Software Requirement Specification

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1. Project Description

MedMind is an intuitive mobile app designed to help users stay on top of their medication schedules with ease and confidence. By providing personalized reminders, progress tracking, and smart notifications, MedMind ensures you never miss a dose. The app allows users to log medications, set dosage times, track adherence trends, and receive refill alerts. With a simple, calming interface and optional health insights, MedMind turns medication management into a stress-free daily routine—empowering users to take control of their health and build consistent habits.

2. Functional Requirements

FR01	User can create account
FR02	User can sign in
FR03	User can logout
FR04	User can reset forgotten password
FR05	User can add medicine
FR06	User can edit medicine details
FR07	User can delete medicine
FR08	User can set medicine schedule
FR09	User can view calendar with medicine schedule
FR10	User can enable/disable notifications
FR11	User can mark medicine as taken
FR12	User can view medicine history
FRN13	User can snooze notifications
FRN14	User can set notification time preferences
FRN15	User can search medicines by name

3. Non-Functional Requirements

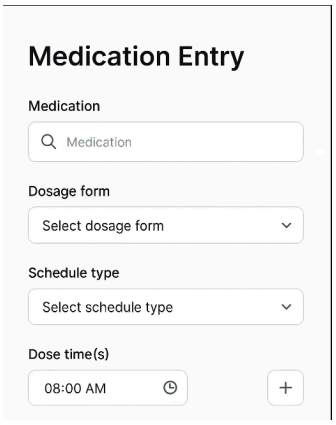
NFR01	Login data should be end-to-end encrypted
NFR02	Password be stored encrypted

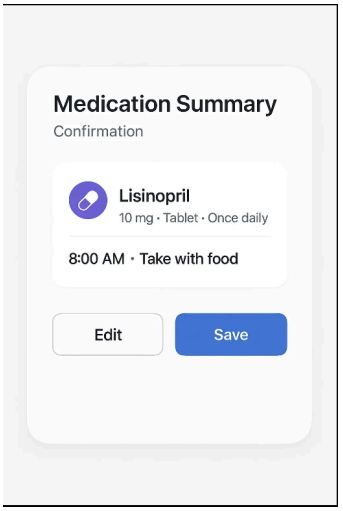
NFR03	Store customer data such as current medication, etc in database
NFR04	Notifications should arrive in less than 30 seconds
NFR05	App should have dark/light mode
NFR06	Should have minimum character requirement of 8 characters when making password

4. Use Case Specification

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

UC01 Name:	Add new medication
Description:	User adds a new medication to their profile with scheduling and dosage information
Actor:	Patient/User
Entry condition:	User is logged in
Basic path:	1. User selects "Add Medication" from main screen **[PRO01]** Options: - Save Medicine - Cancel - Set reminder Sun - Sat - - 2. System displays medication entry form 3. User searches for medication name or enters manually 4. User selects dosage form (pill, liquid, injection) **[A01]** 5. User enters strength and dose amount 6. User selects schedule type (fixed time, interval, PRN, etc.) 7. User sets specific times and days **[A02]** 8. User enters start date and optional end date 9. User sets initial inventory amount and refill threshold 10. System validates all required fields **{PRO02}** 11. System saves medication locally and syncs to cloud 12. System displays confirmation and returns to medication list
Alternative paths:	[A01] Medication found in database 1. System auto-populates strength options 2. User selects appropriate strength 3. Continue with step 5 [A02] PRN medication selected 1. User sets maximum doses per day 2. User sets minimum time between doses 3. Continue with step 8
Exception paths:	[E01] Network connection lost during save 1. System saves medication locally 2. System queues for sync when connection restored 3. System notifies user of offline save

