

Software Requirements Specification for AMIC

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Revision History

Revision	Date	Author(s)	Description
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Chapter 1

Introduction

AMIC: A web-based online health care system for both patients and doctors. The goal of this design is to provide treatment to everyone in the event of a pandemic or crisis when a patient is unable to see a doctor. The major purpose of our project is to make people's lives easier. We are working on a solution that will eliminate a lot of headaches while also being user-friendly.

During the coronavirus epidemic, we have realized the need for an online web-based platform where patients could get healthcare services from doctors at any time as going out is a risk. People are still unable to leave their homes owing to the COVID-19 crisis. As a result, we are inspired to create a system that will help everyone.

To address the dilemma, we are trying to create an online platform that will help both patients and doctors.

Our major intention is to create a user-friendly online health-care system for both patients and doctors. The entire system will be run over the internet. There will be a lot of different options for users to do. Users are classified into two parts: (Doctor and Patient). The major objective is to focus on every user who will be able to use our service and be benefited from it.

1.1 Purpose

Our primary purpose of this " **AMIC** " is to give quick treatment via the internet. Without having to go to the hospital, a patient will be able to receive therapy at any time. Using our system, doctors will be able to share their advice and precaution plans with patients. Our main project goal is to deliver treatment that is both low-cost and effective. The system offers great data protection at all levels of user interaction, as well as accurate and reliable development and production facilities.

1.2 Intended Audience and User

This **Software Requirements Specification** is intended for:

- Developers
- End users

- Marketing Department

Developers: Developers who can evaluate the project's capabilities and more easily determine where their effort should be focused to enhance or extend its capabilities (design and code the application – it creates the framework for future development). They may enhance this project by updating it.

End-users: This application's end-users who want to learn more about what this project can do. This is the user handbook for them to properly operate this application.

Marketing Department: The marketing department can utilize this SRS to get a sense about what they are going to advertise, as well as what the project's features are and how they will help clients or users.

1.3 Product Scope

"**AMIC**" is the proposed Web Application we are planning to create. Both doctors and patients can utilize this program. The majority of people in our country still use paper-based data, and trying to keep track of all these medical reports and records can be time-consuming. Furthermore, in the vast majority of cases, these files or information cannot be located within a reasonable period, proving their futility. With our online medical record tool, we set out to reduce this. Another important feature is our online prescription system, which allows people to contact a doctor in an emergency from anywhere in the world and at any time, possibly saving many lives. Then, with the touch of a finger, people can schedule an appointment with their favorite doctor from the comfort of home. We also have 'Blood Donation' service through which people can manage blood when they desperately need blood. Through 'Patient Community' feature patients will be able to know the experience of a disease from the ex-patient of particular disease. People may also keep up with all the latest medical breakthroughs by reading our daily blog entries. Our project will have two categories of users:

- **Patients:** Individuals who require medical assistance, including an instant answer from a doctor or the scheduling of a medical visit. Alternately, they can keep and update their current medical records.
- **Doctors:** Through this platform, doctors can assist people both virtually and physically. They can schedule an appointment or prescribe online.

In short, our website "**AMIC**" will function as an online hospital where a lot of people might seek medical treatment.

1.4 Risk Definition

Since this is a web-based service, one of the most crucial factors for it to access to the internet. Now, if someone relies solely on it in an emergency and is unable to receive necessary support owing to a bad internet connection, it might result in death. As a result, the user must ensure that he or she has a stable internet connection. If doctors or blogs provide false information, it may cause widespread fear among the public, thus they must be extra careful about what they publish.

Chapter 2

Overall Description

The major goal of the "**AMIC**" is to establish a secure connection between doctors and patients. We have a lot of valuable solutions here that will help the patients in a variety of ways. We are also aiming to design a small interface for those who are unfamiliar with websites and web stuff.

This project will enhance the quality of living. We've make a list of useful options, such as patient management, facility management, hospital management, and improved customer, to mention a few. We are all aware that the existence of the pandemic disease "Coronavirus" is now one of the world's most significant challenges. Bangladesh has also been affected. Thousands of people in this country are being infected through this dreadful virus every day. On the other hand, most of them are unable to leave their homes because our respective governments have declared some areas "locked down." As a result, this is a concern for both governments and people. It is worth mentioning that we have included the "COVID-19" option as well. That, we believe, would be highly beneficial to our users and customers. We are confident in our abilities, despite the reality that we are new to this. We feel that this application would bring in a change in Bangladesh.

2.1 User Classes and Characteristics

There will be four types of identity who can control the system:

- Owner of the Project
 - Admin Panel
 - Developers
 - Communication Manager
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- **Owner of the project:** The project's owner has full access to all of the project's assets. If the owner desires, he can use developers to make any changes to the project. He also has the option to sell the project to others. In other words, He has the right to create any project-related decision.
 - **Admin Panel:** In a project, there might be one or more admins. It is decided by the owner. The project's activities is managed by the admin, who has access to the central system. If the administrator so desires, he can make changes to the system's central database. If the owner requests it, he can update the project. He has the authority to monitor any project issues and make modifications if anything needs to be upgraded.

