

Change History

Version	Summary	Author	Date
0.1	Initial Write-up	J. Lisicky , A. Ogden, M. Griest	02/16/2016
0.2.0	Changes based on Fault Form from ID 21	J. Lisicky , A. Ogden, M. Griest	02/25/2016
0.2.1	Changes based on Fault Form from ID 26	J. Lisicky , A. Ogden, M. Griest	02/25/2016
0.2.2	Changes based on Fault Form from ID 28	J. Lisicky , A. Ogden, M. Griest	02/25/2016

Table of Contents

Introduction	1
Glossary of Terms	2
Project Description	2
Functional Requirements	3
Nonfunctional Requirements	7
Main Use Case Diagram	8
Main Class Diagram	9
Activity Diagrams	9

Introduction

Motivation/Purpose:

The purpose of this document is to outline the requirements and specifications for the What's in My Kitchen? mobile application (hereafter referred to as "WIMK"). This document includes a glossary of relevant terms, outlines of functional and nonfunctional requirements, and UML documentation of specific use cases, activity diagrams, and a high-level class diagram.

Scope

WIMK will address the daily needs of its users and serve as a means of saving time and money while grocery shopping. WIMK will embrace smart phone technology on the Android platform to provide users with an application to aid in home inventory. The scope of WIMK is broad because it has the potential to be used daily by millions of grocery-buying individuals.

Goals:

The main goal of WIMK is to provide a convenient interface, through which users can make informed decisions while grocery shopping as well as save time on unnecessary trips. Our goal is for the user to be able to know what they have in their kitchen without having to go home and check. This application will focus on ease of use and the potential to save its users money.

Glossary of Terms

Item

Represents a specific food, such as apples, or a category of food, such as fruit (what a particular item represents is determined by the user, either when the item is added or as a result of updating the item's properties)

Icon

The image chosen by a user to correspond with an item. An icon will always be enclosed by a circle

Inventory

All items that have been added by a user (excludes items that have been deleted by the user)

List Inventory

Displays the name of each item in the inventory

Visual Inventory

Continuously scrollable visual representation of the user's inventory, represented by the icons associated with each item in that inventory

Chord

A partial circle, cut off to have a flat top at any point between the bottom-most and topmost part of the original circle. Chords in the WIMK application will always have a horizontal top. The height of the chord will be adjusted to show the quantity of an item (see *Figure 1C*)

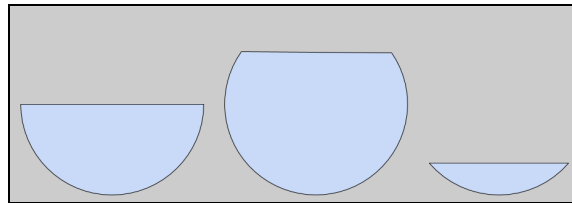


Figure 1C: Three examples of chords filled to different amounts

WIMK

An acronym for “What’s in My Kitchen”

Project Description

List of Features

- Users can add items to their inventory and give each item a color, name, quantity and icon.
- Users can edit each item's color, name, quantity and icon as they see fit
 - The name of an item will be typed in by a user
 - The icon will be chosen by the user from a list of available icons
 - The color will be chosen by the user from a color wheel
 - The quantity can be adjusted by dragging the chord across an icon to an appropriate level
- Users can delete items they no longer want in their inventory
- Users can access their inventory as a visual inventory (icons displayed) or a list inventory (names of items displayed)
- Users can access settings, which will allow them to change the sorting priority for items in their inventory
 - Alphabetically A-Z
 - Alphabetically Z-A
 - Quantity Low-High
 - Quantity High-Low
- Users can also see an 'About the Application' page, accessible through Settings
- Users can search for the name of an item. All item names containing the letters typed in will be displayed. The user can select one of these items, which will bring up that items respective 'Update Item Properties' screen or the user can edit their search.

