Software Requirement Specification

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1. Project Description

The medication Adherence system is designed to assist patients in managing their medication schedules effectively and ensuring adherence to prescribed treatments. It provides real-time alerts and reminders to users to take their medications on time. Additionally, it generates reports on medication adherence. The system tracks the patient's medication intake, recording whether doses are taken or missed. By improving medication adherence, this system aims to reduce health complications and support better outcomes for patients.

2. Functional Requirements

FR01	Sends reminders for medicines
FR02	Logging if medicines were "taken" or "missed"
FR03	Medicine schedules to include times and dose
FR04	Reports back to provider
FR05	Easy to use interface
FR06	Provider alerts if the patience missed their medicines
FR07	Weekly reports for adherence back to provider
FR08	Ability to update and manage patients' account store data both prov. and pat.
FRN	

3. Non-Functional Requirements

NFR01	Scalability
NFR02	Responsive
NFR03	Compatibility
NFR04	Integration of coding langs. needed
FRN	

4. Use Case Specification

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

UC01 Name:	SEND MEDICINE REMINDERs
Description:	Send notifications
Actor:	Patient, system
Entry condition:	Patient has meds registered in the system.
Basic path:	1. System checks the patient's med schedule. 2. Sends notifications and receives notifications on admin end -
Alternative paths:	**[A01]** 1. Patient changes reminder time -User updates the reminder time on app or over the web -System updates reminder schedule. **[A02]** 2. Notifications fails to send -The program fails to send the reminder notifications due to network issues. -System error with meds taking logs.
Exception paths:	**[E01]** 1. The patient disables the reminders for the program. 2. The system fails to send reminders
Business Rules:	**[BR01]** . program must send reminder within 1 minute **[BR02]** . receives reminders through multiple channels
Data description	

Name	Type	Length	Mask	

	<table><tr><td>patient id</td><td>integer</td><td>10</td><td>n/a</td><td></td></tr><tr><td>meds name</td><td>string</td><td>255</td><td>n/a</td><td></td></tr><tr><td>reminder time</td><td>time</td><td>n/a</td><td>hh</td><td></td></tr><tr><td>reminder channels</td><td>string</td><td>50</td><td>n/a</td><td></td></tr></table>
Prototype:	**[PRO01] Showing notifications reminder message** **[PRO02] Patient sets reminder preferences**

<table>
<tr><td>UC02 Name:</td><td>logging meds intake</td></tr>
<tr><td>Description:</td><td>logs whether a patient has taken their scheduled dose of meds and system records the response.</td></tr>
<tr><td>Actor:</td><td>patient, system</td></tr>
<tr><td>Entry condition:</td><td>receives a meds reminder or manually logs them</td></tr>
<tr><td>Basic path:</td><td>3.
-</td></tr>
<tr><td>Alternative paths:</td><td>[A01]
1.Patient changes entry log
- Able to edit log entry
- Able to revisit med logs to see if med logs was missed or forgotten
[A02]
2. Patient manually logs meds
- received a reminder but has to manually confirm meds were taken.</td></tr>
<tr><td>Exception paths:</td><td>[E01]
3. Patient skips logs
- patient ignores the remainder and fails to log if meds were taken
- system marks meds as logged or unlogged</td></tr>
<tr><td>Business Rules:</td><td>[BR01] . patient must log meds within 4 hours of scheduled time
[BR02] .system allows edits to logs within 24 hrs of original</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>pat. id</td><td>integer</td><td>10</td><td>N/A</td><td></td></tr>
<tr><td>med id</td><td>integer</td><td>10</td><td>N/A</td><td></td></tr>
<tr><td>log status</td><td>string</td><td>10</td><td>“taken”/”missed”</td><td></td></tr>
</table>
</td></tr>
</table>

	<table><tr><td>log timestamp</td><td>datetime</td><td>N/A</td><td>yyyy-mm-dd hh</td><td></td></tr></table>
Prototype:	**[PRO01]** **med intake logs interface with “taken” and “missed” options.** **[PRO02]** **log history showing patients past entries.**

<table>
<tr><td>UC03 Name:</td><td>medication adherence reports</td></tr>
<tr><td>Description:</td><td>generates a report for healthcare providers; example summarizing pat. meds adherence over treatment time.</td></tr>
<tr><td>Actor:</td><td>Provider, system</td></tr>
<tr><td>Entry condition:</td><td>provider request a report for a specific patient</td></tr>
<tr><td>Basic path:</td><td>4. provider logs into system
-provider is giving reports
- system retrieves meds logs for specified time periods</td></tr>
<tr><td>Alternative paths:</td><td>[A01] report for multiple patients
-healthcare selects multiple patients

[A02] custom report period
-creates a report for specified dates
-able to select a date range for a report</td></tr>
<tr><td>Exception paths:</td><td>[E01] dates not available
-notifies the provider if there is no data available for specified periods.</td></tr>
<tr><td>Business Rules:</td><td>[BR01] .system must generate a report within 10 seconds
[BR02] . reports must include patients adherence rate,doses taken, and missed doses.</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>pat. id</td><td>integer</td><td>10</td><td>N/A</td><td></td></tr>
<tr><td>adherence rate</td><td>float</td><td>N/A</td><td>percentage</td><td></td></tr>
<tr><td>reports periods</td><td>date</td><td>N/A</td><td>yyyy-mm-dd</td><td></td></tr>
<tr><td>doses taken</td><td>integer</td><td>N/A</td><td>N/A</td><td></td></tr>
</table>
</td></tr>
</table>

Prototype:	**[PRO01] adherence report interface with summary and detailed views** **[PRO02]options to export in a pdf format or export in general**