

# Software Requirement Specification

Group members	Benjamin Ruiz
	Sean Boyer
	Logan Huynh
	Jakob Huse
	Danielle Macklin
	Saja Al Jariri

## 1. Project Description

*General idea: Mental health tracking app w/ mood tracking, medication reminders, professional health resources, professional doctor groups. and mood and medication data will be sent to said doctor groups for second opinions and best course of action for patients.*

## 2. Functional Requirements

FR01	The software must allow doctors to create account
FR02	The software must enable the user to create an account
FR03	The software must send medication reminders
FR04	The software must allow user to add medication and set reminders
FR05	The software must send an app satisfaction survey to the users
FR06	The Software must allow user to input current mood
FR07	The software must allow doctors to send messages to patients
FR08	The software must allow doctors receive data
FR09	The software must allow doctors to review and upload health records
FR10	The software must allow user to check past records
FR11	The software must allow users to delete accounts
FR12	The software must allow user to update account info
FR13	The software must send confirmation emails to users
FR14	The software must allow users to request prescription refills
FR15	The software must allow doctors to remove prescribed medication

## 3. Non-Functional Requirements

NFR01	The app satisfaction survey must be sent every week
NFR02	Reminders should be sent at the designated time
NFR03	Confirmation emails should be sent within 10 mins
NFR04	Messages between the patient and doctor should be sent with latency no greater than 15 minutes
NFR05	Collect satisfactory data and update software every week
NFRN	Doctors should receive their patients' mood checks within 10 mins of submission



#### 4. Use Case Specification

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

<b>UC01 Name:</b>	Account Creation
<b>Description:</b>	Software allows users to create and set up their account
<b>Actor:</b>	Users
<b>Entry condition:</b>	The User selects "Create Account" option
<b>Basic path:</b>	<ol style="list-style-type: none"><li>1. System shows a registration screen that looks like <b>[PRO01]</b><ul style="list-style-type: none"><li>- Log in</li><li>- Sign up</li><li>- Cancel</li></ul></li><li>2. The actor selects the option Sign Up <b>[A01]</b></li><li>3. The actor is presented with the options Patient or Doctor and selects Patient <b>[A02]</b></li><li>4. The system presents a screen to enter user information such as: <b>[PRO02]</b><ul style="list-style-type: none"><li>- Username (editable)</li><li>- Password (editable)</li><li>- First Name (editable)</li><li>- Last Name (editable)</li><li>- Email (editable)</li><li>- The options:<ul style="list-style-type: none"><li>- Confirm</li><li>- Cancel</li></ul></li></ul></li><li>5. The actor selects Confirm <b>[A03]</b></li><li>6. The system verifies if the provided information is valid<b>[BR01][BR02][BR03][E01]</b></li><li>7. The user is prompted with an email verification screen with the options Confirm and Cancel</li><li>8. The user inputs code into verification screen and selects Confirm<b>[A03] [PRO05]</b></li></ol>

	<p>9. The system verifies if the provided information is valid[BR03][BR04][E01]</p> <p>10. The system creates new patient account</p> <p>11. Use Case is concluded</p> <p>12. The system enters home screen</p>
<b>Alternative paths:</b>	<p><b>[A01] The actor selects the login screen</b></p> <ol style="list-style-type: none"> <li>1. System shows screen asking for log in information as seen in [PRO03] <ul style="list-style-type: none"> <li>- Username (editable)</li> <li>- Password (editable)</li> <li>- The options: <ul style="list-style-type: none"> <li>- Confirm</li> <li>- Cancel</li> </ul> </li> </ul> </li> <li>2. The actor fills in log in information and selects the confirm option [A03]</li> <li>3. The system verifies the actor's credentials[BR03][BR05][E01][E02]</li> <li>4. The system will allow the actor to access and proceed with the account with information inputted</li> <li>5. The use case is completed</li> <li>6. Returns to home screen</li> </ol> <p><b>[A02] The actor selects Doctor option</b></p> <ol style="list-style-type: none"> <li>1. System shows screen asking for log in information as shown[PRO04] <ul style="list-style-type: none"> <li>- Username (editable)</li> <li>- Password (editable)</li> <li>- First Name (editable)</li> <li>- Last Name (editable)</li> <li>- Email (editable)</li> <li>- Medical License Number (editable)</li> <li>- State (editable)</li> </ul> </li> </ol>