Functional Requirements

Main Menu

1. When launched, What's In My Kitchen application (hereafter referred to as 'WIMK') will display a main menu screen
2. The main menu screen will consist of the WIMK title art, a Settings button, and two large buttons; one each for Visual Inventory and List Inventory

Visual Inventory



Figure 1V - Visual Inventory (this example is not sorted)

1. Visual Inventory will consist of a single-color (flat) background, on top of which items appear as pictured in *Figure 1V*
2. Visual Inventory will be represented as a single, continuously scrollable list of all items in inventory, as pictured in *Figure 1V*
 - a. Items will be listed in order according to the sorting rule currently selected in settings
3. When a user clicks on an item in Visual Inventory, they will be taken to the Update Item screen, with the item they clicked as the item to update
4. There is an 'Add Item' button at the top of the the Visual Inventory Screen
5. There is a 'Search' button at the top of the the Visual Inventory Screen, below the 'Add Item' button

List Inventory

1. List Inventory will consist of a single-color (flat) background, on top of which the names of items appear
2. List Inventory will be represented as a single, continuously scrollable list of all items in inventory
 - a. Items will be listed in order according to the sorting rule currently selected in settings
3. When a user clicks on an item's name in List Inventory, they will be taken to the Update Item screen, with the item they clicked as the item to update
4. There is an 'Add Item' button at the top of the the List Inventory Screen
5. There is a 'Search' button at the top of the the List Inventory Screen, below the 'Add Item' button

Add Item

1. The user can add an item to their inventory by selecting the add item button from the top of the visual list inventory or the list inventory screen below the add item button.
2. Once the user has selected this option to add an item, they will be prompted with a screen with a number of options to personalize their item or category. These categories can be completed in any order. All fields are mandatory to create a new item.
3. As seen in *Figure 1P*, the user may input the item name in the text box provided (up to 15 characters). The cursor will appear when the user clicks on the 'Name' textbox and their is where they will be able to type.
4. The user has an option to set the item color, icon, and quantity, all are mandatory to create the new item.
5. The user may now select a color to represent their new item. When the user selects to add the item color button:
 - a. The user will select one color wedge from the color wheel
6. The user may now select an icon to represent their new item by selecting the change icon button.
7. The user may now select the current quantity of their new item to be created. The user can dragging the chord up or down as shown in *Figure 1U*.
8. Once all fields are completed, the save swipe option will be enabled and the user will now be able to save their new item.
9. To cancel the new created item, the user can swipe from right to left on the red 'Cancel' bar at the bottom of the Update Item Quantity Screen
10. To save changes to the new created item, the user can swipe from left to right on the green Save bar at the top of the Update Item Quantity Screen
11. If the user does not enter new information in the designated fields, the default fields will be added when the new item is saved.
 - a. default name = item
 - b. default color = white
 - c. default icon = add new item icon

Delete Item

1. A user can delete an item from the Update Item Properties Screen by clicking the 'Delete Item' button, denoted by a small black 'x' in a white circle.
 - a. When the 'Delete Item' button is clicked, an alert will pop up asking the user to confirm that he or she wishes to permanently delete the item
 - b. If the user selects 'No,' the alert is dismissed and the user is returned to the Update Item Properties Screen
 - c. If the user selects 'Yes,' the item is permanently deleted from Inventory and the user is returned to the Visual Inventory Screen or the List Inventory screen, depending on where they came from.

