
Pillbox

Software Requirements Specifications

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Revision History			
Date	Version	Description	Author
9/23/2017	0.1	Initial Draft	
9/30/2017	0.2	Added Activity Diagram	Joey Harter
10/1/2017	0.3	Added Class Diagram	Joey Harter
10/2/2017	0.4	Added Use Case Diagrams	Austin Schey
10/2/2017	0.5	Added project description	Austin Schey
10/2/2017	0.6	Added Requirements	Zac Linberg
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Introduction

Purpose and Scope

The purpose of this application is to act as a management tool for medications, especially for those who have complicated regimens and need assistance in remembering when to take their medications. The application will allow the user to configure their medication schedule using a customizable chart, use pictures to help them identify medications, and be able to send reminders to let users know when to take medications.

Definitions

Pillbox- the name of the application and also the main chart view showing the patient's medications

ADA- Americans with Disabilities Act, refers to guidelines in order to make the app useable by people with disabilities

Project Description

Medication Chart

This is the main feature of the application that will show all of the medications needed to be taken for the day or the week, depending on the user's selection. Pictures will be used to supplement the medication names displayed on the chart. The chart will have a popup screen that allows the user to add new medications and modify existing ones.

Notifications

The system will be able to push notifications to the user's device to let them know when to take medications. The user will be able to acknowledge these notifications and specify the time that the medication was taken.

Requirements

Functional Requirements

1. A user shall be able create a virtual pillbox.
2. A user shall be able to take a picture of a label/pill and associate it with a medication.
3. A user shall be able to add and edit a schedule for each medication in their pillbox.
4. A user shall be able to indicate a medication as taken.
5. A user shall be able to view a chart that shows their adherence to their medication schedule.
6. A user shall be able to log side-effects associated with each medication.
7. A user shall be able to switch between a daily and weekly view of their medication schedule.
8. The system must be able to notify the user when to take their medication based off a schedule defined by the user.
9. The system must be able to store the following information for each medication:
 - a. Picture of the pill
 - b. Consumption schedule
 - c. Description of the medication
 - d. Name of the medication
 - e. Side-effects of the medication
 - f. Emergency contact information
10. The system must be able to store a log of the user's adherence to their medication schedule.
11. The system must be able to display the user's medical information from the device's lock screen.

Nonfunctional Requirements

1. The user interface must be ADA compliant.
2. The user interface must be user-friendly to those with poor eyesight.

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3. The system must be able to process a large number of pictures without a performance decrease.
 4. The system must use its resources efficiently in order to reduce battery drain.

