

Functional Specification Document

Inventory App

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Introduction

The aim of the Inventory App is to provide a way for users to create an inventory of their DVD/CD/Book collection without the traditional pen and paper. Smart devices are becoming increasingly popular and many every tasks are being integrated with these devices. There are many apps out there that let you create an inventory but the Inventory App differs by integrating a barcode scanner and OCR scanner and automatically generating the details of the items without having to manually type in the details allowing easy adding of items. Other features will be added also to try and enhance the users experience further.

Purpose

This document describes the functionality of the app. The main functionalities are to capture an image of the barcode of an item and store its details. The details of the item are automatically generated, or if not available, they may be manually entered into the app and a record of the item and stored. The barcode of the item is checked on a price/item lookup website and if the barcode matches the details are downloaded.

Scope

This manual provides details of the core functionalities of the project; it does not include any design aspects of the app.

Overview

Context Diagram



[1]

The following diagram give a high level representation of how the app will work. It will consist of the Android devices or computers with different platforms that communicate with the cloud, sending and retrieving data from the datastore provided by the cloud provider.

1. Functionality - App

1.1. Add Item

The application will allow a user to add an item to the database. The user will be able to manually enter the details of the item such as name, description, category and author/artist. The ability to use the camera on the device to allow the user to take a picture of the image will also be available. The OCR functionality will also be available which will allow a user for example, capture the description of the back of a book or the title of an item instead of manually entering the text.

1.2. Edit Item

The application will allow the user to edit the details of an item similar to the Add Item screen with the data saved back up to the cloud.

1.3. Scan Item

The user can scan the barcode of an item using the camera on their device and the application will automatically gather the details of the item if they are available from the Amazon website. The details of the item will be grabbed and filled out in the relevant fields. If the item is not found, the user must manually enter the details of the item.

1.4. Search Item

The application will allow the user to search for an item in the database via its name if the number of items becomes too large to scroll through or the user wants to find a particular item using its name.

1.5. Scan ISBN

For older books without a barcode, it will be possible to scan the isbn number on the back of the book and it will automatically capture the details of the item in a similar fashion to how the scan barcode works.

1.6. List Categories

The list of all the different categories of item added to the database will be displayed here which will allow the user to see what items they have in each of their respective categories.

1.7. Export

The export functionality will allow a user to export their database of items into a CSV format for easier viewing and backup on their home pc or device or to give to an insurance company in the case of a fire or theft.

Functionality - Website

1. Login

The user can login to the website to view their inventory but only if they are registered through the app first.

2. Update

The user can change the details of a captured item if they wish using the edit item screen.