<table>
<tr><td>Business Rules:</td><td>[BR01] Maximum 100 medications per user account
[BR02] Medication names must be unique within user profile</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>medication_name</td><td>String</td><td>100</td><td>Required</td><td></td></tr>
<tr><td>strength</td><td>Decimal</td><td>10,2 (max)</td><td>Required</td><td></td></tr>
<tr><td>dose_times</td><td>Array</td><td>255</td><td>HH:MM format</td><td></td></tr>
<tr><td>schedule_type</td><td>String</td><td>15</td><td>fixed/interval/prn/taper</td><td></td></tr>
</table>
</td></tr>
<tr><td>Prototype:</td><td>
[PRO01] Medication entry form with search field, dropdown menus for dosage form and schedule type, time picker for dose times


[PRO02] Confirmation screen showing medication summary with edit and save options


</td></tr>
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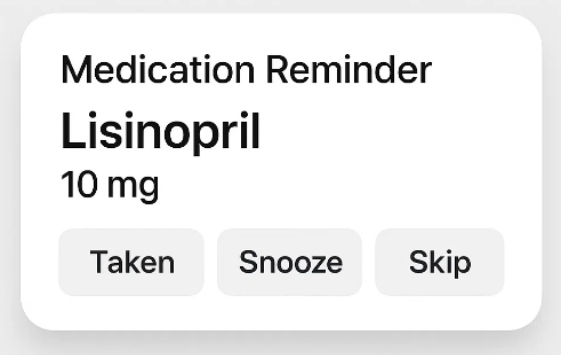
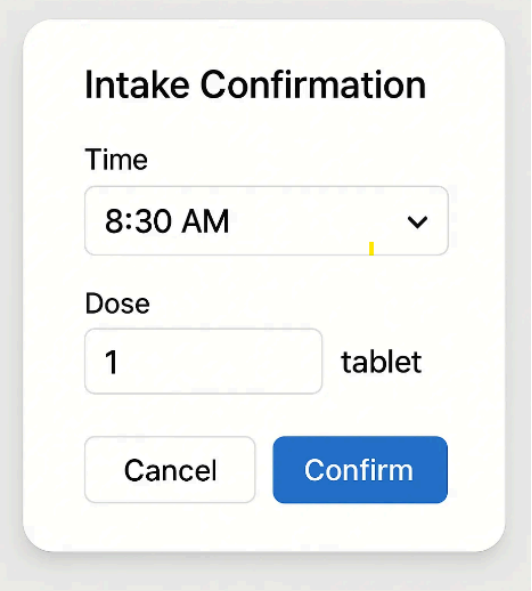
<table>
<tr><td>UC02 Name:</td><td>Process Medication Reminder</td></tr>
<tr><td>Description:</td><td>System delivers reminder notification and processes user response</td></tr>
<tr><td>Actor:</td><td>System (Primary), User (Secondary)</td></tr>
<tr><td>Entry condition:</td><td>Scheduled medication time has arrived and user has active reminders enabled</td></tr>
<tr><td>Basic path:</td><td>1. System calculates next due medication based on schedule
2. System generates push notification with medication details
3. System displays notification on user device
4. User opens notification and views reminder details [PRO01]
5. User selects "Taken" action [A01], [A02]
6. System prompts for actual intake time and dose confirmation
7. User confirms intake details [PRO02]
8. System records intake event with timestamp
9. System decrements medication inventory
10. System updates adherence statistics
11. System schedules next reminder based on medication schedule</td></tr>
<tr><td>Alternative paths:</td><td>[A01] User selects "Snooze"
1. System displays snooze duration options (5, 10, 30 minutes)
2. User selects snooze duration
3. System schedules reminder for selected time
4. System tracks snooze count for escalation