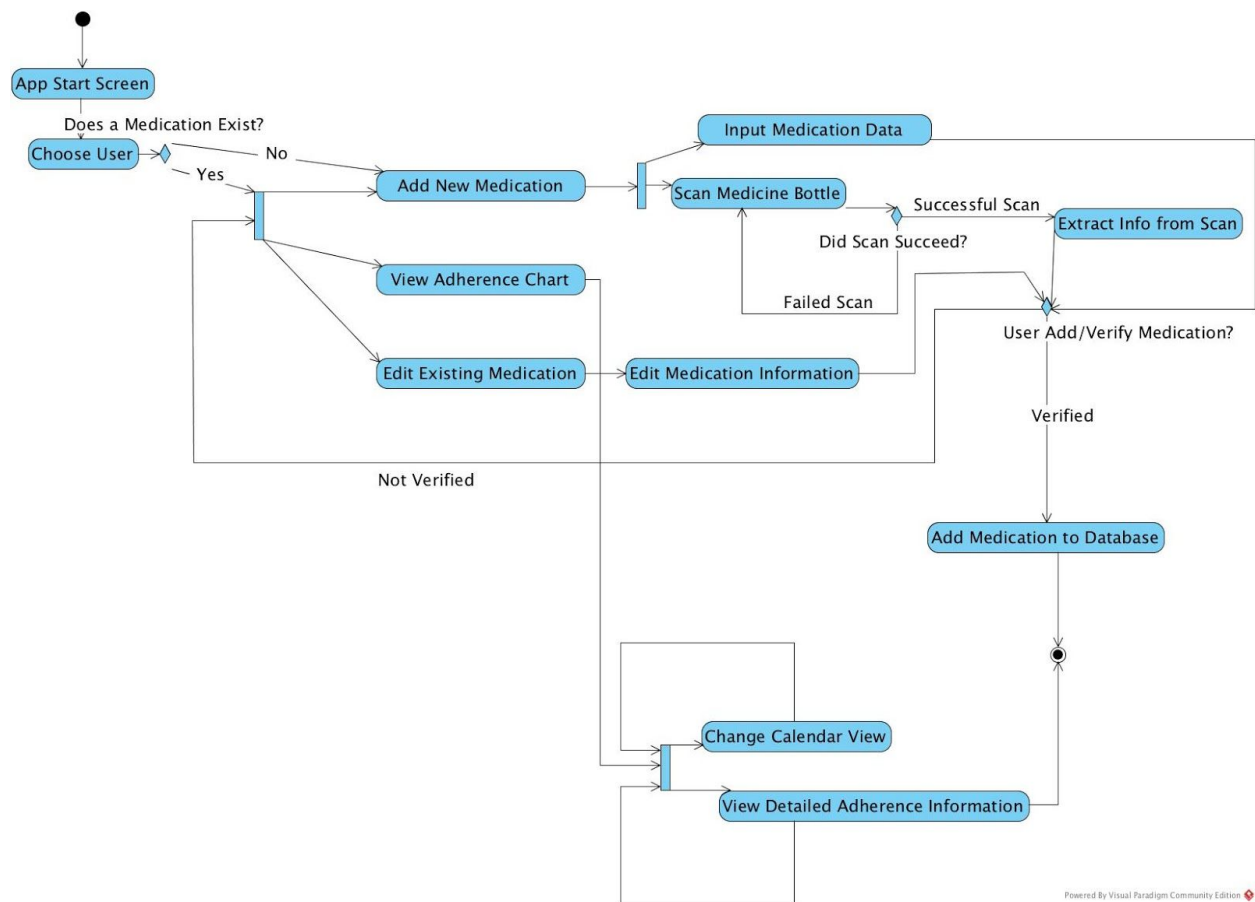
System Architecture

The system will be composed of four main activities.

1. The home page will show the user's medication schedule. This page can switch between a daily view and a weekly view
2. The add/edit medication page will be used to add or edit formation for a selected medication.
3. The settings page will be used to edit account information and preferences
4. The medication view will provide a summary for the selected medication.

