj	Sharma	Dinesh	raj@gmail.com	12/16/2020	12:00:00	Jaundice
Raj	Sharma	Keshav	raj@gmail.com	12/11/2020	09:00:00	Malaria

Powered by 000webhost

About Us Page:



CHAPTER 9

CONCLUSION

CONCLUSION

The website was created keeping in mind the simplicity of use by the users and to enable them the power of machine learning for their day to day work and also during the emergency cases. This website was made keeping in mind the ease. Smart Health Consultant Website is an useful and effective site in helping the user's to find out appropriate doctors for the disease/symptoms. The purpose of the system and website is to give comfortness to the user's through booking appointment online rather than standing in long queue and hence providing quality health care services to all the user's and therefore contributing more towards the Digitalization and Smart Technology.

CHAPTER 10

FUTURE SCOPE

FUTURE SCOPE

Following can be the future scope for the proposed system:

The future scope in the system would be to design a mechanism that would be able to send a mail to the doctors email id when an appointment is being taken by the patient of the respective doctor and further doctor's work schedule would be updated and seen by the user's of the website so there would be better communication between the users and doctors. Also the System aims to design the concept of "Teleconsultation" where in the patients can take consultation of doctors through online meet with the doctors which will be more beneficial in critical emergency cases omitting and saving the geographical and functional distance.