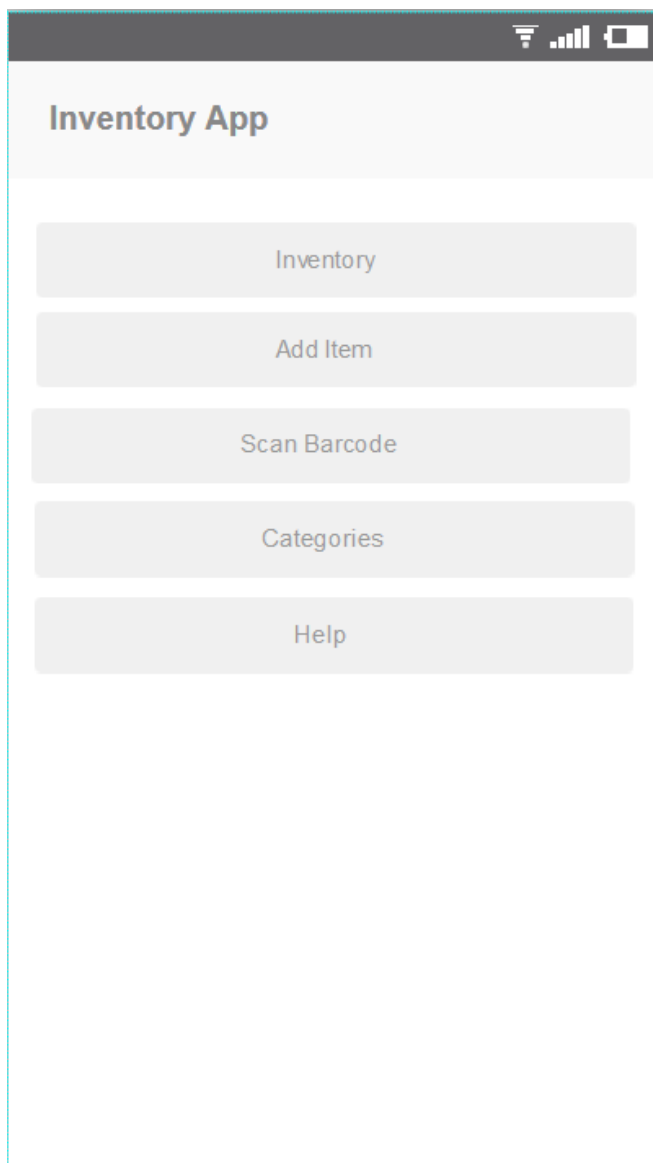
3. Delete

The user can delete an item if they wish by selecting the delete button of an item.

User Interface

The application will embrace a simple, clean user interface that allows for simplicity, it is purposed that the UI will be aesthetic and will have a same look and feel throughout the application. The user will be provided with a main screen at the start of the application. The diagrams are prepared to illustrate the proposed theme and look. However UI objects are subject to change during the implementation process.

