

# Software Requirement Specification

Group members	Sameer Ali
	Devin Hale
	Michael Burner
	Gladys Ayanou
	Stephen Stalnaker
	Naol Muleta

## 1. Project Description

<<add here 1 or 2 paragraphs presenting a overall view of your project>>

We're developing a medical adherence app that's all about making it easier for people to manage their medications. The app sends out reminders to users when it's time to take their meds and lets them mark off when they've taken them. It tracks everything in the background, so users don't have to stress about forgetting doses. On top of that, the app automatically sends reports to their healthcare providers, giving them a clear view of how well their patients are sticking to their medication plans.

To make sure everything is secure, the app allows users to set up a username and password, protecting their personal and medical information. The whole idea behind the app is to improve medication adherence, which can be a big deal for health outcomes, and to keep doctors in the loop without users having to do much extra work. It's a simple way to help people stay on track with their treatment and make sure their doctors know what's going on.

## 2. Functional Requirements

FR01	User Authentication
FR02	Medication Management and Adherence Monitoring
FR03	Reporting to Healthcare Providers
FR04	User Profile Management
FR05	Account and Data Recovery
FRN	

## 3. Non-Functional Requirements

<b>NFR01</b>	Security
<b>NFR02</b>	Performance
<b>NFR03</b>	Usability
<b>NFR04</b>	Scalability
<b>NFR05</b>	Reliability
<b>NFR06</b>	Compatibility

#### 4. Use Case Specification

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


<b>UC01 Name:</b>	User Authentication
<b>Description:</b>	Users can login or register for a personal account securely
<b>Actor:</b>	User
<b>Entry condition:</b>	The actor chooses to either login with their credentials or register for a new account
<b>Basic path:</b>	<p><b>1. User Login/Register is presented on app opening screen: [PR001]</b></p> <ul style="list-style-type: none"> <li>• The system presents the login screen containing the following options: <ul style="list-style-type: none"> <li>• Username (input)</li> <li>• Password (input)</li> <li>• Login button</li> <li>• Register button</li> </ul> </li> </ul> <p>If the user is new, they select “Register” to create an account.</p> <p><b>[PR002]</b></p> <p>The system presents a registration form to capture:</p> <ul style="list-style-type: none"> <li>• Email (input)</li> <li>• Date of Birth</li> <li>• Password (input)</li> <li>• Confirm Password (input)</li> <li>• Physician’s email</li> </ul> <p>The options:</p> <ul style="list-style-type: none"> <li>• Submit</li> <li>• Cancel</li> </ul>

	<p>The user submits the form, and the system creates the account, then redirects to the login screen.</p> <p>If the user already has an account, they enter their credentials and select “Login.” <b>[PR001]</b></p>																													
Alternative paths:	N/A																													
Exception paths:	<p><b>[E01]</b> <b>Invalid Credentials or Registration Errors:</b></p> <ul style="list-style-type: none"><li>1. If the user enters incorrect login credentials, a password mismatch during registration, or an already taken username, the system will display an error message.</li><li>2. The use case returns to step 1 of the basic path.</li></ul> <p><b>[E02]</b> <b>Account Lockout:</b></p> <ul style="list-style-type: none"><li>3. If the user fails to log in after multiple attempts, the system will lock the account.</li><li>4. The use case will inform the user to try again later or reset their password through their email.</li></ul>																													
Business Rules:	<p><b>[BR01]</b> . All attributes are mandatory.</p> <p><b>[BR02]</b> . The email would be a unique identifier in the system for the user.</p>																													
Data description	<table><thead><tr><th>Name</th><th>Type</th><th>Length</th><th>Mask</th><th></th></tr></thead><tbody><tr><td>Name</td><td>String</td><td>50</td><td>-</td><td></td></tr><tr><td>Email</td><td>String</td><td>50</td><td>-</td><td></td></tr><tr><td>DOB</td><td>String</td><td>10</td><td>DD-MM-YYYY</td><td></td></tr><tr><td>Physician’s Email</td><td>String</td><td>50</td><td>-</td><td></td></tr></tbody></table>					Name	Type	Length	Mask		Name	String	50	-		Email	String	50	-		DOB	String	10	DD-MM-YYYY		Physician’s Email	String	50	-	
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Prototype:


