CSC 431

Medication Monitor

Software Requirements Specification (SRS)

Team #1

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Version History

Version	Date	Author(s)	Change Comments
1	2/22/21	Jin Curia, Isaac Attuah, Grace Gu	• First draft
2	3/3/21	Jin Curia, Isaac Attuah, Grace Gu	• Second draft
3	3/9/21	Isaac Attuah, Grace Gu, Jin Curia	• Added UML class diagram. • Changed names of functional & non-functional requirements.

Table of Contents

CSC 431

Medication Monitor

Table of Tables

<Generate table here>

Table of Figures

<Generate table here>

1. System Requirements

1.1. Functional Requirements

< List all functional requirements in the following example format >

1.1.1. Registering an account

Title	Registering an account
Description	Users can register an account to store their information.
Priority	Mandatory: 0
Precondition(s)	None.
Basic Flow	• User opens application • User clicks Create Account • User enters information into the account creation form • User exits application to verify their account
Postconditions(s)	User is sent a verification email or SMS.
Use Case Diagram	<Link or number, if present>

1.1.2. Logging into an account

Title	Logging into an account
Description	Users can log into existing accounts using the account's registration information.
Priority	Mandatory: 0
Precondition(s)	User account exists in the account database.
Basic Flow	• User opens application • User enters phone number or email associated to account • User presses login button • User sees their full name displayed and enters their password • User presses login button again
Postconditions(s)	User is directed to the user dashboard.
Use Case Diagram	<Link or number, if present>

1.1.3. Updating personal information

Title	Updating personal information
Description	New users and existing users can update their personal information manually or by using an automated camera smart-feature.
Priority	Mandatory: 0

Precondition(s)	User is logged into an account and has internet access.
Basic Flow	• User views personal information on their dashboard, empty or non-empty. • User presses update information button. • The system opens their camera application. Else user enters information manually. • User presents their ID or prescription label to the application. • The application records the information. • User presses “confirm”. User is now back at dashboard.
Postconditions(s)	User personal information is updated or remains the same.
Use Case Diagram	<Link or number, if present>

1.1.4. Register medications

Title	Register medications medication
Description	Users can register their medications manually or by using an automated camera smart-feature.
Priority	Mandatory: 0
Precondition(s)	User is logged into an account and has internet access.
Basic Flow	• User is viewing their dashboard. • User selects “Medications” . • User selects Add medication. • The system opens their camera application. • User shows medication label or the medication itself. • The system records this information. • User presses “confirm”. User returns to medication list.
Postconditions(s)	User’s medication list is updated.
Use Case Diagram	<Link or number, if present>

1.1.5. View medication information

Title	View medication information
Description	Users can view detailed information about their medication, dose, dose quantity, refill quantity, date filled, directions, side effects, drug interactions, all simultaneously.
Priority	Mandatory: 0
Precondition(s)	• User is logged in. • User’s medication list is non-empty.
Basic Flow	• User is viewing their medication list. • User targets a specific medication and presses “view information” • The system returns a summary of their user-specific medication information. • User selects non-user-specific medication information.

	• The system displays a summary of the medication, interactions, and side effects, etc.
Postconditions(s)	None.
Use Case Diagram	<Link or number, if present>

1.1.6. Count medications

Title	Count medications
Description	Users can identify and count medications using their camera.
Priority	Mandatory: 0
Precondition(s)	User is logged in and has internet access.
Basic Flow	• User selects the Identification/Counter tool from the Tools menu. • The system opens the camera. • User targets the medication collection with camera. • The system counts and returns a list of medication names, quantities, and total quantity. • User can select update medication quantity or exit.
Postconditions(s)	User can view their dose scheduler in its own pane on the User Dashboard.
Use Case Diagram	<Link or number, if present>

1.1.7. Identify medications

Title	Identify medications
Description	Users can identify unknown medication(s) using their camera.
Priority	Mandatory: 0
Precondition(s)	User is logged in and has internet access.
Basic Flow	• User opens Pill Identification tool. • The system opens the camera. • User targets the collection. • The system
Postconditions(s)	None.
Use Case Diagram	<Link or number, if present>

1.1.8. Set alerts

Title	Dose reminder
Description	Users can schedule their doses and receive reminders as alerts from the application.
Priority	Mandatory: 0
Precondition(s)	User has a non-empty medication list.
Basic Flow	• User opens dose schedule. • System returns summary of schedule and pending alerts.