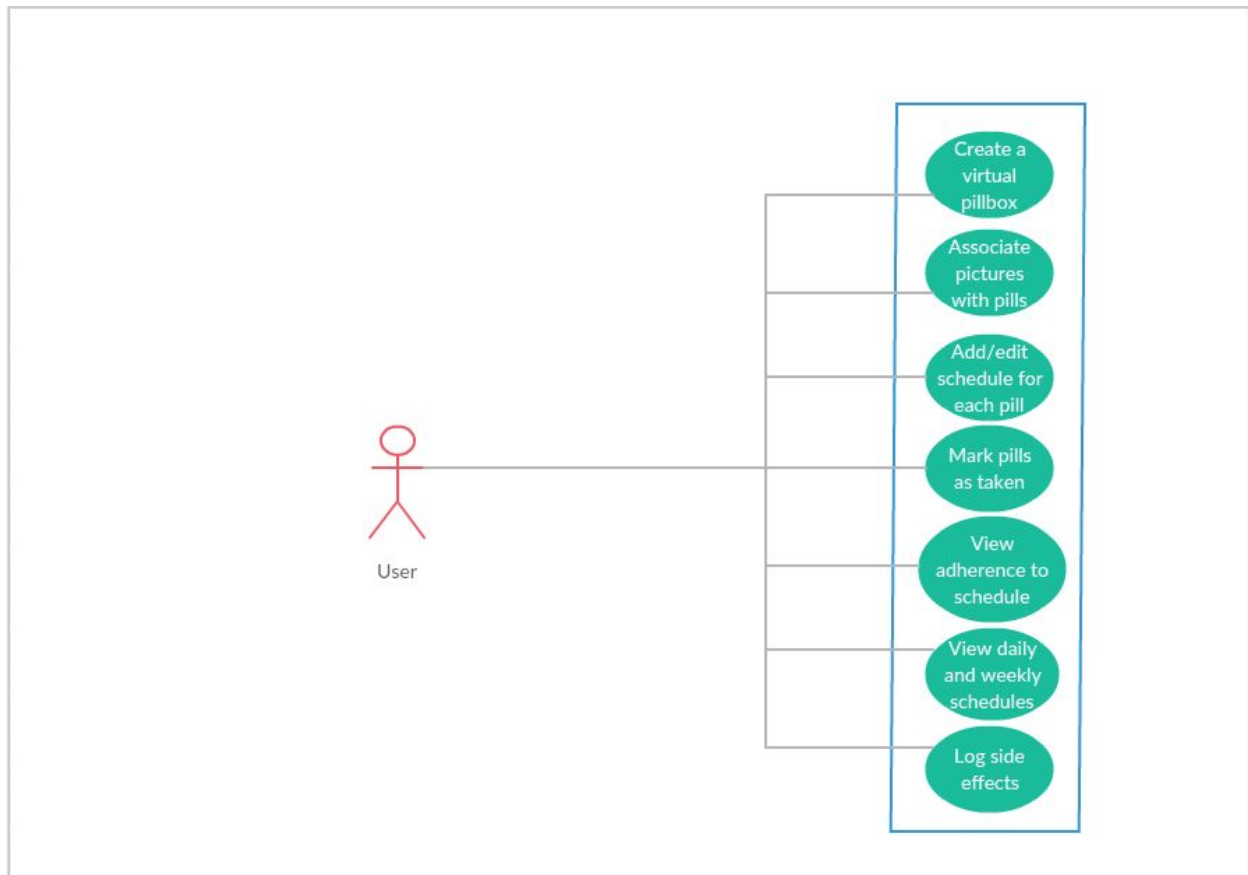
UML Diagrams

Activity Diagram

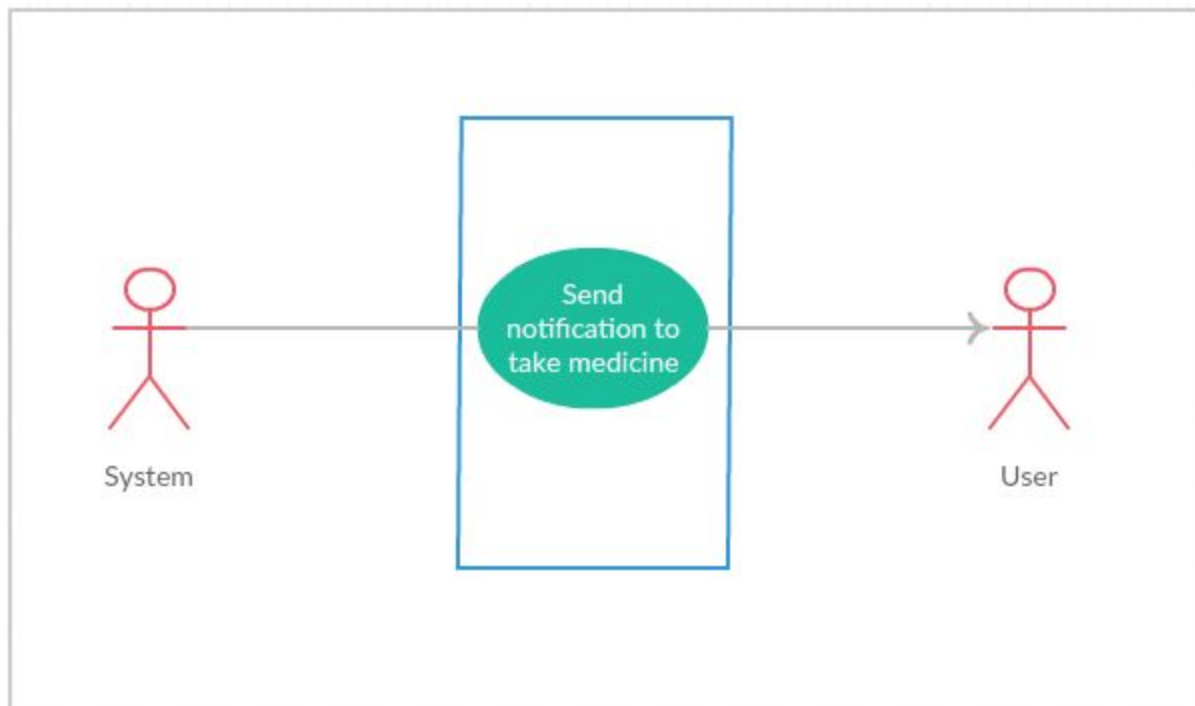


The activity diagram traverses through the three main views, adding/editing medications, viewing the adherence chart and scanning the medicine bottle. For adding/editing medications and using the scanning feature, the diagram eventually reaches a point where the user is required to verify the medication before adding it to the database. On the other hand, viewing the adherence chart allows the user to view detailed information or change the calendar view.