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- **Developers:** Developers basically work to develop the project, as if they have the capacity to change the project's theme and make design changes in a certain part of the system. Add more features to it, and so on. Developers, on the other hand, have limitations, such as not having complete access to the system as an administrator or owner. The only thing he can do is create the system according to the wishes of the owner and administration.
 - **Communication Manager:** He is acting in accordance with the system's rules. He, for example, keeps track of the activities, the project's viewpoints, how it functions, and how users and doctors communicate. In the next few words. He is just responsible for overseeing the project's activities and informing the owner/administrator of any tracking updates

Our core users will be these characters, despite the fact that it is an online-based system:

- Doctors
- Patients
- Nurses

Doctors: Doctors can record their information in the database system, including such their name, degree, meeting time, qualification, and other information, and the major admin work will be to keep it safe.

Patients: Please use this section if you are a patient. There will be a medical record and also data such as name, ID number, location, modern clinical status, and age. Doctors can see a record of the patient's health condition by accessing these records using admin.

Nurses: Nurses can enter information such as their name, degree, working hours, past history, and other details into the database system, and the administrator will handle the rest.

2.2 User Needs

Based on our users, user requirements are listed below:

Doctor: This section was prepared with the requirements of doctors in mind. Physicians can organize a meeting with patients and interact to them via video call (e.g., the Zoom / MEET application). This area allows physicians to try looking up a patient's previous medical history. It will also aid in the therapy of their patients. They can also look up information on patients, such as names and addresses, and contact them directly if they want.

Patients: Patients can immediately show the doctor through this section. If patients agree, they will be able to read details about his or her doctor, such as his or she name & meeting time, as well as the staff's qualifications. Patients can also connect with their owners if they want to talk about an issue

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Nurses: This section was prepared with the requirements of nurses in mind. Nurses can communicate with doctors via video call (for example, the GOOGLE MEET application) and learn about patients from doctors in the same way that nurses guide patients.

2.3 Operating Environment

A web-based online medical support process is known as '**AMIC**.' We support it to make it more user-friendly as it runs on any platform. People who have a MacBook or who have Windows (all versions) can easily run this on their device. Linux users can run their devices well as. Any operating system should be able to run our application without issue.

2.4 Constraints

Every project has constraints and hazards that must be considered and resolved in order for the project to be successful in the end. The three main restrictions are time, scope, and cost.

- **Time restriction:** A time constraint refers to the project's completion timeframe, which includes deadlines for each project phase as well as the date of the final deliverable roll-out. Planning, scheduling, and monitoring are some of the steps that can be made to improve time management. .
- **Scope constraint:** The project's scope specifies the project's specific objectives, development process, features and functions, as well as the tasks necessary to complete the job.
- **Cost constraint:** The whole project budget is known to as the project's cost. The project's budget includes more than just the cost of resources. It also includes both fixed and variable costs, like supplies, quality control, licenses, labor, and the project's group members' financial influence. To complete the project on time, financial support is required within the project's project framework.

2.5 Assumptions

The user is expected to be familiar with the web browser as its application is web-based. Only have enough English is known by the user for conversation and proper browsing. It is assumed that users would have sufficient internet access. A smartphone, laptop, or personal computer is being used by the user. The program is maintained by skilled and technical personnel.

Chapter 3

Requirements

There are mainly two types of requirements.

- Functional Requirement
- Non-Functional Requirements

3.1 Functional Requirements

System Features:

As a user,

I need to register my identity

So that, I can use all the features of this web application

Confirmation/Acceptance:

- User (patients/doctors) has to put input of his/her name, phone no, address, age, gender, problem/oc-cupation.
- User (Patients) can set his/her health record.
- User (Doctor) has to put in his/her specialized field.
- If the registration information does not match all the criteria, then the user will not be able to register.
- After registration, the user will get a confirmation email on the email they provide.
- After registration process the user can also login to their account using google/facebook login.
- After a successful registration, the user can avail the themselves all the feature of the web application.

As a user,

I want my user profile.

So that, I will have all the information related to my health.

Confirmation / Acceptance:

- Users can calculate their BMI by their height and weight.
- The user can edit his profile manually.
- The user can upload his picture to the profile if he wants.
- The user will have an ID through which he can control his profile
- The user will be able to report health problems in his profile, the doctor will be able to see from the profile.

As a user,

I want to see doctor list.

So that, I can see the information about the doctors and then I can get an idea about them.

