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# **Software Requirements Specification**

for

# **E Healthcare Expert System**

**Version 1.0 approved**

**Prepared by**

**Nirali Shah(CE122)**

**Krishna Shah(CE064)**

**Dharmsinh Desai University**

**1 January,2021**

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# **1.Introduction**

## **1.1 Purpose**

The purpose of the E Healthcare Expert System is to provide health related information at one platform. This system helps people to find health and medical information, support and services they need.

## **1.2 Product Scope**

This system is web based application which provides valuable health related information to its users. One can find disease related information, its causes and its primary treatment from this site.

## **1.3 References**

IEEE Standard 830-1998

## 2. Overall Description

### 2.1 Product Functions

The proposed healthcare expert system will give you information based on your search criteria related to any diseases, its symptoms, causes etc. One can also able to see the latest news related to medical. Users can also find specialist doctors information, nearby hospitals, medical shops by providing their own location. Latest coronavirus updates are also available on this site. One can also able to find out about how healthy they are by

### 2.2 User Classes and Characteristics

This system has mainly 3 types of users:

Admin, health professionals, Users

- 1) Admin
  - Register
  - Provide Latest medical news
  - Provide updates related to coronavirus
  - Manage all statistics
- 2) Health Professionals(Doctor)
  - Register
  - Manage Disease information
  - Provide Treatment details
- 3) Users
  - Search for disease based on symptoms
  - View disease related information like causes, symptoms, primary treatment
  - View Medical related news
  - See Updates about coronavirus
  - Find specialist doctors, hospitals, medical shops based on location

## **3. External Interface Requirements**

### **3.1 User Interfaces**

- Admin Page
- Health Professional Page
- User Page

### **3.2 Hardware Interfaces**

Internet Connection

### **3.3 Software Interfaces**

**Technology to be used:**

→Python – version 3.8

→Django Framework – version 3.2

→Sqlite Database

### **3.4 Communications Interfaces**

Chrome/Mozilla/Microsoft Edge Web browser

## **4. System Features**

### **4.1 Manage Disease Information**

#### **4.1.1 Description and priorities**

This feature is related to diseases information and used by all types of users.

#### **4.1.2 Functional Requirements**

##### **4.1.2.1 Add new disease information**

Input: Disease information like name, symptoms, treatment etc.

Output: Information is added successfully.

##### **4.1.2.2 Update existing disease information**

Input: changes needed

Output: Information is updated successfully.

#### **4.1.2.3 Delete Existing Disease Information**

Input: disease name

Output: Information is deleted successfully.

#### **4.1.2.4 Fetch Diseases based on Symptoms**

##### **4.1.2.4.1 Fetch Disease by image**

Input: user selection

Output: based on selection disease information is displayed

##### **4.1.2.4.2 Fetch Disease by Symptoms**

Input: various symptoms

Output: based on symptoms most likely matched disease information is displayed and other similar disease list is also available.

## **4.2 Manage Disease Treatment Details**

### **4.2.1 Description and perspective**

This feature is related to disease treatment details which provides primary treatments and advice for higher treatment if necessary.

### **4.2.2 Functional Requirement**

#### **4.2.2.1 Add treatment details**

Input: Treatment details

Output: Details are added successfully

#### **4.2.2.2 Modify treatment details**

Input: Change needed

Output: Details are updated

#### **4.2.2.3 Fetch treatment details**

Input: Disease name, symptoms

Output: Related treatments are displayed

## **4.3 Manage Hospital Information**

### **4.3.1 Description and perspective**

This feature is related to hospitals information which is provided by hospital administration and user can see this information.

### **4.3.2 Functional Requirements**

#### **4.3.2.1 Fetch nearby hospital based on location**

Input: Location

Output: based on location list of hospitals is displayed

#### **4.3.2.2 Fetch hospital by name**

Input: Name of hospital

Output: hospital details is displayed

#### **4.3.2.3 Read about a hospital**

Input: User selection

Output: Information can be viewed.

#### **4.3.2.4 Add information about a hospital**

Input: Hospital details

Output: Information related to hospital is added successfully.

#### **4.3.2.5 Update hospital Information**

Input: changes needed

Output: details are updated

## **4.4 Manage FAQ**

### **4.4.1 Description and perspective**

This feature is related to frequently asked questions where user can post question, view others answers and professional or expert can able to answer the question

### **4.4.2 Functional Requirements**

#### **4.4.2.1 Post question**

Input: question

Output: question is posted successfully

#### **4.4.2.2 Answer question**

Input: answer related to question

Output: answer is added can be seen by all users

#### **4.4.2.3 View Other question and answers**

Input: user selection

Output: All FAQ with given answers are displayed.

### **4.5 Manage Statistics**

#### **4.5.1 Description and perspective**

This feature is used by all users where user can able to see about medical related news, coronavirus updates and calculate BMI for health report.

#### **4.5.2 Functional Requirements**

##### **4.5.2.1 View Medical related News**

Input: User selection

Output: all the news related to medical is displayed

##### **4.5.2.2 View Coronavirus Updates**

###### **4.5.2.2.1 View All records**

Input: user selection

Output: All summary of records is displayed

###### **4.5.2.2.2 View Country wise records**

Input: country name

Output: All records of country is displayed

##### **4.5.2.3 Find nearby medical shops**

Input: Location

Output: list is displayed

##### **4.5.2.4 Calculate BMI**

Input: Height, Weight

Output: BMI and result based on it will be displayed.



## 5. Other Nonfunctional Requirements

### 5.1 Performance Requirements

**User Friendly:** The system should be easy to use and easy to understandable.

**Scalability:** The system should be scalable to handle more users in future.

**Data Integrity:** The system should maintain and assure data accuracy and consistency over entire lifecycle.

### 5.2 Security Requirements

User should be authenticated. All the user's data are secure with the system.

### 5.3 Software Quality Attributes

**Flexibility:** All the changes that are made by user should be reflected properly in database.

**Maintainability:** The system can be modified to correct faults, improve performance and prevent unexpected working condition.

## 6. Software Process Model

We are going to use **Incremental Process model** for developing the system.

We have divided the project into modules so that implementation becomes easy. Since we will be implementing in modules testing and debugging will be easy. We believe doing the project in modules will increase our efficiency as we will be concentrating on the functionalities of only one module.

## **7. TimeLine Chart**

**Week1:** Project is decided.

**Week2:** Some analysis on the chosen system is done.

**Week3:** Gathered Functional Requirements

**Week4:** Prepare Software Requirement Specification Document