Update Item Quantity

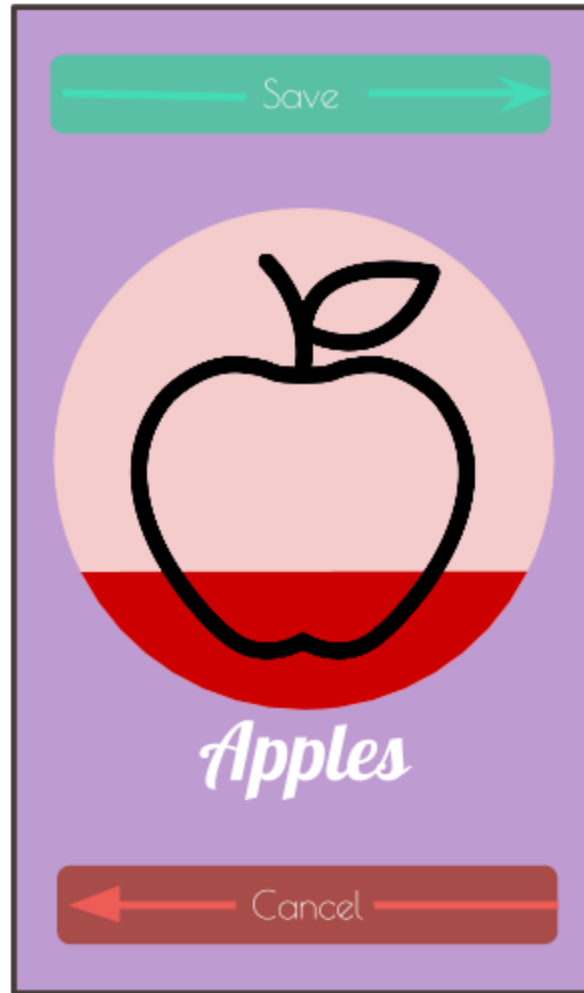


Figure 1U - Update Item Quantity Screen

1. The user can update the quantity of an item in the Update Item Quantity screen by dragging the chord up or down as shown in *Figure 1U*
2. The name of the item being edited will appear below the visual representation (circle, chord, and icon) of that item, as shown in *Figure 1U*
3. To cancel changes to the item quantity, the user can swipe from right to left on the red 'Cancel' bar at the bottom of the Update Item Quantity Screen
4. To save changes to the item quantity, the user can swipe from left to right on the green Save bar at the top of the Update Item Quantity Screen
5. When the user swipes to Save or Cancel an update to the item quantity, they will be returned to the Visual Inventory screen or the List Inventory screen, depending on form which they came
6. The user can press and hold on the name of an item to switch to the Update Item Properties screen
7. If item name deleted, the updated item can be saved with no name.

Update Item Properties



Figure 1P - Update Item Properties Screen

1. The user can change the name of an item (up to 15 characters) by clicking on the “Item name” box, which is pre-filled with the items current name
2. The user can select a new icon for the item by clicking the “Change Icon” button
 - a. Clicking the “Change Icon” button will launch a pop-up menu with thumbnails of the icons from which the user may choose
 - b. When a new icon is selected, the item preview in the center of the screen will update to reflect the change
3. The user can select a new color for the item by clicking on the color’s wedge in the color ring that surrounds the preview of the item in the center of the Update Item Properties Screen
 - a. When a new color is selected, the item preview in the center of the screen will update to reflect the change
4. To cancel changes to the item properties, the user can swipe from right to left on the red ‘Cancel’ bar at the bottom of the Update Item Properties Screen
5. To save changes to the item properties, the user can swipe from left to right on the green Save bar at the top of the Update Item Properties Screen
6. When the user swipes to Save or Cancel an update to the item quantity, they will be returned to the Update Item Quantity Screen from which they came

Settings

1. Clicking on the Settings button on the Main Menu Screen will take the user to the Settings Screen
2. From the Settings Screen, the user can select from one of four sorting rules for Visual Inventory:
 - a. Sort by quantity, from least to most
 - b. Sort by quantity, from most to least
 - c. Sort alphabetically, from A to Z
 - d. Sort alphabetically, from Z to A
3. The Settings Screen will contain an “About” button. When clicked, an accordion-style drop-down will reveal information about the release version of the application and the development team
4. The Settings Screen will contain an “Icon Credits” button. When clicked, an accordion-style drop-down will reveal the names of the artists who created each of the icons included for use in the WIMK mobile application, as well as credit to www.TheNounProject.com in general

Search

1. A user can type the name of an item they want to find by clicking on the search button at the top of the Visual or List Inventory screen
 - a. A subset of icons will be shown when searching from the Visual Inventory.
 - b. A subset of list items will be shown when searching from the List Inventory
2. All item names that contain the characters typed in will be visible
3. The user can click on any of these items to bring up their respective ‘Update Item Properties’ screen
4. The user can edit their search if they do not see what they are looking for
5. When the user is done, they can exit out of search by clicking the back button on their android device
6. If the user searches for an item that is not in the inventory, “No items found.” will be displayed in the console.

