

Software Requirement Specification

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1. Project Description

Medical adherence software. User friendly software that tracks prescription medications and includes alerts for patients to take their pills and refill their prescriptions. Users can also enter in any symptoms they have. Software will keep track of each prescription's name, dosage and use instructions.

2. Functional Requirements

FR01	The software must enable the user to create a profile
FR02	The software must enable the user to sign in to the system
FR03	The software must enable the user to maintain active prescriptions
FR04	The software must enable the user to edit current prescriptions
FR05	The software must enable the user to delete current prescriptions
FR06	The software must enable the user to add a prescription
FR07	The software must alert the user to take their medication or renew prescription
FR08	The software must alert the user to renew their prescription

3. Non-Functional Requirements

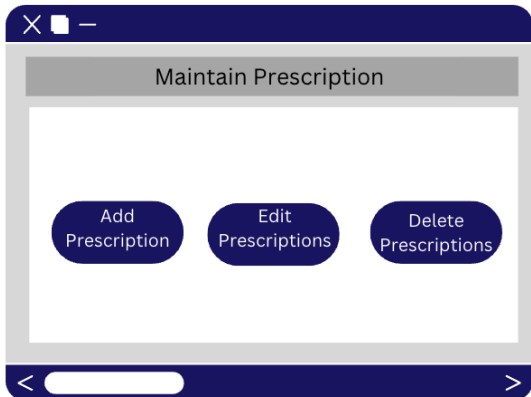
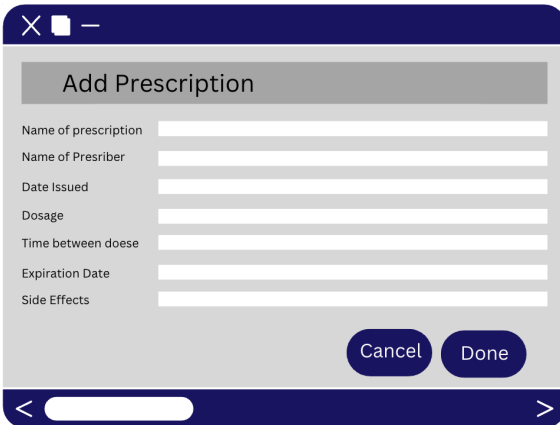
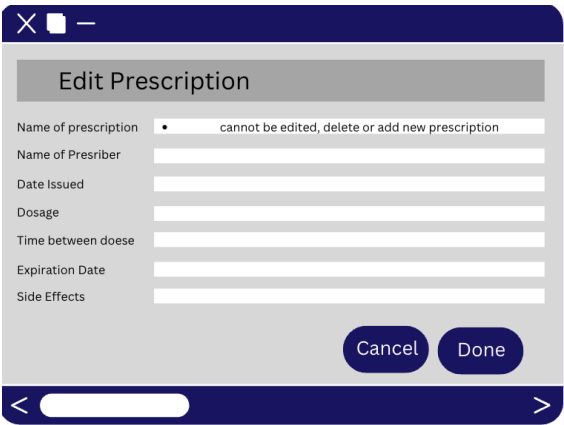
NFR01	All prescription fields should be Strings except for date issued and time between each dose
NFR02	Notifications to the user must log if the medication was taken or not.
NFR03	All user input should be validated by listed business rules
NFR04	System alerts user to take their medication within 5 minutes of the time to take data field.

