Title: Software Requirements Specification (SRS) for Telemedicine Website (TeleDoc)

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1. Introduction

In Bangladesh, it has become challenging to get proper treatment. People in rural areas of Bangladesh are particularly disadvantaged because of the country's overpopulation. The telemedicine system makes it easier to get appropriate treatment while staying at home. Our main goal is to build a website where patients can get better treatment while staying at home by consulting with expert doctors. Besides this, there will be a medicine shop on this website through which the patient can get the opportunity to buy medicine. Besides this, there will be an Ambulance Service and a simple BMI calculator. Overall, our website will positively impact because the system is reliable, enhancing telemedicine services countrywide for people with online access. We hope that patients will benefit greatly from using our website.

1.1 Purpose

The primary purpose of this telemedicine website is to ensure better patient treatment while staying at home. Besides this, we will provide an online medicine shop and ambulance service. We are trying to cover different medical services into a single platform to allow users to access various services easily while staying on a single platform. The most crucial part is that they can do it at home.

1.2 Intended Audience

- Web Developers
- Project Managers
- Program Testers
- End Users

1.3 Intended Use

The system helps the patient find their required doctor and make an appointment with the doctor. Besides, this system will allow users to buy medicine through the online medicine shop and avail of the ambulance service. Most importantly, they

can avail of these facilities while staying at home. Besides this, there will be a BMI calculator through which the user can easily calculate their BMI.

1.4 Product Scope

It is a telemedicine website, so there will be some facilities like doctor-patient consultation, online medicine service, online ambulance service, and a simple BMI calculator. Our main goal is to gather different telemedicine services into a single platform so that users can easily avail of these services while staying at home.

1.5 Risk Definitions

1) Too many server requests are not controllable for the server.
2) If too many users try to access the website simultaneously, it may create server traffic.
3) There might be a chance of leaking the users ' (doctors and patients) information

2. Overall Description

2.1 User Classes and Characteristics

Two types of users control the whole website and perform necessary administrative activities. They are -

- Admin
- Developer

Admin: Admin has full access to the system, which implies they can manage any activity regarding the system. They are the highest privileged user who can access the system. The admin can alter any information entered into the database system. They can add, delete, edit, update any information.

Developer: The developer has control over the developing component of the system. They have the right to change/update any potential feature. They can also update the user interface and introduce a fresh design for the system.

Our web application will be an inter-communication platform for its users. Our target users are –

1. Patients
2. Doctors
3. Ambulance Service Providers
4. Medicine Shop Owners

Patients: Patients can register with the system and store personal information, such as name, email address, and contact number, in the database system. They can make appointments and consult with doctors through a real-time video-calling system. They can receive prescriptions from doctors in PDF format. They can also get emergency ambulance services and buy medicine from online medicine stores.

Doctors: Doctors can register with the system and store personal information, such as name, email address, contact number, qualification, medical specialties, etc., in the database. Doctors
can go live through video conferences to communicate with patients in real time. They can also write prescriptions and submit them to their patients' database. They can also see the patient appointment list.

Ambulance Service Providers: They can store information such as their name, contact no., and website link.

Medicine Shop Owners: They can store their product information, such as medicine name, unit price, etc., in the database.

2.2 User Needs

Patients: Patients need to get proper treatment. Our system provides a platform where patients can communicate with doctors through a video calling system to discuss health issues with doctors. As a result, the chance of getting better treatment will increase. Patients can store their medical reports and prescriptions in our database system. So they do not have to carry any medical papers when visiting a doctor. They can easily find any previous medical reports as they are already stored in the system. Patients also get into trouble when a doctor recommends a particular medicine. So, by using our search system, they can get a brief idea about the medical group's name, its components, medicine usage information, its side effects, etc. The system will also suggest the same group of

medicines from different companies. Our system also provides a live streaming video service so people from rural areas can get the service from an expert doctor in real time. Our system will provide all the services based on emergencies.

Doctors: They can reach more patients through our system as our system will provide services like live streaming video. They can learn detailed information about their patients more smartly by accessing the patient ID, where their information is stored descriptively and briefly. So it will be easier for doctors to provide better treatment. As doctors can store their information, people can know about them through our system. They can also
write medical reports using our system; they do not need to worry about pen and paper.

Ambulance Service Providers: The website is an efficient platform for Ambulance Service Providers to promote their service. They can store their service information to reach and provide service to more people.

Medicine Shop Owners: The website is an efficient platform for Medical Shop Owners to promote their service. They can store their product information to reach many people and provide them to more people.

2.3 Operating Environment

We will use Hypertext Markup Language (HTML), Cascading Style Sheets (CSS), and JavaScript for the website's front-end part. Besides these, Structured Query Language (SQL) has been used for database purposes. PHP was used as the backend programming language. The SSLCOMMERZ Application Programming Interface (API) powers the payment gateway. SSLCOMMERZ is the payment gateway merchants in Bangladesh use to accept online payments. Users can use credit cards, bank accounts, and other online banking to purchase online. The JITSI API is used for video-calling purposes. We will not use any hosting site or domain for our website. So it can be accessible for anyone to run the project using localhost.