Nonfunctional Requirements

Platform

The WIMK mobile application will run on all devices running Android 4.0 (Ice Cream Sandwich) or later

Navigation

The WIMK mobile application will maintain a stack of screens that the user has viewed. Pressing the ‘Back’ button on any Android device will return the user to the next lowest screen on the stack

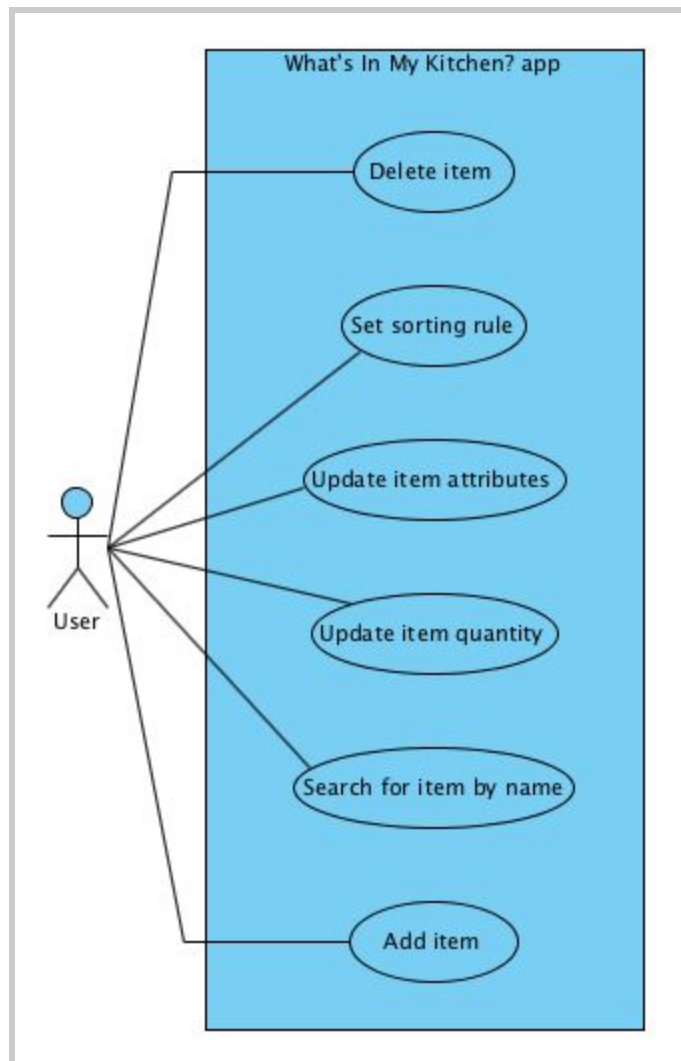
Internal Representation of Inventory

The user’s inventory will be stored as a Java ArrayList of Items

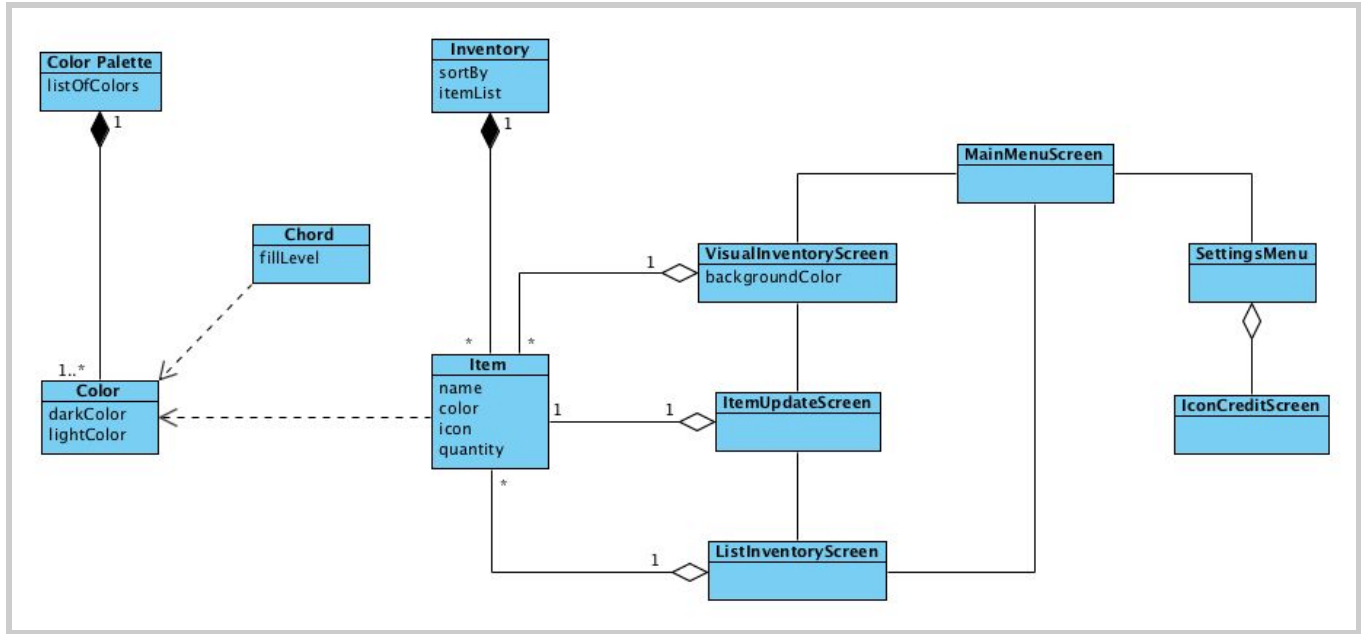
There is no preset limit on the number of items a user can store in their inventory

