**7-2 Project Three**

**An Inventory Application**

Allan O’Driscoll

Southern New Hampshire University

CS-360-15309-M01 Mobile Architect & Programming

Professor Bill Chan

October 20, 2024

**Application Description**

This application is an inventory application built for home users. It is called the “Home Inventory” application, which differentiates it from other types of inventory solutions. Users include individuals who cook, shop, consume household supplies, and engage in other activities such as hobbies. The application is simple and easy to use; you just create a user, set up categories, add inventory items, and update the inventory as you go. The following is a short list of features:

* Inventory information is stored in a database locally on the device.
* The application supports the creation of multiple users. Each user has their own inventory categories and items.
* Each user starts with four pre-defined categories. These include Pantry Items, Household Supplies, Office Supplies, and Hobby Items. The user may add to these items or delete them if they are not wanted.
* The user can add new categories by clicking the add button on the toolbar. Categories can be private or shared. Shared categories are visible and editable by all users.
* The user can add new inventory items within a category by clicking on the category’s placeholder card (the empty card with the big “+” symbol).
* The user can increase the inventory count by clicking on the plus button within the inventory card.
* The user can decrease the inventory count by clicking on the minus button within the inventory card.
* If the user supplied a phone number on the user setup screen, they will receive SMS notifications when an inventory item drops to zero. This feature is optional, and the application will function normally without this configuration or the related permissions.
* The user can delete an inventory item or category by “long clicking” on the card. An action bar will open, allowing the user to confirm. They can also undo the action if it is in error.

**Icon**

The application will utilize an icon depicting a carton of milk, an apple, and a slice of bread. These are common pantry items and something that an individual might associate with grocery shopping. The image comes from a road sign, which is used for this same purpose. The graphics are developed by the Federal Highway Administration and are available under the public domain (MUTCD, F. H. A., 2023). The icon is shown below and will be used as the application’s primary icon, and it will also be displayed on the login screen.



(MUTCD, F. H. A., 2012)

**Device Requirements**

The application is built for Android version 12 or higher (code name Snow Cone, API level 31). This means that it will function on 48.6% of devices, having a cumulative usage of 66.5% (Belinski, n.d.). Android 12 was released in 2021, while Android 15 is the current version. The application will function on phones or tablets, taking advantage of the available screen space to display inventory items. This choice in the Android version is forward-looking. Android 12 provides a balance between the device’s functionality and its market adoption, which will only grow over time.

**Permissions**

Home Inventory will make use of Android’s telephone feature and, more specifically, the SEND\_SMS permission. The permission is optional, and the application will continue to function without it. However, if the user grants this permission, then the application can send alert messages via SMS when the inventory level drops to zero. This is a great feature because it can automatically send these alerts to the individual responsible for the household’s purchases. No other permissions are required.

**Monetization Opportunities**

The basic application, as shown in this document, will be offered for free at the initial launch. Future versions will add additional features such as barcode scanning, access to a database of product details, reporting, and cloud storage. These are value-added features that will be available for a small monthly or annual fee. The suggested cost will be $0.99 per month or $8.99 per year. The application will not feature advertisements as they would be a distraction from the primary functionality and may cause annoyance to some users. However, the developer would be open to white-label opportunities where the software can be licensed under another brand name or integrated with other software packages. Other monetization opportunities will be considered as the application evolves.

**Screenshots**

The screenshots on the following page show samples of the key screens in the application and a sample of the notifications in the messenger app. These screenshots will be included as samples on the Android Play Store.

|  |  |  |
| --- | --- | --- |
| Login Screen | Create User Screen | Inventory Screen |
| Add Inventory Item Screen | SMS Permissions | Sample SMS Messages |
| Tablet View | | |

**References**

Belinski, E. (n.d.). *Android API Levels*. Retrieved October 20, 2024, from https://apilevels.com/

MUTCD, F. H. A. (2012, October 2). *English:  MUTCD guide sign.* https://commons.wikimedia.org/wiki/File:MUTCD\_RS-020.svg

MUTCD, F. H. A. (2024). *MUTCD 11th Edition - FHWA MUTCD*. (n.d.). Retrieved October 20, 2024, from https://mutcd.fhwa.dot.gov/kno\_11th\_Edition.htm