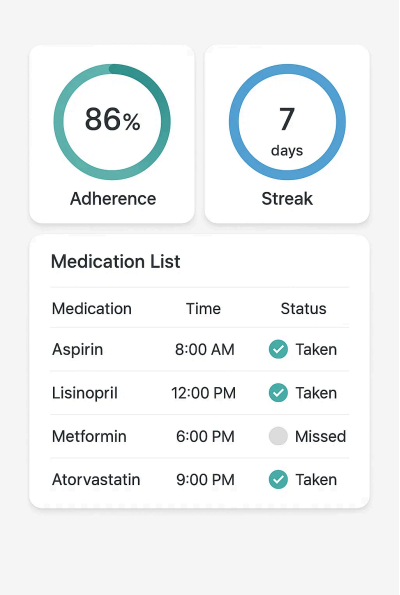
[A02] User selects "Skip"
1. System prompts for skip reason (optional)
2. User enters reason or selects from predefined options
3. System records missed dose event
4. System updates adherence statistics</td></tr>
<tr><td>Exception paths:</td><td>[E01] User doesn't respond to notification within grace period
1. System marks dose as missed after 2 hours
2. System sends escalated reminder if enabled
3. System notifies caregivers if configured</td></tr>
<tr><td>Business Rules:</td><td>[BR01] Maximum 3 snoozes per reminder before marking as missed
[BR02] Grace period for late doses is 2 hours from scheduled time</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>scheduled_time</td><td>DateTime</td><td>19</td><td>YYYY-MM-DD HH:MM</td><td></td></tr>
<tr><td>actual_time</td><td>DateTime</td><td>19</td><td>YYYY-MM-DD HH:MM</td><td></td></tr>
<tr><td>dose_amount</td><td>Decimal</td><td>10,2 (max)</td><td>Required</td><td></td></tr>
<tr><td>Notes</td><td>String</td><td>500 (max)</td><td>Optional</td><td></td></tr>
</table>
</td></tr>
<tr><td>Prototype:</td><td></td></tr>
</table>

	[PRO01] **Push notification with medication name, dose, and action buttons (Taken, Snooze, Skip)**  **[PRO02]** **Intake confirmation dialog with time adjustment and dose amount fields** 

<table>
<tr><td>UC03 Name:</td><td>View Adherence Dashboard</td></tr>
<tr><td>Description:</td><td>User views comprehensive medication adherence statistics and history</td></tr>
<tr><td>Actor:</td><td>Patient/User</td></tr>
<tr><td>Entry condition:</td><td>User is logged in and has medication intake history</td></tr>
<tr><td>Basic path:</td><td>1. User navigates to "Adherence" section from main menu
2. User fetches history through data collected [A01]
3. System calculates adherence statistics for all medications
4. System displays overall adherence percentage for current week/month [PRO01], [A02]
5. System shows individual medication adherence rates
6. System displays streak information (current and longest)
7. User selects specific medication for detailed view
8. System shows calendar view with taken/missed/skipped doses [PRO02]
9. System displays trend graph for selected time period
10. User can filter by date range or specific medications
11. System updates display based on selected filters</td></tr>
<tr><td>Alternative paths:</td><td>[A01] User selects export option
1. System prompts for export format (PDF/CSV)
2. User selects date range for export
3. System generates report with adherence data
4. System provides download link or sharing options

[A02] User views weekly summary
1. System displays week-by-week adherence comparison
2. System highlights improvement or decline trends
3. System provides motivational messages based on performance</td></tr>
<tr><td>Exception paths:</td><td>[E01] Insufficient data for statistics
1. System displays message about minimum data requirements
2. System shows available data with limited statistics
3. System encourages continued medication logging</td></tr>
<tr><td>Business Rules:</td><td>[BR01] Adherence percentage calculated as (taken doses / scheduled doses) * 100
[BR02] Streak resets to zero after any missed dose</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>adherence_percentage</td><td>Decimal</td><td>5,2</td><td>0.00-100.00</td><td></td></tr>
<tr><td>current_streak</td><td>Integer</td><td>10</td><td>Days count</td><td></td></tr>
<tr><td>longest_streak</td><td>Integer</td><td>10</td><td>Days count</td><td></td></tr>
<tr><td>medication_filter</td><td>Array</td><td>255</td><td>Medication IDs</td><td></td></tr>
</table>
</td></tr>
<tr><td>Prototype:</td><td></td></tr>
</table>

[PRO01] Dashboard with circular progress indicators for adherence percentages, streak counters, and medication list



[PRO02] Calendar view with color-coded dots for taken (green), missed (red), and skipped (yellow) doses