Software Requirement Specification

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1. Project Description

We have chosen our project to be a Chronic Disease Management Platform. This platform will assist patients in managing their chronic conditions by providing tools for tracking symptoms, accessing medical histories, managing medications, and scheduling appointments. It also includes features for setting up personalized health programs, accessing emergency services, and maintaining a comprehensive record of health data. The goal is to create an easy-to-use, secure, and efficient platform that helps individuals better manage their chronic illnesses and improve their overall quality of life.

2. Functional Requirements

FR01	The software must enable the client to add **new patient details**
FR02	The software must enable the customer to **check their medical history**
FR03	The software must enable the financial department to **process user payment**
FR04	The software must enable the customer to **track their symptoms**
FR05	The software must enable the customer to Look up **specific diseases**
FR06	The software must enable the customer to set up a **diet tracker**
FR07	The software must enable the customer to **view prescriptions**
FR08	The software must enable the customer to set a **medicine reminder**
FR09	The software must enable the customer to **track their health** (weight, other)
FR10	The software must enable the customer to **look at and set appointment reminders**
FR11	The software must enable the customer to look at their **treatment plan**
FR12	The software must enable the customer to look at **past medicine logs**
FR13	The software must enable the customer to set a **health program**
FR14	The software must enable the customer to access **emergency services**
FR15	The software must enable the customer to **contact through secure messaging privately**

3. Non-Functional Requirements

NFR01	The software must not share sensitive personal patient information without user permission
NFR02	FR14 The software must contact the emergency services in at most 5 mins
NFR03	The software must move to requested page in at least 3 seconds
NFR04	The software must allow the customer to see wait time if it is within 59 mins

NFR05	Software must be available in both iOS and Android
NFR06	Medicine reminders need to go off within a minute that they're set for.

4. Use Case Specification

*<< Select **three** functional requirements and describe them in detail using use cases.>>*

UC01 Name:	The software must enable the customer to add **new patient details**
Description:	The client will be able to input personal details to an account
Actor:	The patient/user
Entry condition:	The customer logs into the system
Basic path:	1. The customer is given the options: [PRO01] - Login - Create Account - Cancel 2. The actor chooses the option to create a new account[A01][A03] 3. The system presents a screen for entering customer information containing [PRO02] - First Name (editable) - Last Name (editable) - SSN (editable) - Symptom List (editable) - Phone Number (editable) - Email (editable) - Insurance (list containing insurances) - Password (editable) - The options: - — Confirm - — Cancel 4. The customer confirms all the data and chooses confirm[A02] 5. The system verifies if all the information is valid[BR01][BR02][E01] 6. The system adds the new customer 7. The use case is concluded 8. The customer is logged into the server

<table>
<tr><td>Alternative paths:</td><td>
[A01] The customer chooses the login option
1. The system presents a screen for the actor to login containing: [PRO01]
- Email
- Password
- The options:
- — Login
- — Cancel
2. The user chooses the cancel option [A03]
3. The customer is returned to basic path

[A02] The customer is logged into the system
1. The user is logged into the system
2. The user is given the option to cancel/logout[A03]

[A03] The customer chooses the cancel option
1. The use case is concluded
2. The user is returned to basic path
</td></tr>
<tr><td>Exception paths:</td><td>
[E01] Database availability
1. .If the database is unavailable, the system queues the data and informs the client to try again later.
</td></tr>
<tr><td>Business Rules:</td><td>
[BR01] . All required fields must be filled before the patient details can be saved
[BR02] . The system must encrypt sensitive information before storing it in the database.
</td></tr>
<tr><td>Data description</td><td>
<table>
<tr><th>Name</th><th>Type</th><th>Length</th><th>Mask</th><th></th></tr>
<tr><td>first_Name</td><td>String</td><td>50</td><td></td><td></td></tr>
<tr><td>last_Name</td><td>String</td><td>50</td><td></td><td></td></tr>
<tr><td>SSN</td><td>String</td><td>9</td><td>XXX-XX-XXXX</td><td></td></tr>
<tr><td>symptom_List</td><td>String Array</td><td>100</td><td></td><td></td></tr>
</table>
</td></tr>
</table>

	input_Symptom	String	50		
	phone_Number	String	10	XXX-XXX-XXXX	
	email	String			
	insurance	boolean			
	password	String	50		

Prototype:	**[PRO01]** Patient login entry form prototype. **[PRO02]** Patient details entry form prototype.