2.4 Constraints

- Users must be 13+ years old.
- Budget and Time constraints
- Resource Limitations

2.5 Assumptions

We have assumed that –

- Users can understand the English language
- Users have a stable internet connection
- Users can use computer devices (PC/Laptop)

3. Requirements

3.1. Functional Requirement

3.1.1 Functional Requirement 1

Title: Doctor Registration

Description: As a doctor, I want to create a personal account to quickly log in to my account to check my appointment lists. The user must provide the name, contact no, email address, date of birth, gender, address, preferable day and time, qualification, BMDC reg, username, and password. The username and password are required to log in.

Confirmation:

1. **Success:** Registered account; refer to the login page. Your registration is done successfully.

2. **Failure – display message:**

- Username already exists.
- Password is not strong.
- Username cannot be empty.
- Password cannot be empty.
- BMDC Registration No. Must be required.

3.1.2. Functional Requirement 2

Title: Patient Registration

Description: As a patient, I want to create a personal account to log in to my account quickly, check the doctor's list, choose my desired doctor, and make an appointment. The user must provide the name, contact no, email, date of birth, gender, address, username, and password. The username and password are needed to log in.

Confirmation:

1. **Success**: Register the account and refer to the login page. Your registration is done successfully.
2. **Failure – display message:**

- "Username already exists."
- "Password is not strong."
- "Username cannot be empty."
- "Password cannot be empty."

3.1.3. Functional Requirement 3

Title: Doctor Login
Description: As a doctor, I must log in to the website to check my appointment lists.

Confirmation:

- The user has to go to the login panel to get to a separate page and write his username and password to log in to the website.
- Users can also click the Register/Sign-up button if they do not still need to create an account.

1. Success- Login successfully and refer to the user's profile.
2. Failure – display message:

- "Wrong username or password. Try again""
- "Forgot Password?" click to get steps for resetting the password

3.1.4. Functional Requirement 4

Title: Patient Login
Description: As a patient, I must log in to the website to get the services.

Confirmation:

- The user has to go to the login panel to get to a separate page and write his username and password to log in to the website.
- Users can also click the Register/Sign-up button if they still need to create an account.

1. Success- Login successfully and refer to the user's profile.
2. Failure – display the message:

- "Wrong username or password. Try again""
- "Forgot Password?" Click to get steps for resetting the password.

3.1.5. Functional Requirement 5

Title: Video Call
Description: As a user, I need a video calling service to consult doctors.

Confirmation:

1. The user needs to get the provided meet link of the doctor.
2. Users can click the link and join the room at the time of the appointment.

3.1.6. Functional Requirement 6

Title: Emergency Call

Description: As a user, I need an emergency calling service to get emergency help if I need it.

Confirmation:

1. Users can have emergency services by clicking the "Call now" button.
2. Users can avail of the emergency calling service without any registration.

3.1.7. Functional Requirement 7

Title: User payment

Description: As a user, I want to pay by credit card/another financial service to pay bills and make appointments easily.

Confirmation:

1. The user must click on the method he wants to pay the bill.
2. Click Confirm., The appointment is confirmed.

3.1.8. Functional Requirement 8

Title: BMI Calculator

Description: As a user, I need a BMI calculator feature to know the level of my BMI and take the necessary steps.

Confirmation:

1. The user has to log in to the website account.
2. The user needs to go to the BMI Calculator section.
3. The user has to give the required information (height and weight).
4. Click on "Submit," and the calculated BMI value will be shown.

3.1.9. Functional Requirement 9

Title: Ambulance Service

Description: As a user, I need emergency services such as ambulances to help myself in need.

Confirmation:

- Users can have emergency services by clicking the emergency option in the web application.
- The user can urgently communicate with the nearest pickup service, maintenance store to pick up his car, or ambulance service to transport a patient in every emergency.
- Users can avail of the emergency service without any registration.

3.2 Non-Functional Requirements

3.2.1. The Performance

This system can work quite fast. Anyone from anywhere can use the website effortlessly.

3.2.2. Safety

Safety considerations are critical for every system. Our solution assures that consumer data should be hidden.

3.2.3. Security

The system ensures a high level of security.

3.2.4. Quality

The system provides the most efficient services at a reasonable price.

3.2.5. Availability

The system will be available at all times.

3.2.6. Usability

The system will be user-friendly and meet all the user requirements.

3.2.7. Reusability

The system can be reused in another application with further development.

3.2.8. Maintainability

Users should receive services that are accurate and sufficient.
A non-functional criterion will determine how well the functional behavior is displayed.
Advantages of non-functional requirements:

- Less amount of bugs
- Improved performance and speed
- Higher-quality coding
- Enhanced security environment