[PRO01]

21:20



Med Tracker

Username 

Password 


Forgot Password

Login


Register


[PRO02]


22:29





Med Tracker

Email 

Password 

Confirm Password 

Date Of Birth 



Physician's Email 

Submit

Cancel

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<b>UC02 Name:</b>	Reporting to Healthcare Providers
<b>Description:</b>	The system automatically generates and sends medication adherence reports to the user's healthcare provider.
<b>Actor:</b>	User, Healthcare Provider
<b>Entry condition:</b>	The user has set up their profile with a linked healthcare provider's email.
<b>Basic path:</b>	<ol style="list-style-type: none"> <li>1. The system periodically checks the user's medication adherence data.</li> <li>2. The system generates a report summarizing the adherence data over the specified period (e.g., weekly, monthly).</li> <li>3. The system automatically sends the report to the healthcare provider's email linked to the user's profile.</li> </ol>
<b>Alternative paths:</b>	<p><b>[A01]</b></p> <ol style="list-style-type: none"> <li>1. If the user updates their healthcare provider's email, the system verifies the new email and updates the report's recipient.</li> </ol>
<b>Exception paths:</b>	<p><b>[E01]</b></p> <ol style="list-style-type: none"> <li>5. If the report fails to send due to network issues, the system retries sending it at regular intervals until successful.</li> </ol> <p><b>[E02]</b></p> <ol style="list-style-type: none"> <li>6. If the healthcare provider's email is invalid, the system prompts the user to update the email address.</li> </ol>
<b>Business Rules:</b>	<p><b>[BR01]</b> The system must send reports in a standardized format agreed upon by healthcare providers.</p> <p><b>[BR02]</b> Reports must include critical adherence information like missed doses, average adherence rate, and any flagged issues.</p>

<div>Data description</div>	<table><tr><th>Name</th><th>Type</th><th>Length</th><th>Mask</th><th></th></tr><tr><td>Report Content</td><td>String</td><td>N/A</td><td>N/A</td><td></td></tr><tr><td>Date</td><td>String</td><td>10</td><td>DD-MM-YYYY</td><td></td></tr><tr><td>Provider Email</td><td>String</td><td>50</td><td>N/A</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table>	Name	Type	Length	Mask		Report Content	String	N/A	N/A		Date	String	10	DD-MM-YYYY		Provider Email	String	50	N/A						
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<div>Prototype:</div>	<div><div>[PRO01]</div><div><div><div><div><div>19:13</div><div></div><div>Med Tracker</div></div><div><div><div><div></div><div>User's Name</div><div>Date</div></div><div><div></div><div></div><div>Days left in month</div></div></div></div><div>Profile Setup</div><div>User's Dose:</div><div>Missed Dose:</div><div>Send Report</div><div>Physician Email</div><div>Medication Adherence</div><div>Average Dose rate:</div><div><div>December</div><div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div></div><div><div>8</div><div>9</div><div>10</div><div>11</div><div>12</div><div>13</div><div>14</div></div><div><div>15</div><div>16</div><div>17</div><div>18</div><div>19</div><div>20</div><div>21</div></div><div><div>22</div><div>23</div><div>24</div><div>25</div><div>26</div><div>27</div><div>28</div></div></div><div>Edit</div><div>Cancel</div><div>Submit Changes</div></div></div></div></div></div>																									