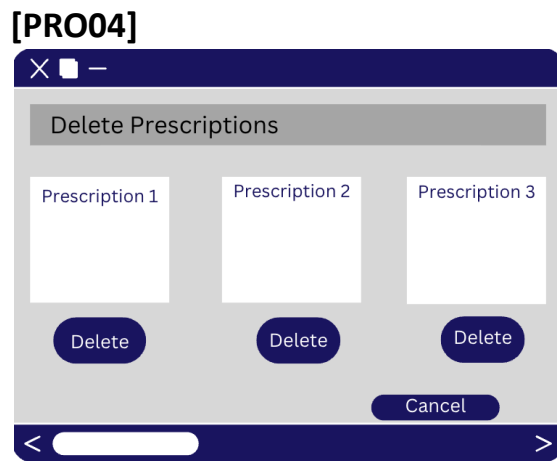
4. Use Case Specification

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

UC01 Name:	Maintain Prescriptions
Description:	Add or modify the user's current prescriptions
Actor:	User
Entry condition:	The actor selects the option manage prescriptions
Basic path:	<ol style="list-style-type: none"> 1. The System presents a screen with options to: [PRO01] <ol style="list-style-type: none"> a. Add a prescription b. Edit a prescription c. Delete a prescription 2. User selects Add a Prescription [A01] [A02] 3. System presents a screen asking for: [PR02] <ul style="list-style-type: none"> - Name of prescription - Name of prescriber - Date issued - Dosage - Time between doses - Prescription expiration date - Prescription side effects - Options: <ul style="list-style-type: none"> - Cancel - Done 4. User inputs all data and selects done. [A03] 5. System verifies information is valid. [BR01][E03] 6. The system includes the new prescription. 7. The use case is concluded. 8. System returns to the home screen.
Alternative paths:	[A01] Actor selects Edit Prescription [PRO03] <ol style="list-style-type: none"> 1. System opens current prescription data. [E02] 2. Actor changes prescription information. [E01] 3. Actor selects the done option. [A03]

	<p>[A02] Delete prescription [PRO04]</p> <ol style="list-style-type: none">1. System shows list of current prescriptions [E02]2. Options:<ol style="list-style-type: none">a. delete prescriptionb. cancel3. Actor selects which prescriptions they wish to delete4. Actor chooses delete option [A03]5. Actor choose done option <p>[A03] Actor selects cancel option</p> <ol style="list-style-type: none">1. Use case returns to step 1 of the basic path																								
Exception paths:	<p>[E01] User cannot edit prescription name</p> <ol style="list-style-type: none">1. System presents an error message “prescription name cannot be changed. Instead, delete or add a new prescription.”2. Options:<ol style="list-style-type: none">a. Delete Prescription [A02]b. Add Prescription<ol style="list-style-type: none">i. System returns to step 2 of the basic path.c. Cancel [A03] <p>[E02] User has no current prescriptions</p> <ol style="list-style-type: none">1. System presents error message “no current prescriptions”2. User must hit OK. option3. System returns to step 1 of the basic path. <p>[E03] One or more fields are empty.</p> <ol style="list-style-type: none">1. System presents error message “must fill in all data fields”2. User must hit ok. option3. System returns to step 2 of the basic path.																								
Business Rules:	<p>[BR01] All information is mandatory.</p>																								
Data description	<table><tr><th>Name</th><th>Type</th><th>Length</th><th>Mask</th><th></th></tr><tr><td>Drug Name</td><td>String</td><td>128</td><td>-</td><td></td></tr><tr><td>Doctor Name</td><td>String</td><td>128</td><td>-</td><td></td></tr><tr><td>Date Issued</td><td>Date</td><td>8</td><td>MM-DD-YYYY</td><td></td></tr></table>					Name	Type	Length	Mask		Drug Name	String	128	-		Doctor Name	String	128	-		Date Issued	Date	8	MM-DD-YYYY	
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	<table><tr><td>Time between dose</td><td>Int</td><td>-</td><td>-</td><td></td></tr><tr><td>Expiration Date</td><td>Date</td><td>8</td><td>MM-DD-YYYY</td><td></td></tr><tr><td>Side Effects</td><td>String[]</td><td>512</td><td>-</td><td></td></tr></table>	Time between dose	Int	-	-		Expiration Date	Date	8	MM-DD-YYYY		Side Effects	String[]	512	-	
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Side Effects	String[]	512	-													
Prototype:	<div><div>[PRO01]</div><div><p>The 'Maintain Prescription' screen features a title bar with a close button (X), a maximize button (square), and a minimize button (dash). Below the title bar is a header 'Maintain Prescription'. The main content area contains three large, rounded buttons: 'Add Prescription', 'Edit Prescriptions', and 'Delete Prescriptions'. At the bottom is a navigation bar with a back arrow, a central input field, and a forward arrow.</p></div></div> <div><div>[PRO02]</div><div><p>The 'Add Prescription' screen has a title bar with a close button (X), a maximize button (square), and a minimize button (dash). The header is 'Add Prescription'. It contains a list of labels on the left and corresponding input fields on the right: 'Name of prescription', 'Name of Prescriber', 'Date Issued', 'Dosage', 'Time between dose', 'Expiration Date', and 'Side Effects'. At the bottom right are 'Cancel' and 'Done' buttons. The bottom navigation bar is identical to the previous screens.</p></div></div> <div><div>[PRO03]</div><div><p>The 'Edit Prescription' screen has a title bar with a close button (X), a maximize button (square), and a minimize button (dash). The header is 'Edit Prescription'. The 'Name of prescription' field is disabled, showing a message: 'cannot be edited, delete or add new prescription'. Other fields ('Name of Prescriber', 'Date Issued', 'Dosage', 'Time between dose', 'Expiration Date', 'Side Effects') are active. 'Cancel' and 'Done' buttons are at the bottom right. The bottom navigation bar is identical to the previous screens.</p></div></div>															