	• User selects adjust schedule. • System returns a menu for the user to include / exclude medications, and pre-constructed schedule suggestions.
Postconditions(s)	Schedule is updated in the system with the changes.
Use Case Diagram	<Link or number, if present>

1.2. Non-Functional Requirements

< List all non-functional requirements in the following example format >

1.2.1. Secure patient information

Title	Secure patient information
Description	Personal and medication information for users should be encrypted due to the sensitivity of the data.
Priority	Mandatory: 0
Applicable FR(s)	• Registering/Logging in account. • Update personal information

1.2.2. Fast image segmentation

Title	Fast image segmentation
Description	The user's device should complete image segmentation within 5 seconds. Fast is defined as between 0-5 seconds.
Priority	Important: 1
Applicable FR(s)	• Smart-count/Smart-identifier • Update personal information

1.2.3. Alert patient without delays

Title	Alert patient without delays
Description	The dose alerts should be in sync with the user device system clock. No time delays at all.
Priority	Mandatory: 0
Applicable FR(s)	• Dose reminder

2. System Constraints

2.1. Tool Constraints

References:

- https://nodejs.org/en/

2.1.1. Mobile Application Framework Constraint

Title	Mobile Application Framework Constraint
Description	Our application will use Node.js for launching both the frontend and backend of the app.
Priority	Mandatory: 0

2.2. Language Constraints

References:

- https://reactnative.dev/

2.2.1. React Framework

Title	React Native Framework
Description	JavaScript is required for using both Node.js and React Native. The frontend and backend will both be compiled as JavaScript.
Priority	Mandatory: 0

2.3. Platform Constraints

< List all platform constraints in the following example format >

2.3.1. Mobile Phone Service Platform

Title	Mobile Phone Service Platform
Description	Node.js and React Native combined allows us to deploy the application for iOS and Android platforms simultaneously.
Priority	Mandatory: 0

2.4. Hardware Constraints

< List all hardware constraints in the following example format >

2.4.1. Requirement Title

Title	<Insert title>
Description	<A one or two sentence description>
Priority	<Priority from 0 (highest) – 5 (lowest)>

2.5. Network Constraints

< List all network constraints in the following example format >

2.5.1. Requirement Title

Title	<Insert title>
Description	<A one or two sentence description>
Priority	<Priority from 0 (highest) – 5 (lowest)>

2.6. Deployment Constraints

< List all deployment constraints in the following example format >

2.6.1. Requirement Title

Title	<Insert title>
Description	<A one or two sentence description>
Priority	<Priority from 0 (highest) – 5 (lowest)>

2.7. Transition & Support Constraints

< List all transition & support constraints in the following example format >

2.7.1. Requirement Title

Title	<Insert title>
Description	<A one or two sentence description>
Priority	<Priority from 0 (highest) – 5 (lowest)>

2.8. Budget & Schedule Constraints

< List all budget & schedule constraints in the following example format >

2.8.1. Requirement Title

Title	<Insert title>
Description	<A one or two sentence description>
Priority	<Priority from 0 (highest) – 5 (lowest)>