Use Case Diagrams

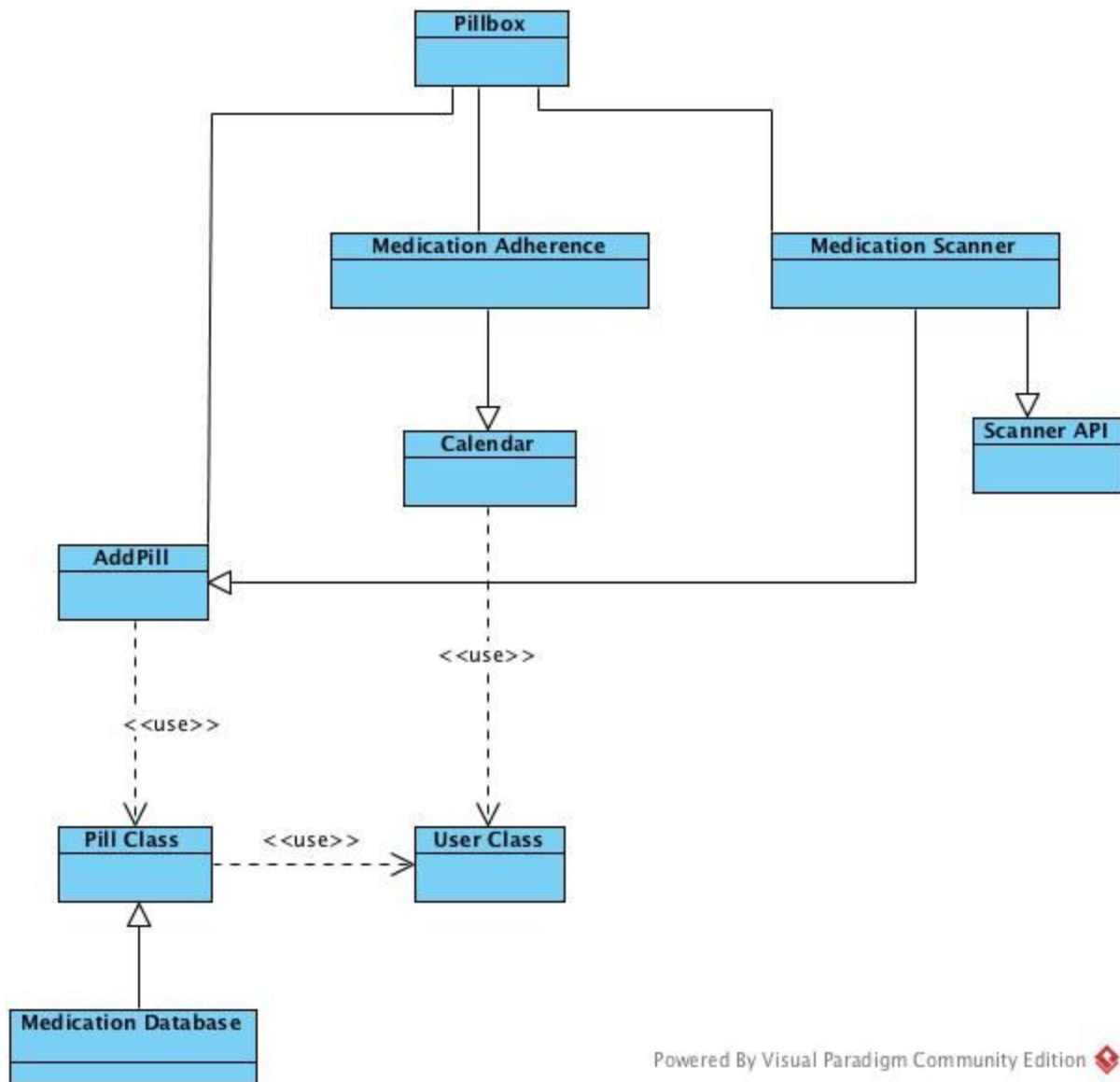


This diagram shows all the ways a user can interact with the application. Aside from adding/editing a new medication, the user interacts with the application through the main chart view.



The system is able to push notifications to the user to tell them to take their medication.

High-Level Class Diagram



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The class diagram describes the three main activities: adding a medication, seeing the adherence chart and the scanning function. The Pill Class and User Class are the underlying classes in order to create and store the medication as well as for keeping track of what user takes what medication. The Medication Adherence lass also utilizes a calendar class in order for users to easily see when they took their medication.