UC02 Name:	Maintain Customer/User
Description:	Software enables user to create an account or login in to an existing account
Actor:	Customer
Entry condition:	The customer selects the option "Login or Sign Up"
Basic path:	<ol style="list-style-type: none"> The system presents the customer sign up screen containing: [PRO01] <ol style="list-style-type: none"> The options: <ol style="list-style-type: none"> Sign up Sign In The customer selects the option Sign Up or [A01] The system presents a screen for entering the new customer's information: [PRO02] <ol style="list-style-type: none"> Enter first and last name Enter date of birth Enter username Enter password Enter email Enter phone number The system verifies that the password is valid [E01] [BR01] [BR02] [BR03] They system verifies that the email is valid [E02] [BR04]
Alternative paths:	[A01] The customer selects the Sign In option <ol style="list-style-type: none"> The system presents a screen for entering the returning customer's information: [PRO03] <ol style="list-style-type: none"> Enter username Enter password The system verifies that the information entered is valid [E03] [BR05]

Exception paths:	<p>[E01] Invalid password creation</p> <ol style="list-style-type: none">1. System displays a message indicating that the entered password is invalid or already in use by another user2. The use case returns to Step 3 of the basic path <p>[E02] Invalid email formatting</p> <ol style="list-style-type: none">1. System displays a message indicating that the entered email is invalid2. The use case return to Step 3 of the basic path <p>[E03] Invalid login information</p> <ol style="list-style-type: none">1. System displays message indicating the existence of an invalid field and prompts for a new login attempt2. The use case returns to Step 1 of the first alternate path																												
Business Rules:	<p>[BR01]. The password must be at least 8 characters in length</p> <p>[BR02]. The password must consist of both numbers and letters</p> <p>[BR03]. The password must uniquely identify a customer in the system</p> <p>[BR04]. The email must contain at least one character, followed by an @ symbol, followed by another string of characters, followed by a ".", followed by another string of characters. Example: johndoe@coolemails.com</p> <p>[BR05]. Both log-in fields must match up with a stored user in the customer database in order for there to be a successful log-in attempt (case sensitive for both fields)</p>																												
Data description	<table><tr><th>Name</th><th>Type</th><th>Length</th><th>Mask</th></tr><tr><td>First Name</td><td>String</td><td>1 <= length <= 30</td><td>-</td></tr><tr><td>Last Name</td><td>String</td><td>1 <= length <= 30</td><td>-</td></tr><tr><td>Username</td><td>String</td><td>1 <= length <= 35</td><td>-</td></tr><tr><td>Password</td><td>String</td><td>8 <= length <= 25</td><td>-</td></tr><tr><td>Email</td><td>String</td><td>7 <= length <=30</td><td>XXXXXX@XXXX.XXX</td></tr><tr><td>Phone Number</td><td>String</td><td>10</td><td>(XXX)-XXX-XXXX</td></tr></table>	Name	Type	Length	Mask	First Name	String	1 <= length <= 30	-	Last Name	String	1 <= length <= 30	-	Username	String	1 <= length <= 35	-	Password	String	8 <= length <= 25	-	Email	String	7 <= length <=30	XXXXXX@XXXX.XXX	Phone Number	String	10	(XXX)-XXX-XXXX
Name	Type	Length	Mask																										
First Name	String	1 <= length <= 30	-																										
Last Name	String	1 <= length <= 30	-																										
Username	String	1 <= length <= 35	-																										
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Email	String	7 <= length <=30	XXXXXX@XXXX.XXX																										
Phone Number	String	10	(XXX)-XXX-XXXX																										
Prototype:	<p>[PRO01]</p> <p><Login/Sign up screen></p>																												