Confirmation / Acceptance:

- Users can view information about the doctor.
- Users can see which doctor specializes in which subject.
- Users will also be able to see if a new doctor has been added.
- If a doctor leaves, the user can see that too.

As a user,

I want to see available blood doner list

So that, I can manage blood in emergency situations.

Confirmation / Acceptance

- User can see the blood doner list.
- User can also view their blood group.
- User can see their last donation time.
- If someone is unavailable, users can see that too.

As a patient

I want to see the patient community.

So that, I can get an idea about my disease from ex patients.

Confirmation/ Acceptance

- User can join the patient community.
- User can see a list of ex patients with same disease.
- User can also take tips like pros and cons in this situation.

As a patient

I want to make an appointment.

So that, I can get a specific idea of when I can visit the hospital.

Confirmation/ Acceptance

- User can choose his/her comfortable hospital.
- User can also view the available doctors on Scheduling time.
- User is able to choose his/her chosen doctors.
- User can choose his preferable time from the scheduling time.
- User can check their update on a schedule.
- User (Patient) will be informed soon if the doctor cancels the checkup for reason.

As a patient

I can take an E-prescription

So that I can get medicine in an emergency case

Confirmation/ acceptance

- Firstly, the user able to log in with a valid account.
- User requests for E-prescription to the hospital.
- User can describe his/her problems in detail.
- User can attach his/her necessary documents.
- The user can see the doctor's prescribed medication.

As a user (patient)

I need to update my health record regularly

So that, I can access and get any of my previous reports anytime

Confirmation/Acceptance

- User (patient) can update his/her previous health problem/issues on the website.
- User (patients can also upload his/her previous test reports on the website alongside the date of that test.
- User (patient) can access these reports anytime they want and use it for further medical purposes so it will not get lost.
- User (patient) has to upload the report using a valid date and all the fields are required.
- User (patient) has to upload a valid medical report for that there is a size restriction on the upload option.

As a user (doctor)

I need to check previous health records of a patient.

So that, I can give proper medication E-prescription.

Confirmation/Acceptance

- User (doctor) can access to the previous health records of patient anytime.
- User (doctor) can proceed with patient's treatment by getting up to date medical reports.
- User (doctor) can access to the prescriptions prescribed by other doctors to avoid duplication of medicines.
- User (doctor) can prescribe E-prescription mentioning proper treatments.
- User (doctor) can update patient's medications with the latest reconciled list.

As a user (Health Advisor)

I need to give tips and tricks to the patients.

So that, I can provide support and guidance to patients.

- User (health care advisor) can write about symptoms of common diseases.
- User (health care advisor) can write cause and effect of common diseases.
- User (health care advisor) can write about the prevention and cure of those common diseases.
- User (health care advisor) can allow everyone to comment for any queries.

As a user (doctor)

I need to write blogs.

So that, I can give updates on my new medical findings.

Confirmation/Acceptance

- User (doctor) can make his blogs visible to everyone.
- User (doctor) can write about primary treatment of any disease.
- User (doctor) can allow everyone to comment there for adding latest information.
- User (doctor) can make the blogs visible to the main page of the website.
- User (doctor) can give updates on his new research medical findings.

As a doctor,

I want to see hospital list.

So that, I can see the information about the hospitals and then I can get an idea about the hospitals how many hospitals have contracts.

Confirmation / Acceptance:

- If there is an agreement with a new hospital, the admin has to add it to the hospital list.
- User can see when a new hospital is added to the hospital list and a message will be sent to him.
- Not only doctors but also nurses can see the list of hospitals.
- User will be notified via message if the contract with any hospital expires.
- Users can see all the information of the hospitals from here.

3.2 Non-Functional Requirements

- **Stability and performance:** This will be a web application that all users can access from anywhere in the world. An admin staff will keep track of all users. As a result, a lot of people may operate at the same time and use all system features at the same time without compromising system performance.

- **Safety:** A backup log would be kept so that data that has been lost or crushed may be recovered.

- **Security:** Our system keeps all users' personal and external data secret. This data will be recorded on the server. After a period of silence, the system will automatically log out the all clients.

- **Quality:**

- ** **Maintainability:** One of the most critical parts of this software is its maintenance, which requires the development of an accurate scheduled maintenance during the software development. It should state how consumers can request changes or submit reports. Certain key factors will be the focus of our administration efforts.

- 1. If any user has a defective product, our team will monitor it 24 hours a day, seven days a week. And if they locate any, they will definitely fix the problem.

- 2. They will continue to work on future updates and will inform and notify users about them.

- 3. They will improve the efficiency, reliability, and safety.

- 4. The management team will also guarantee that the website's information and services are up to date and accurate.

- ** **Accuracy:** This Online Healthcare System will give all customers with verified and reliable information and prescriptions, and also keep track on a routine basis.

- ** **Usability:** The system will allow as many users as possible to access it. In furthermore, the system will have access to the account.