<b>UC03 Name:</b>	Medication Management and Adherence Monitoring
<b>Description:</b>	The system sends timely reminders to users to take their medication as per the prescribed schedule.
<b>Actor:</b>	User
<b>Entry condition:</b>	The user has set up their medication schedule on their device.
<b>Basic path:</b>	<ol style="list-style-type: none"><li>1. The user enters their medication details, including name, dosage, and schedule.</li><li>2. The system sets up reminders based on the input schedule.</li><li>3. At the specified time, the system sends a reminder notification to the user.</li><li>4. The user acknowledges the reminder by marking the dose as taken.</li></ol>
<b>Alternative paths:</b>	<p><b>[A01]</b></p> <ol style="list-style-type: none"><li>1. If the user reschedules a dose, the system adjusts the reminders accordingly.</li></ol> <p><b>[A02]</b></p> <ol style="list-style-type: none"><li>1. The system allows users to snooze the reminder for a short period.</li></ol>
<b>Exception paths:</b>	<p><b>[E01]</b></p> <ol style="list-style-type: none"><li>7. If the reminder fails to trigger due to app closure or device issues, the system queues the reminder for when the app is next opened.</li></ol> <p><b>[E02]</b></p> <ol style="list-style-type: none"><li>8. If the user misses a reminder, the system logs it and sends a follow-up reminder.</li></ol>
<b>Business Rules:</b>	<p><b>[BR01]</b> Reminders must be non-intrusive but noticeable to ensure adherence.</p>

Data description	<table><tr><th>Name</th><th>Type</th><th>Length</th><th>Mask</th><th></th></tr><tr><td>Medication Name</td><td>String</td><td>50</td><td>N/A</td><td></td></tr><tr><td>Dosage</td><td>String</td><td>20</td><td>N/A</td><td></td></tr><tr><td>Reminder Time</td><td>String</td><td>10</td><td>HH:MM:SS</td><td></td></tr><tr><td>Frequency</td><td>String</td><td>20</td><td>N/A</td><td></td></tr><tr><td>Start Date</td><td>String</td><td>10</td><td>DD-MM-YYYY</td><td></td></tr><tr><td>End Date</td><td>String</td><td>10</td><td>DD-MM-YYYY</td><td></td></tr><tr><td>Dose Acknowledgement</td><td>Boolean</td><td>1</td><td>N/A</td><td></td></tr><tr><td>Missed Doses</td><td>Integer</td><td>N/A</td><td>N/A</td><td></td></tr><tr><td>Adherence Rate</td><td>Float</td><td>N/A</td><td>N/A</td><td></td></tr></table>	Name	Type	Length	Mask		Medication Name	String	50	N/A		Dosage	String	20	N/A		Reminder Time	String	10	HH:MM:SS		Frequency	String	20	N/A		Start Date	String	10	DD-MM-YYYY		End Date	String	10	DD-MM-YYYY		Dose Acknowledgement	Boolean	1	N/A		Missed Doses	Integer	N/A	N/A		Adherence Rate	Float	N/A	N/A	
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Prototype:	<div><div>[PRO01]</div><div><div><div><div><div>MedTracker</div><div>9m ago</div></div><div>Reminder to take your dose of Levrothyroxin at 3:00 PM</div></div></div><div><div><div><div><div></div><div></div></div><div>User's Name</div><div>Date</div></div><div><div><div></div><div></div></div><div>Days left in month</div></div></div></div><div><div>Profile Setup</div><div>User's Dose:</div><div>Missed Dose:</div><div>Send Report</div></div><div><div>Physician's Advice</div><div>Set Up Reminders</div><div>Allow Medtracker to send you notifications and alerts?</div><div>Cancel</div><div>Allow</div></div><div><div>Medication Adherence</div><div>Average Dose Rate:</div><div>December</div><div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div></div><div><div>8</div><div>9</div><div>10</div><div>11</div><div>12</div><div>13</div><div>14</div></div><div><div>15</div><div>16</div><div>17</div><div>18</div><div>19</div><div>20</div><div>21</div></div><div><div>22</div><div>23</div><div>24</div><div>25</div><div>26</div><div>27</div><div>28</div></div></div><div><div>Edit</div><div>Cancel</div><div>Submit Changes</div></div></div></div></div>																																																		