2.9. Miscellaneous Constraints

< List all miscellaneous constraints in the following example format >

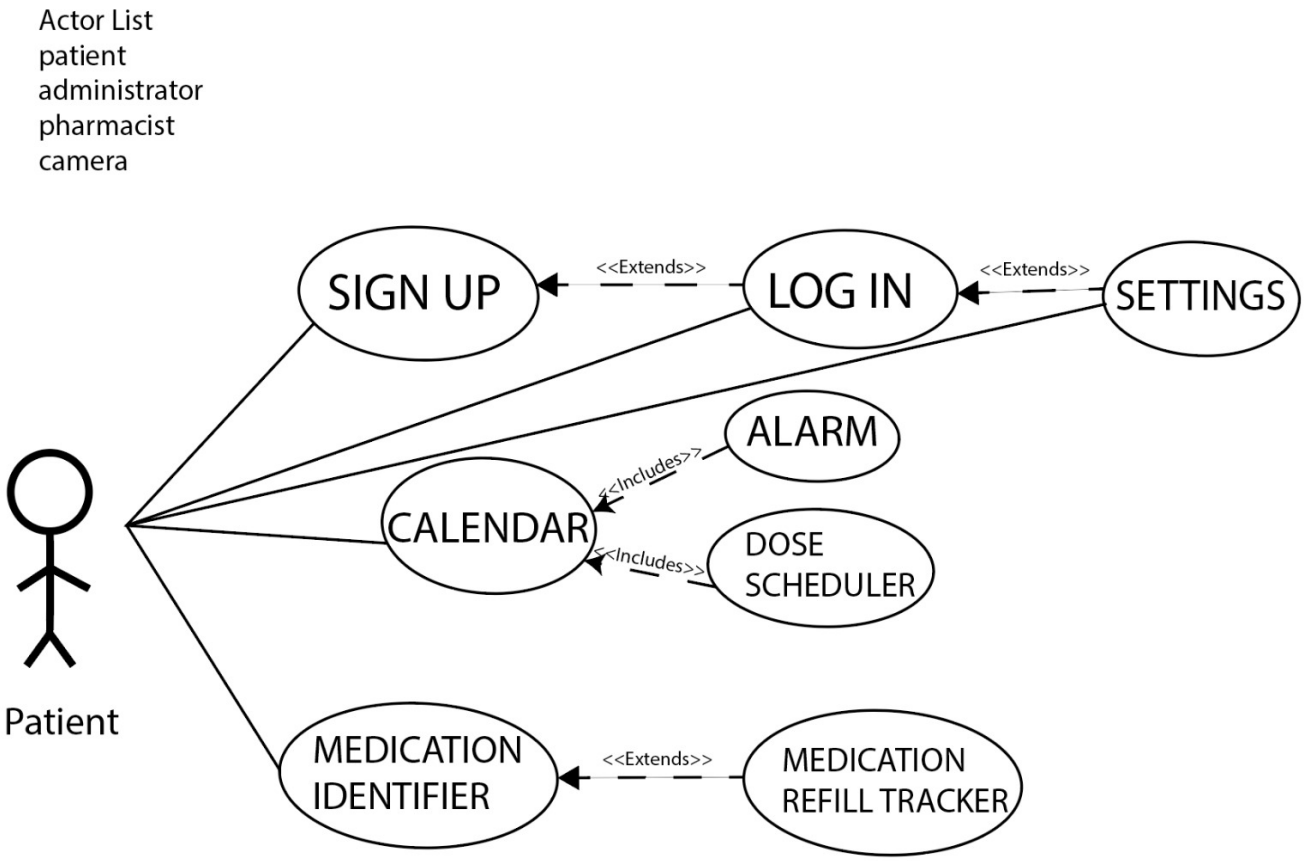
2.10. Requirement Title

Title	<Insert title>
Description	<A one or two sentence description>
Priority	<Priority from 0 (highest) – 5 (lowest)>