	<ul style="list-style-type: none"><li>- The options:<ul style="list-style-type: none"><li>- Confirm</li><li>- Cancel</li></ul></li></ul> <ol style="list-style-type: none"><li>2. The actor fills in information and selects the confirm option[A03]</li><li>3. The system verifies if information provided is valid[BR01][BR02][BR03][E01][E02]</li><li>4. System creates new doctor account</li><li>5. Use case is concluded</li><li>6. Return to home screen</li></ol> <p><b>[A03] The actor selects the cancel option</b></p> <ol style="list-style-type: none"><li>1. The use case returns to the previous step of the basic path</li></ol>										
Exception paths:	<p><b>[E01] The actor did not input information in all attributes</b></p> <ol style="list-style-type: none"><li>1. The system will display a message saying how all mandatory attributes were not filled out.</li><li>2. The use case will return to previous step of path it was on before the error</li></ol> <p><b>[E02] The actor inputted invalid information</b></p> <ol style="list-style-type: none"><li>1. The system will display a message saying how there was invalid information provided.</li><li>2. The use case will return to the previous step of the path it was on before the error.</li></ol>										
Business Rules:	<p><b>[BR01]</b> Username must be Unique</p> <p><b>[BR02]</b> Email must be Unique</p> <p><b>[BR03]</b> All attributes must be filled out</p> <p><b>[BR04]</b> Email Code must be correct</p> <p><b>[BR05]</b> Imputed username and password must be correct</p>										
Data description	<table><tr><th>Name</th><th>Type</th><th>Length</th><th>Mask</th><th></th></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table>	Name	Type	Length	Mask						
Name	Type	Length	Mask								

	<table><tr><td>Medical Number</td><td>String</td><td>50</td><td></td><td></td></tr><tr><td>Username</td><td>String</td><td>8-50</td><td></td><td></td></tr><tr><td>Password</td><td>String</td><td>8-50</td><td>*****</td><td></td></tr><tr><td>Email</td><td>String</td><td>50</td><td></td><td></td></tr><tr><td>State</td><td>String</td><td>15</td><td></td><td></td></tr></table>	Medical Number	String	50			Username	String	8-50			Password	String	8-50	*****		Email	String	50			State	String	15		
Medical Number	String	50																								
Username	String	8-50																								
Password	String	8-50	*****																							
Email	String	50																								
State	String	15																								
Prototype:	<div><p><b>[PRO01]</b></p><div><div>Login</div><div>Sign Up</div></div></div> <div><p><b>[PRO02]</b></p><div><div>Username: <input type="text"/></div><div>Password: <input type="password"/></div><div>First Name: <input type="text"/></div><div>Last Name: <input type="text"/></div><div>Email: <input type="text"/></div><div><div>Cancel</div><div>Confirm</div></div></div></div> <div><p><b>[PRO03]</b></p></div>																									

Username

Password

Cancel

Confirm

[PRO04]

Username:

Password:

First Name:

Last Name:

Email:

Medical License  
number:

State:

Cancel

Confirm

[PRO05]

	<div><h3>Email Confirmation</h3><p>A confirmation code has been sent to the email provided. Please input the code here.</p><p>6 digit code: <input type="text"/></p><div><input type="button" value="Cancel"/><input type="button" value="Confirm"/></div></div>
--	--