UC02 Name:	The software must enable the customer to access **emergency services**
Description:	The customer should be able to reach emergency service whenever they can
Actor:	Customer/user
Entry condition:	There is always a statement on top of the page asking if in need for emergency services then a button is provided to click
Basic path:	1) The user clicks the emergency button 2) The user is prompted to confirm that they want to contact emergency services. 3) The user selects “confirm” **[A01]** 4) Location is accessed **[A02]** 5) emergency services are contacted
Alternative paths:	**[A01] The user selects “cancel”** 1) The user is returned to the main page **[A02] Location cannot be accessed**

<table>
<tr><td></td><td>2) 911 is called, [E01] and they get the location of the user</td></tr>
<tr><td>Exception paths:</td><td>[E01] Fails to contact EMS
1) informs the user what to do when EMS cannot be contacted</td></tr>
<tr><td>Business Rules:</td><td>[BR01] . Contact needs to be instant
[BR02] . Contact should be private</td></tr>
<tr><td>Data description</td><td>
<table>
<tr><th>Name</th><th>Type</th><th>Length</th><th>Mask</th><th></th></tr>
<tr><td>address</td><td>string</td><td>50</td><td></td><td></td></tr>
<tr><td>Patient details</td><td>Array</td><td></td><td></td><td></td></tr>
<tr><td>location_access</td><td>boolean</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>Prototype:</td><td>[PRO01]
<main page with a button to contact emergency services>

[PRO02]
<popup to confirm if ems should be contacted></td></tr>
</table>

UC03 Name:	Set Medicine Reminder
Description:	Allows users to set reminders for their medication schedule
Actor:	Customer (patient)
Entry condition:	The customer logs into the platform and navigates to the medicine reminder section.
Basic path:	1. The system presents the medicine reminder screen containing: **[PRO01]** a. Medication name (editable) b. Dosage (editable) c. Reminder time (editable) d. Options: i. Confirm

<table>
<tr><td></td><td>ii. Cancel
2. The customer enters the medication name, dosage, and reminder time and selects the Confirm option [A01][A02] [A03]
3. The system verifies if the information is valid [BR01] [BR02] [E01]
4. The system sets the medicine reminder
5. The use case is concluded
6. The system returns to the home screen</td></tr>
<tr><td>Alternative paths:</td><td>[A01] The customer does not specify the time for the reminder
1. The system prompts the customer to enter a valid time
2. The use case returns to step 2 of the basic path
[A02] The customer selects the Cancel option
1. The use case is concluded
2. The system returns to the home screen
[A03] The customer selects the Back option
1. The use case returns to step 2 of the basic path</td></tr>
<tr><td>Exception paths:</td><td>[E01] Connectivity issue
1. The system displays a message indicating that there was a connectivity issue and prompts the user to try again later
2. The use case returns to step 2 of the basic path</td></tr>
<tr><td>Business Rules:</td><td>[BR01] The system must allow users to set reminders for different times or recurring schedules.
[BR02] The system must send notifications through multiple channels (e.g., SMS, email, app notifications).</td></tr>
<tr><td>Data description</td><td>
<table>
<tr><th>Name</th><th>Type</th><th>Length</th><th>Mask</th><th></th></tr>
<tr><td>Patient Name</td><td>String</td><td>50</td><td></td><td></td></tr>
</table>
</td></tr>
</table>

	<table><tr><td>Age</td><td>Integer</td><td>3</td><td></td><td></td></tr><tr><td>Medical Conditions</td><td>Text</td><td>255</td><td></td><td></td></tr><tr><td>Appointment Time</td><td>DateTime</td><td>-</td><td></td><td></td></tr><tr><td>Prescription details</td><td>text</td><td>255</td><td></td><td></td></tr><tr><td>Symptom Severity</td><td>Integer</td><td>1-10</td><td></td><td></td></tr></table>
Prototype:	**[PRO01]** Medicine reminder screen prototype **[PRO02]** Symptom tracker and medicine reminder interface prototype