**[PRO02]**

<Sign up for new account screen>

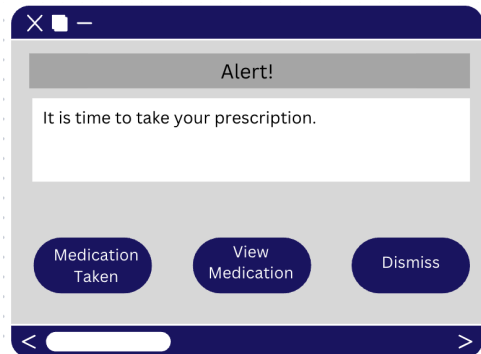
A screenshot of a mobile application screen titled "Create New Account". The form contains several input fields: "First Name", "Last Name", "Date of Birth", "Username", "Password", "Email", and "Phone Number". The "Phone Number" field is formatted with parentheses and dashes. The screen has a dark blue header bar with a close button (X) and a back button (<). The bottom of the screen features a dark blue navigation bar with a white back button (<) and a white forward button (>).

[PRO03]

<View current customer information screen>

A screenshot of a mobile application screen titled "Sign In". The form contains two input fields: "Username" and "Password". Below the input fields is a dark blue button labeled "Enter". The screen has a dark blue header bar with a close button (X) and a back button (<). The bottom of the screen features a dark blue navigation bar with a white back button (<) and a white forward button (>).

UC03 Name:	Alert User to Take Medication
Description:	Software alerts the user when (time/date) to take their medication.
Actor:	System
Entry condition:	System periodically checks database to verify that customer has taken medication on time [BR01]
Basic path:	<ol style="list-style-type: none"> 1. The system checks the database of medications for the period of taking the medication and for the last time the user took the medication. 2. The system generates a list of users that need to be notified to take their medication. [BR03] Each entry of the list includes: <ol style="list-style-type: none"> a. Medication Name b. Time to take c. Date to take d. User 3. Iterating through each list element, the system sends a notification to the proper users that mentions the medication's name and schedule. Additionally, the notification has the following options: [PRO01] <ol style="list-style-type: none"> a. Dismiss b. Medication Taken c. View Medication 4. The user dismisses the notification [A01] [A02] 5. The system logs that the user did not report taking their medication. [BR02]
Alternative paths:	<p>[A01] The user selects the "Medication Taken" option</p> <ol style="list-style-type: none"> 1. The system logs that the medication was taken. [BR02] 2. The notification dismisses itself. <p>[A02] The user selects the "View Medication" option</p> <ol style="list-style-type: none"> 1. The system logs that the medication was not taken. [BR02] 2. The notification dismisses itself. 3. The user's medication is brought up in a similar manner to UC01 "Maintain Prescriptions" [E01]

Exception paths:	<p>[E01] The user’s prescription cannot be found in the database. Could be caused by the entry in the database being deleted or moved at an inopportune time.</p> <ol style="list-style-type: none">1. The system prompts the user with a helpful error message and asks them to report the bug to the developers. A “Close” button is displayed on the bottom of the prompt.2. After clicking the close button, the program returns to the main screen.																									
Business Rules:	<p>[BR01] The system checks the database every minute.</p> <p>[BR02] The notification cannot be simply “dismissed”. Upon dismissal, the system either logs that the user took the medication or did not - depending on what action dismissed the notification.</p> <p>[BR03] System must send an alert within 5 minutes of the time to take medication data field.</p>																									
Data description	<table><tr><th>Name</th><th>Type</th><th>Length</th><th>Mask</th><th>Comments</th></tr><tr><td>Medication Name</td><td>String</td><td>128</td><td>-</td><td></td></tr><tr><td>Time to Take</td><td>Int</td><td>-</td><td>XX:XX:XX am/pm</td><td>User-viewable time generated from int</td></tr><tr><td>Date to Take</td><td>Date</td><td>-</td><td>-</td><td>STD Library Date Object</td></tr><tr><td>User</td><td>String</td><td>128</td><td>-</td><td></td></tr></table>	Name	Type	Length	Mask	Comments	Medication Name	String	128	-		Time to Take	Int	-	XX:XX:XX am/pm	User-viewable time generated from int	Date to Take	Date	-	-	STD Library Date Object	User	String	128	-	
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User	String	128	-																							
Prototype:	<p>[PRO01]</p> 																									

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