<b>UC02 Name:</b>	Request medication
<b>Description:</b>	The software allows the user to request medication that may best benefit them and the doctor will review. This also allows them to set reminders with specific times/days.
<b>Actor:</b>	Patient
<b>Entry condition:</b>	The actor selects the option to request medication and include reminders on their behalf.
<b>Basic path</b>	<ol style="list-style-type: none"> <li>1. The system presents the customer registration screen containing: <b>[PRO01]</b> <ol style="list-style-type: none"> <li>1. - Name (editable)</li> <li>2. - The options: <ul style="list-style-type: none"> <li>--- Request Medication</li> <li>--- Set Reminders</li> <li>--- Cancel</li> </ul> </li> </ol> </li> <li>2. The actor selects the option for Medication Request <b>[A01][A02]</b></li> <li>3. The system presents a screen for verify the actor <b>[BR01][BR02][PR002]:</b> <ol style="list-style-type: none"> <li>1. --- SSN</li> <li>2. — Date of birth (editable)</li> <li>3. --- Name (editable)</li> <li>4. --- Address(editable)</li> <li>5. --- State (containing a list of the states) <ul style="list-style-type: none"> <li>● — Enter</li> <li>● — Cancel</li> </ul> </li> </ol> </li> <li>4. The system verifies the information given to present to the next screen<b>[E01]</b>.</li> <li>5. The system presents a screen for entering the medication wanted/need containing: <b>[PR003]</b> <ol style="list-style-type: none"> <li>1. --- List of medication classifications</li> <li>2. --- Request for medication (containing a list of all medications related to patient)</li> <li>3. --- Optional request for dosage (containing a list for dosage)</li> <li>4. --- The option to: <b>[A03]</b></li> </ol> </li> </ol>

	<p>--- Confirm --- Back</p> <p>6. The system presents a confirmation screen of the request being under consideration by the health team.</p> <p>7. The system returns to the home screen.</p> <p>8. The actor selects Set Reminders</p> <p>9. The system presents a list of reminder options for each medication related to the patient. <b>[A04][PR004]</b></p> <ol style="list-style-type: none"> <li>1. --- Click on medication wanted to be reminded(containing from a list)</li> <li>2. --- Click on how often the actor receives notifications (containing from a list)</li> <li>3. --- Choose how the actor wanted to be reminded (containing form a list.. email,phone,text)</li> <li>4. --- The screen shows the options of: --- Confirm --- Back</li> </ol> <p>10. The system presents a confirmation screen of the reminders that the actor put in. <b>[A05][PR005]</b></p> <p>11. The system presents the home screen once the actor has fulfilled reminders. <b>[A06]</b></p>
<b>Alternative paths:</b>	<p><b>[A01]</b> The actor selects the option <b>Set Reminders</b></p> <p>The system presents a screen to configure reminders containing:</p> <ol style="list-style-type: none"> <li>1. Medication name (from patient's prescribed list)</li> <li>2. Dosage (from prescribed options)</li> <li>3. Frequency (daily, weekly, custom)</li> <li>4. Time of reminder</li> <li>5. The options: --- Confirm --- Back</li> <li>6. The actor enters reminder information and selects <b>Confirm</b> <b>[A05]</b></li> <li>7. The use case proceeds to step 9.</li> </ol> <p><b>[A02]</b> The actor selects the option <b>Cancel</b></p> <ol style="list-style-type: none"> <li>1. The use case is concluded.</li> <li>2. The system returns to the home screen.</li> </ol>