Diagrams

Main Use Case

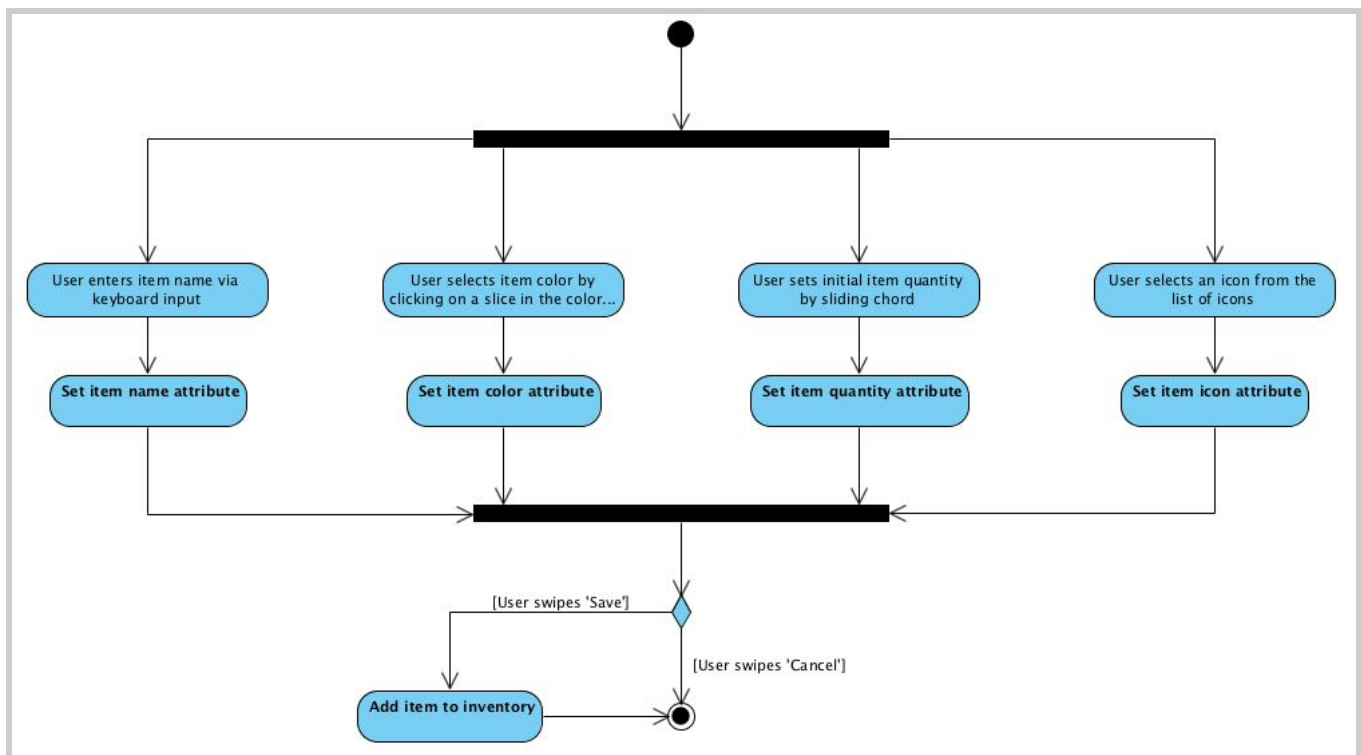


Main Class Diagram

