

**North South University**  
**CSE327: Software Engineering**  
**Section-6**

**Software Requirements Specification**  
**(SRS)**

for

**Telemedicine Website**  
**(Virtual Health Service BD)**

**Submitted to**  
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# Software Requirements Specification for Telemedicine Website

## 1. Introduction

In the COVID-19 pandemic, 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, we can say that our website will have a positive impact because the system is reliable, enhancing telemedicine services countrywide for people with online access. And we hope that the patients will benefit greatly from using our website.

### 1.1 Purpose

The main purpose of this telemedicine website is to ensure better treatment for the patients while staying at home. Besides this, we will try to provide an online medicine shop and online ambulance service. We are trying to cover different Medical Services into a single platform to access various services staying in a single platform easily. The most important part is they can do it while staying 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 the user to buy medicine through the online medicine shop and avail the ambulance service. The most important thing is they can avail 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**

This 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. So our main goal is to gather different telemedicine services into a single platform so that the users can easily avail 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 at the same time, then 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**

Basically, two types of users controlling 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:** Developer has the 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 -

- Patients
- Doctors
- Ambulance Service Providers
- Medicine Shop Owners

**Patients:** Patients can register to the system and store personal information such as - name, email address, contact number, etc., into the database system. They can make appointments with doctors and consult with them 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 to the system and store personal information such as - name, email address, contact number, qualification, medical specialties, etc., into the database system. Doctors

can go live through video conferences if they want to communicate with patients in real-time. They can also write prescriptions and submit them into the database system of their patients. They can also see the patient appointment list.

**Ambulance Service Providers:** They can store their information like 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. As our system provides a platform where patients can communicate with doctors through a video calling system so they can 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 don't have to carry any medical papers during the time of visiting a doctor. They can easily find any previous medical reports as all the reports are already stored in the system. Patients also get into trouble when a doctor recommends a particular medicine to them. So by using our searching system they can get a brief idea about the name of the medical group, components of the medicine, medicine usage information, its side effects, etc. The system will also suggest the same group of medicine from different companies. Our system also provides a live streaming video service so people from rural areas can also get the service from an expert doctor in real-time. Our system will try to 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 know the detailed information about their patients more smartly as they can access the patient id where the patient's information is stored in both descriptive and brief manner. 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. As they can also

write medical reports using our system, they don't need to worry about any kind of 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 many people and provide their 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 products 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 used by merchants in Bangladesh to accept online payments. Users can use credit cards, bank accounts, and other online bankings to make purchases online. The JITS 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 if they use 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. Function Requirement**

#### **3.1.1 FR1**

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:

- Success: Registered account and refer to login page. Your registration is done successfully.
- Failure – display message:
  - a) “Username already exists.”
  - b) “Password is not strong.”
  - c) "Username cannot be empty."
  - d) "Password cannot be empty."
  - e) “BMDC Registration No. must be required.”

### **3.1.2. FR2**

Title: Patient Registration

Description: As a patient, I want to create a personal account to quickly log in to my account, 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:

- Success: registered account and refer to the login page. Your registration is done successfully.
- Failure – display message:
  - a) “Username already exists.”
  - b) “Password is not strong.”
  - c) "Username cannot be empty."
  - d) "Password cannot be empty."

### **3.1.3. FR3**

Title: Doctor Login

Description: As a doctor, I need to 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, where he has to write his username and password to log in to the website.
- Users can also click the Register/Sign-up button if they haven't created an account yet.
- Success- Login successfully and refer to the user’s profile.



- Failure – display message:
  - a) “Wrong username or password. Try again”
  - b) “Forgot Password?” click to get steps for resetting the password

#### **3.1.4. FR4**

Title: Patient Login

Description: As a patient, I need to 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, where he has to write his username and password to log in to the website.
- Users can also click the Register/Sign-up button if they haven't created an account yet.
- Success- Login successfully and refer to the user's profile.
- Failure – display the message:
  - a) “Wrong username or password. Try again”
  - b) “Forgot Password?” click to get steps for resetting the password

#### **3.1.5. FR5**

Title: Video Call

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

Confirmation:

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

### **3.1.6. FR6**

Title: Emergency Call

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

Confirmation:

- Users can have emergency services by clicking the 'Call now' button.
- Users can avail the emergency calling service without any registration.

### **3.1.7. FR7**

Title: User payment

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

Confirmation:

- The user needs to click on the method he wants to pay the bill by.
- Click Confirm., The appointment is confirmed.

### **3.1.8. FR8**

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:

- The user has to log in to the account for the website.

- The user needs to go to the BMI Calculator section.
- The user has to give the required information (height and weight).
- Click on 'Submit,' and the calculated BMI value will be shown.

### **3.1.9. FR9**

Title: Ambulance Service

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

- Users can avail the emergency service without any registration.

### **3.1.10. FR10**

Title: Online Medicine Shop

Description: As a user, I need an online medicine shop to buy medicines that I need easily.

Confirmation:

- The user can choose the required medicines from the online medicine shop.
- The user needs to add the medicine to the cart.
- After adding to the cart, the user must confirm the order and complete the payment process.

### **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