	<p><b>[A03]</b> 4. The actor selects the option Back on the Medication Request screen.</p> <ol style="list-style-type: none"> <li>1. The use case returns to step 1 of the basic path.</li> </ol> <p><b>[A04]</b> 5. The actor selects the option Confirm on the Set Reminders screen. The system presents a list of reminder options for each medication related to the patient containing:</p> <ol style="list-style-type: none"> <li>1. Select medication to be reminded (from a list)</li> <li>2. Select frequency of notifications (from a list)</li> <li>3. Select method of reminder (from a list: email, phone, text)</li> <li>4. The options: <ul style="list-style-type: none"> <li>--- Confirm</li> <li>--- Back</li> </ul> </li> <li>5. The actor enters the reminder selections and chooses Confirm</li> </ol> <p><b>[A05]</b></p> <ol style="list-style-type: none"> <li>6. The use case proceeds to step 10.</li> </ol> <p><b>[A05]</b> 6. The system presents a confirmation screen of the reminders configured by the actor.</p> <ol style="list-style-type: none"> <li>1. The actor reviews and confirms.</li> <li>2. The system saves the reminder.</li> <li>3. The use case proceeds to step 11.</li> </ol> <p><b>[A06]</b> The system presents the home screen once the actor has fulfilled reminders.</p> <ol style="list-style-type: none"> <li>1. The use case is concluded.</li> </ol>
<p><b>Exception paths:</b></p>	<p><b>[E01]</b> Invalid registration information</p> <ol style="list-style-type: none"> <li>1. System displays message indicating the existence of invalid information.</li> <li>2. The use case returns to step 3 of the basic path.</li> </ol> <p><b>[E02] Verification service unavailable (step 4)</b></p> <ol style="list-style-type: none"> <li>1. The system displays a message indicating the identity verification service is temporarily unavailable.</li> <li>2. The use case returns to step 3 of the basic path, with the fields pre-filled if available.</li> </ol> <p><b>[E03] No medications available for patient (step 5 or step 9)</b></p> <ol style="list-style-type: none"> <li>1. System displays a message indicating there are no medications on file to request or to set reminders for.</li> </ol>

	<p>2. The use case returns to step 7 of the basic path (home screen).</p> <p><b>[E04] Invalid medication/dosage selection (step 5)</b></p> <ol style="list-style-type: none"><li>1. System displays a message indicating the selected medication and dosage combination is invalid or not prescribed.</li><li>2. The use case returns to step 5 of the basic path.</li></ol> <p><b>[E05] Missing required reminder selections (step 9)</b></p> <ol style="list-style-type: none"><li>1. System displays a message indicating one or more mandatory reminder fields were not provided (medication, frequency, or reminder method).</li><li>2. The use case returns to step 9 of the alternative path <b>[A05]</b>.</li></ol> <p><b>[E06] Invalid reminder schedule (step 9)</b></p> <ol style="list-style-type: none"><li>1. System displays a message indicating the selected reminder time or frequency is invalid (e.g., time in the past, unsupported custom interval).</li><li>2. The use case returns to step 9 of the alternative path <b>[A05]</b>.</li></ol> <p><b>[E07] Unsupported reminder method (step 9)</b></p> <ol style="list-style-type: none"><li>1. System displays a message indicating the chosen reminder method (email/phone/text) is currently unavailable for the actor.</li><li>2. The use case returns to step 9 of the alternative path <b>[A05]</b>.</li></ol> <p><b>[E08] Duplicate active reminder detected (step 10)</b></p> <ol style="list-style-type: none"><li>1. System displays a message that an equivalent active reminder already exists for the selected medication/dosage/frequency.<ol style="list-style-type: none"><li>1. If the actor chooses Replace, the system updates the existing reminder and the use case proceeds to step 11.</li><li>2. If the actor chooses Cancel, the use case returns to step 9 of the alternative path <b>[A05]</b>.</li></ol></li></ol> <p><b>[E09] Failure saving request/reminder (step 6 or step 10)</b></p> <ol style="list-style-type: none"><li>1. System displays a message indicating a system error occurred while saving the medication request or reminder configuration.</li><li>2. The use case returns to step 5 (for medication request) or step 9 (for reminders), preserving the actor's last inputs if possible.</li></ol> <p><b>[E10] Session timeout or security logout (any step after 1)</b></p> <ol style="list-style-type: none"><li>1. The system displays a message indicating the session expired for security reasons.</li></ol>
--	--