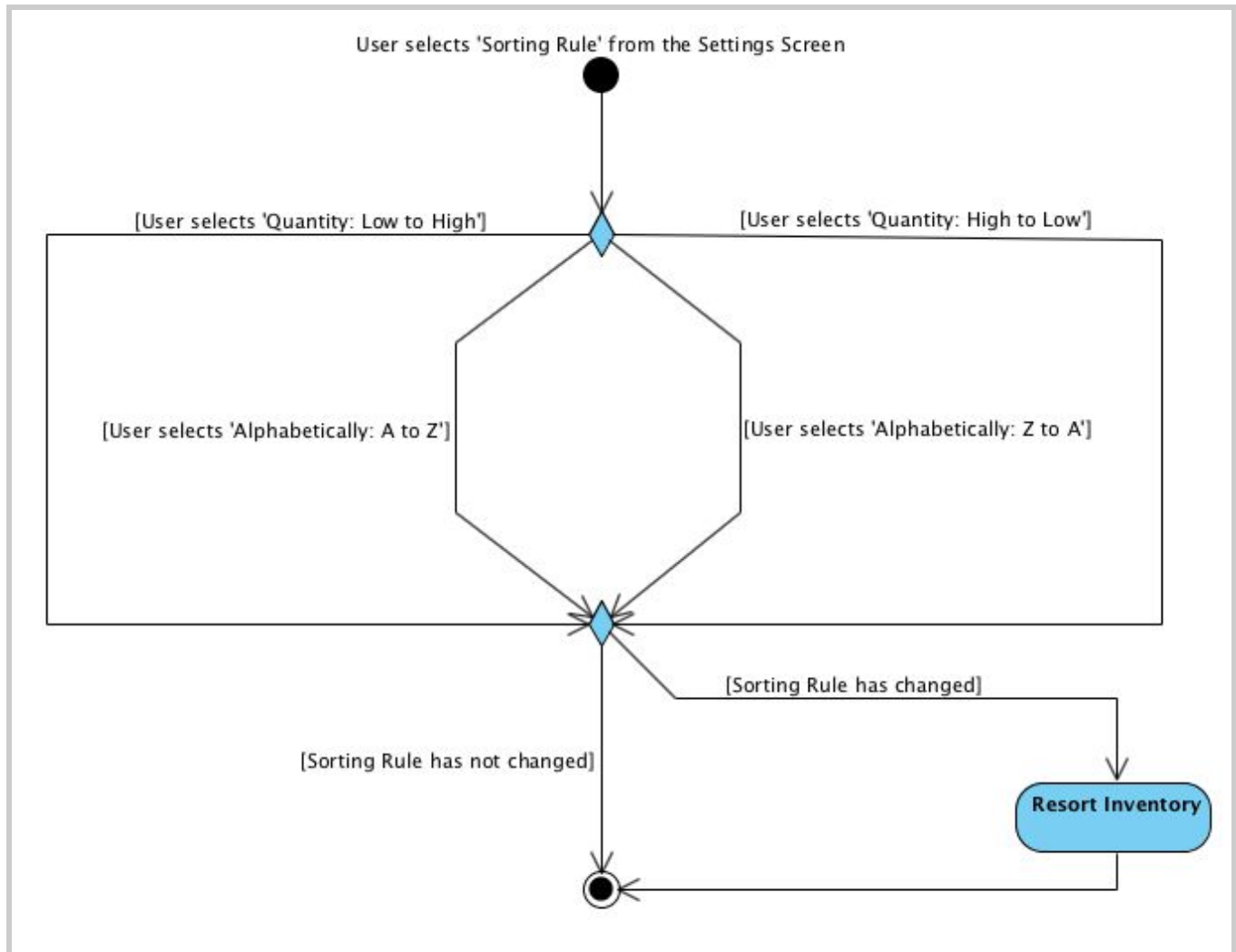


Activity Diagrams