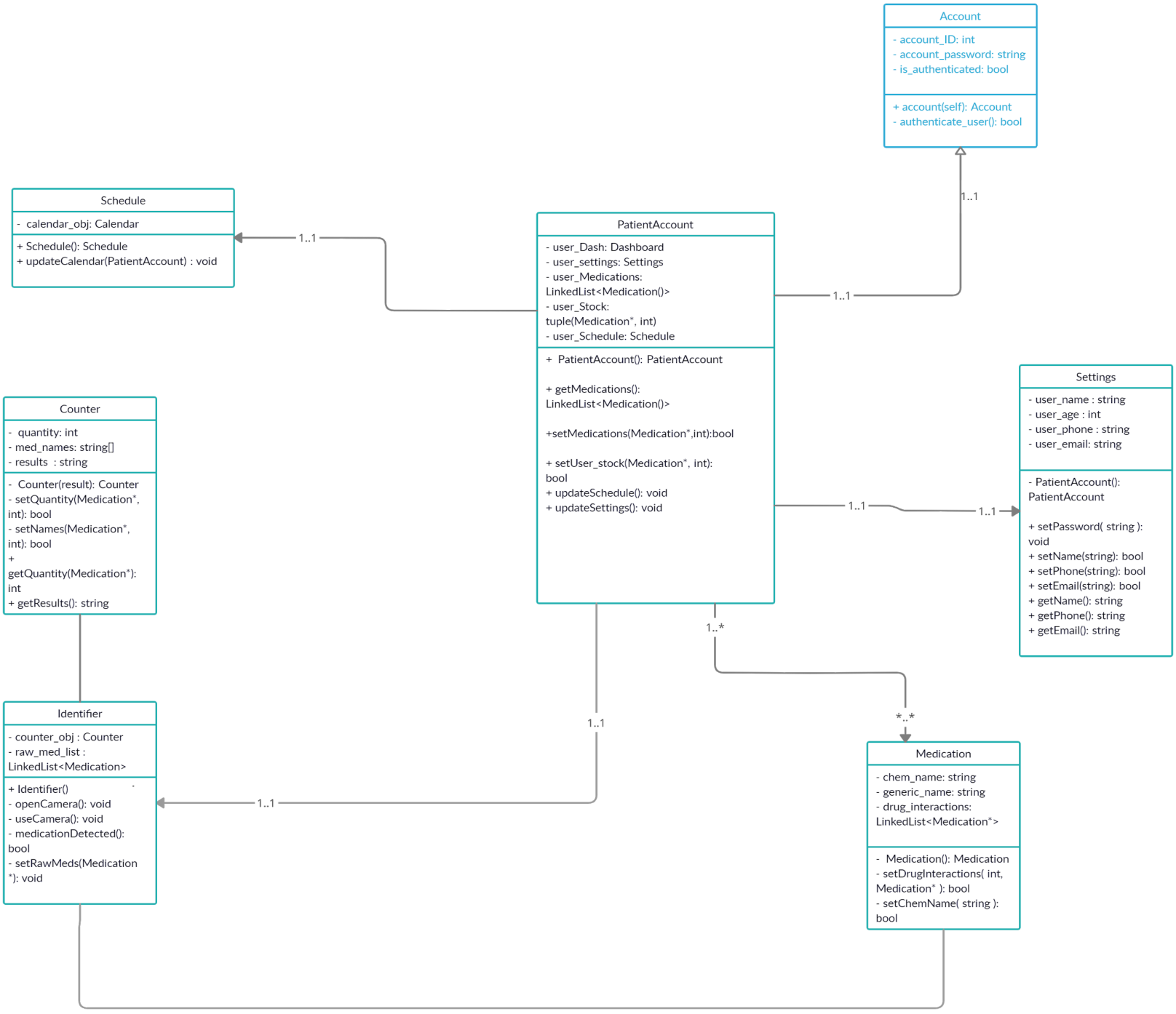
3. Requirements Modeling

< List all Use-case diagrams for the functional requirements in the following format>

3.1. User and System



3.2. Class Diagram



4. Evolutionary Requirements

4.1. Functional Requirements

< List all functional requirements in the following example format >

4.1.1. Requirement Title

Title	<Insert title>
Description	<A one or two sentence description>
Priority	<Priority from 0 (highest) – 5 (lowest)>
Precondition(s)	<What needs to happen before>
Postconditions(s)	<What happens as a result>
Use Case Diagram	<Link or number, if present>

4.2. Non-Functional Requirements

< List all non-functional requirements in the following example format >

4.2.1. Requirement Title

Title	<Insert title>
Description	<A one or two sentence description>
Priority	<Priority from 0 (highest) – 5 (lowest)>
Applicable FR(s)	<Which functional requirement(s) is this applicable to?>