	2. The use case returns to step 1 of the basic path (home/login as applicable).																							
Business Rules:	<p><b>[BR01]</b> All fields in verification (SSN, Date of Birth, Name, Address, State) are mandatory.</p> <p><b>[BR02]</b> The SSN must uniquely identify a patient in the system.</p> <p><b>[BR03]</b> Only medications prescribed to the patient may be requested or set for reminders.</p> <p><b>[BR04]</b> The medication request must include medication before submission (dosage is optional).</p> <p><b>[BR05]</b> All reminder fields are mandatory: medication, frequency, and reminder method.</p> <p><b>[BR06]</b> Reminder time must be scheduled in the future. Past times are not permitted.</p> <p><b>[BR07]</b> Only one active reminder per unique combination of medication, dosage, frequency, and method is allowed. Duplicates must be replaced or canceled.</p> <p><b>[BR08]</b> The system must validate that the selected reminder method (email, phone, text) is supported and active for the actor.</p> <p><b>[BR09]</b> Medication requests and reminder setups must be confirmed by the actor before being stored.</p> <p><b>[BR10]</b> If system errors occur ( saving failure), the actor must be given the option to retry or return to the previous step with data preserved.</p>																							
Data description	<table><tr><th>Name</th><th>Type</th><th>Length</th><th>Mask</th></tr><tr><td>SSN</td><td>String</td><td>9</td><td>XXX-XX-XXXX</td></tr><tr><td>Date of Birth</td><td>String</td><td>8</td><td>XX/XX/XXX</td></tr><tr><td>Address</td><td>String</td><td>50</td><td></td></tr><tr><td>State</td><td>String</td><td>20</td><td></td></tr></table>				Name	Type	Length	Mask	SSN	String	9	XXX-XX-XXXX	Date of Birth	String	8	XX/XX/XXX	Address	String	50		State	String	20	
Name	Type	Length	Mask																					
SSN	String	9	XXX-XX-XXXX																					
Date of Birth	String	8	XX/XX/XXX																					
Address	String	50																						
State	String	20																						

	Medication	String	80	
	Dosage	String	20	
	ReminderFrequency	String	20	(Daily,Weekly,C ustom)
	ReminderMethod	String	10	(Email,Phone,T ext)
	ReminderTime	Time	5	HH:MM
	ReminderStartDate	Date	10	MM/DD/YYYY
	ReminderEndDate	String	10	MM/DD/YYYY
	Email	String	100	user@domain. tld
	Phone	String	16	+##### ####
<b>Prototype:</b>	<b>[PRO01]</b>			

Name: Jane Doe

Request Medication

Set Reminders

Cancel

### [PRO02]

Please verify your information below:

Name:

SSN:

DOB:

Address:

State:

Cancel

Enter

### [PRO03]

Please enter the name of medication and dosage(optional)  
you are requesting by selecting from the dropdown menu:

Medication  
Type\*:

Medication  
Name\*:

Dosage  
(mg):

Back

Confirm

### [PRO04]

	<div><p>Name: Jane Doe</p><p>Tylenol    <input type="button" value="Set Reminders"/></p><p>Advil      <input type="button" value="Set Reminders"/></p><p>Allegra    <input type="button" value="Set Reminders"/></p><p>Zyrtec     <input type="button" value="Set Reminders"/></p><p><input type="button" value="Save"/></p></div>
	<p>a</p>
	<p>list of reminder options for each medication related to the patient</p>
	<p>[PRO05]</p>



	<div data-bbox="456 230 1326 1216"><p>Name: Jane Doe</p><p>Reminder: A reminder has been set for Tylenol.</p><p>Reminder: A reminder has been set for Advil.</p><p>Reminder: A reminder has been set for Allegra.</p><div data-bbox="703 1057 1078 1153">Close</div></div> <p data-bbox="391 1395 1294 1431">confirmation screen of the reminders that the actor put in</p>
--	---