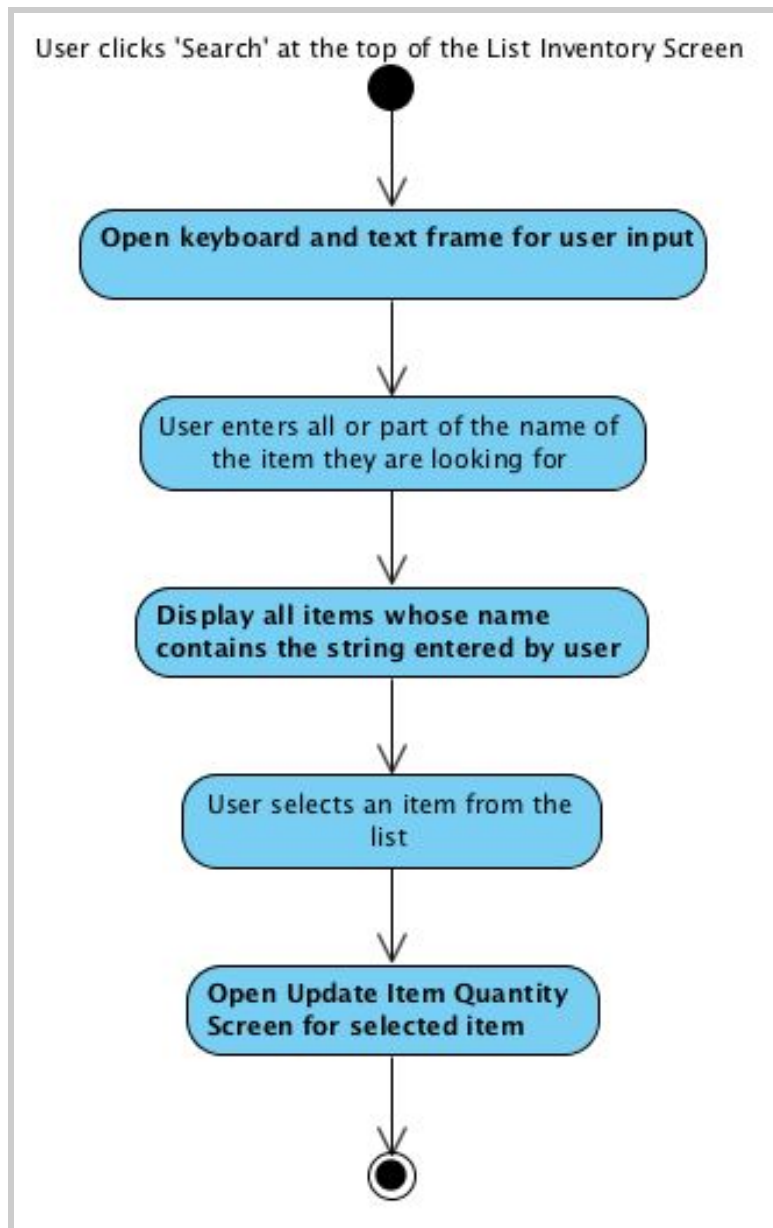
Add Item



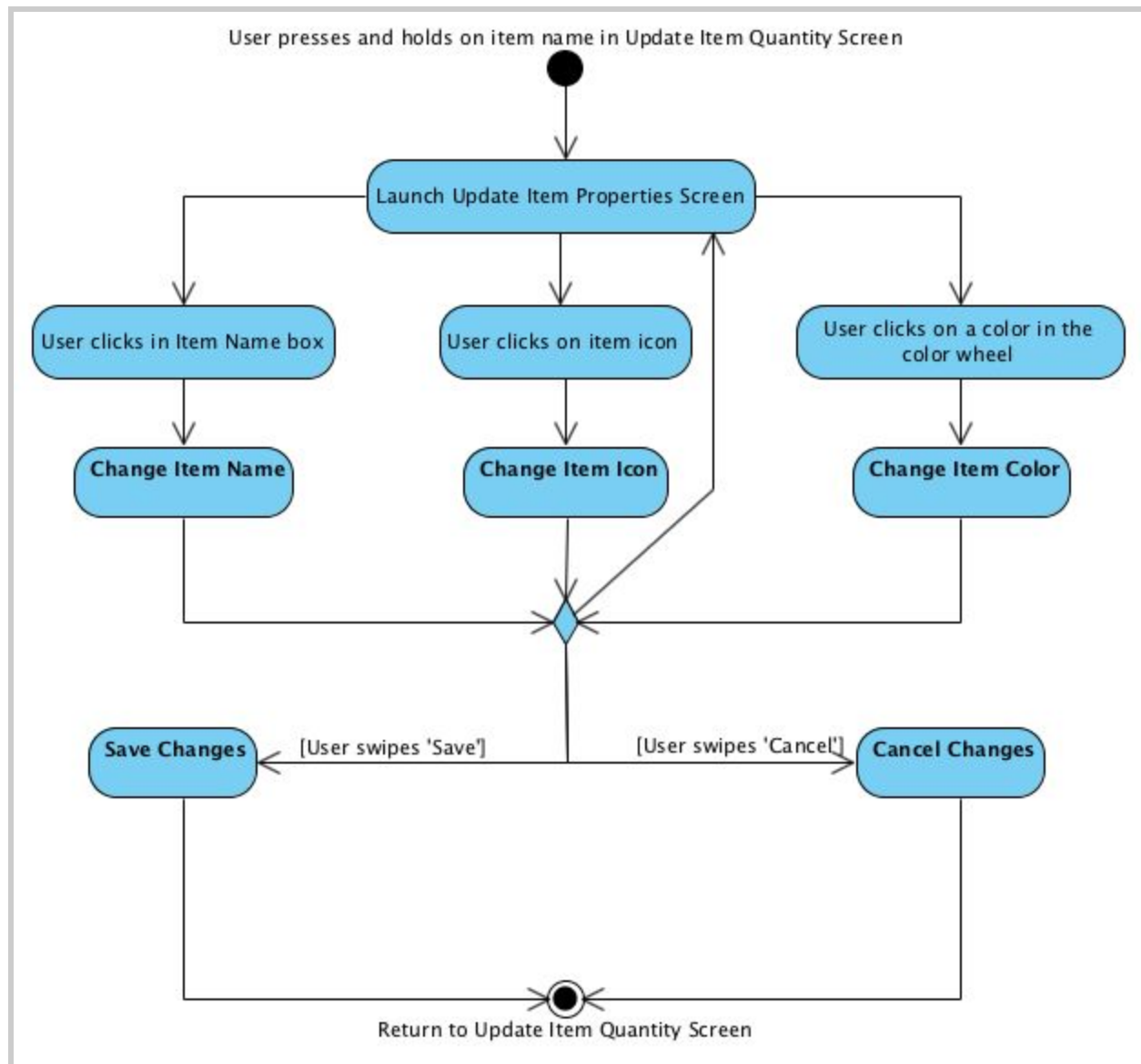
Change Sorting Rule



Search for Item by Name



Update Item Properties



Delete Item