<b>UC03 Name:</b>	Mood Tracking
<b>Description:</b>	The Software must allow user to input current mood
<b>Actor:</b>	Patient
<b>Entry condition:</b>	Actor selects option Mood Tracking
<b>Basic path:</b>	<ol style="list-style-type: none"> <li>1. The app presents a screen for entering data containing: <ul style="list-style-type: none"> <li><b>[PRO01][A01][A02]</b> <ul style="list-style-type: none"> <li>- Date (editable)</li> <li>- Description of current mood (editable)</li> <li>- Confirm</li> <li>- Cancel</li> <li>- View past entries</li> </ul> </li> </ul> </li> <li>2. The actor enters data and chooses confirm</li> <li>3. System verifies that all fields have been filled <b>[E01][BR01][BR02]</b></li> <li>4. System adds an entry to the actor's data</li> <li>5. Use case is concluded</li> <li>6. System returns to home screen</li> </ol>
<b>Alternative paths:</b>	<p><b>[A01] Actor chooses cancel</b></p> <ol style="list-style-type: none"> <li>1. Use case is concluded.</li> <li>2. System returns to home screen.</li> </ol> <p><b>[A02] Actor chooses view past entries</b></p> <ol style="list-style-type: none"> <li>1. The app presents a screen containing:<b>[PRO02]</b> <ul style="list-style-type: none"> <li>- Password (editable)</li> <li>- Enter</li> <li>- Cancel</li> </ul> </li> <li>2. The actor enters password and chooses confirm <b>[A03]</b></li> <li>3. The system verifies if the password is correct<b>[E02][BR03]</b></li> <li>4. The app presents a screen containing:<b>[PRO03]</b> <ul style="list-style-type: none"> <li>- A list of the patient's previous entries.</li> <li>- Back</li> </ul> </li> <li>5. Actor selects the back option</li> <li>6. Use case is concluded</li> </ol>

	<div>7. System returns to step 1 of main path</div> <div>[A03] Actor chooses cancel</div> <div>1. Use case is concluded</div> <div>2. System returns to step 1 of main path</div>																				
Exception paths:	<div>[E01] Question or date was left blank</div> <div>1. Message appears telling the actor that a field was left blank</div> <div>2. Use case returns to step 1 of basic path</div> <div>[E02] Password was invalid</div> <div>1. A message appears telling the actor that the password was incorrect</div> <div>2. Use case returns to step 1 of Alternate path 02 [A02]</div>																				
Business Rules:	<div>[BR01] . All attributes are mandatory.</div> <div>[BR02] . Date must be unique in patient data</div> <div>[BR03] . Password must be correct</div>																				
Data description	<table><thead><tr><th>Name</th><th>Type</th><th>Length</th><th>Mask</th><th></th></tr></thead><tbody><tr><td>Date</td><td>String</td><td>8</td><td>xx/xx/xx</td><td></td></tr><tr><td>Description of current mood</td><td>String</td><td>500</td><td>-</td><td></td></tr><tr><td>password</td><td>String</td><td>8-50</td><td>-</td><td></td></tr></tbody></table>	Name	Type	Length	Mask		Date	String	8	xx/xx/xx		Description of current mood	String	500	-		password	String	8-50	-	
Name	Type	Length	Mask																		
Date	String	8	xx/xx/xx																		
Description of current mood	String	500	-																		
password	String	8-50	-																		
Prototype:	[PRO01]																				

Date:

Description of current mood:

Confirm

Cancel

View past entries

**[PRO02]**

←

Password

Enter

Cancel

**[PRO03]**

A screenshot of a software interface element titled "Past Entries". The title bar is grey and contains a black left-pointing arrow icon on the left and the text "Past Entries" on the right. Below the title bar is a white rectangular area containing four radio button options, each consisting of a small circle followed by a date in a light grey rectangular box. The dates are listed from top to bottom: 10/2/25, 9/30/25, 9/23/25, and 9/17/25.

Past Entries	
<input type="radio"/>	10/2/25
<input type="radio"/>	9/30/25
<input type="radio"/>	9/23/25
<input type="radio"/>	9/17/25