Main Screen



Login

Inventory App

Login

E-Mail Address

Password

Register

Login

Register

Inventory App

Register

E-Mail Address

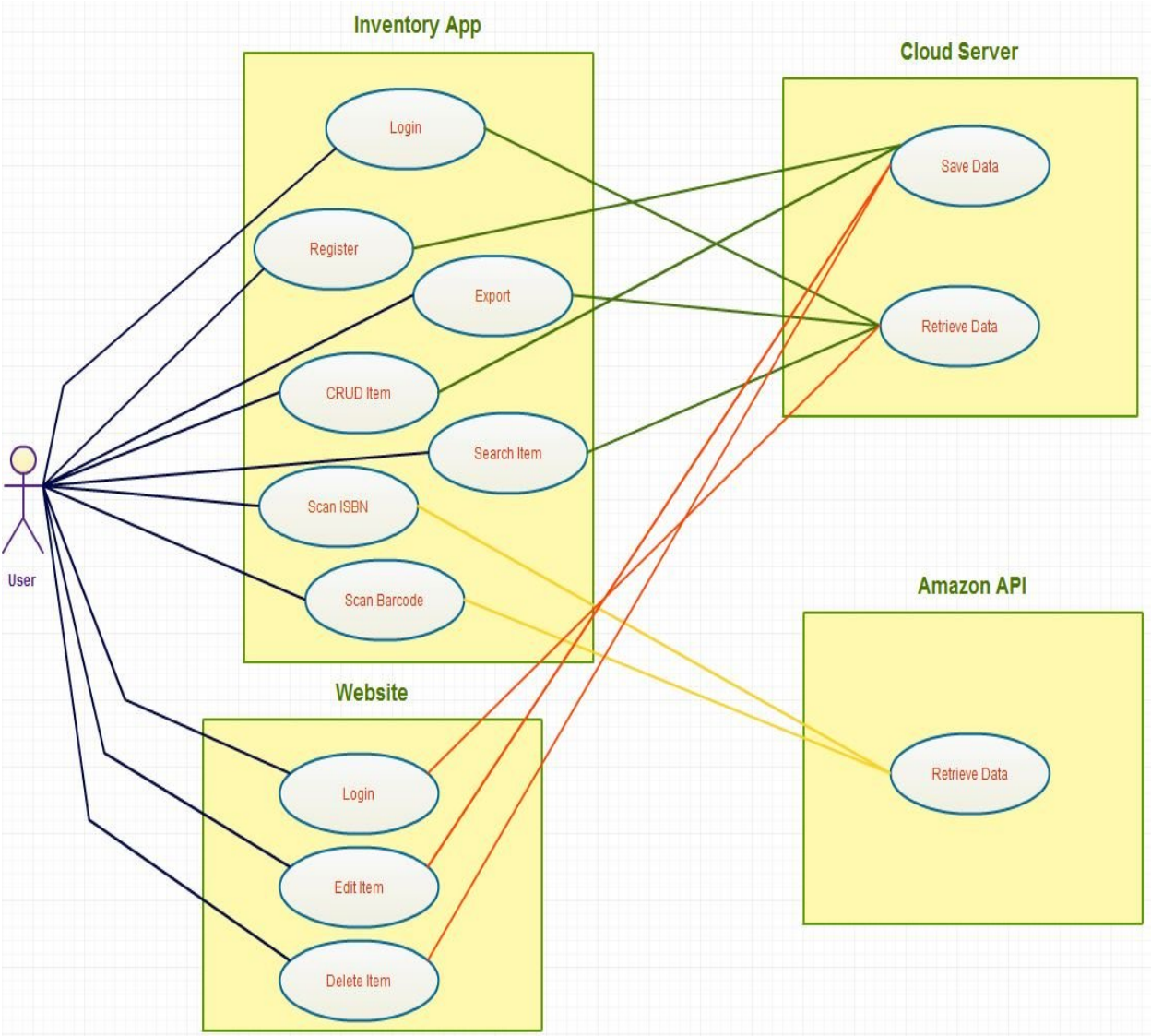
Password

Verify Password

Submit

Cancel

Use Case Diagram



User Interface

Login

Name: Login screen

Data: Email & password

Function:

This is the screen that the user will first be presented with when they open the app. The option to create an account can be seen below the login button. Once the registration button is clicked they will be taken to the registration form. Users will not be able to use the app until they create an account and login.

Register

Name: Registration screen

Data: Username, password and e-mail address

Function:

This screen allows the user to create an account. They are prompted to enter their email address as well as entering the password twice to check for an incorrectly spelled password. Users will not be able to use the app until the create an account and login.

Main Screen

Name: Main screen

Data: None

Function:

Once the user has logged into their account they will arrive to the main screen. Here they can go into the various options by sliding the side menu or pressing the menu button in the top left corner in the action bar to access the features such as view the inventory list or create a new item either manually or by scanning the barcode or export their database.

Inventory List screen

Name: Inventory screen

Data: None

Function:

This is the screen that the user will be presented with when they click the inventory option on the menu. It will list all the items that were added to the application and allow the user to click on them to edit or view the details.

Add Item

Name: Add Item screen

Data: Item name, description, category, image

Function:

This is the screen that the user will be presented with when they click the add item button on the inventory list screen.

Once the details of the item are entered, the user will press the save button and the details will be saved to the cloud.

Edit Item

Name: Edit Item screen

Data: Item name, description, category and number of items

Function:

This is the screen that the user will be presented with when they click on an item on the inventory list screen. It will allow them to edit the details of an item.

Delete Item

Name: Edit Item

Data: None

Function:

The delete function works when a user long presses on a list item that they wish to delete and choose the delete option

Scan Barcode

Name: Scan barcode screen

Data: Item to scan

Function:

This is the screen that the user will be presented with when they click on the scan barcode option. The user must hover the barcode scanner over the barcode of an item and it will automatically capture the barcode of the item which will then be used to gather the items details or if the item is not found, the user can enter the details manually.

Scan ISBN

Name: Scan isbn screen

Data: Item to scan

Function:

This is the screen that the user will be presented with when they click on the scan isbn option. The user must hover the camera over the isbn number of an item and press the camera button to capture the isbn of the item which will then be used to gather the item details in similiar fasion to the scan barcode option.

Search Item

Name: Search Item screen

Data: Item name

Function:

This is the screen that the user will be presented with when they click the search option. The user can enter the name of a item which will then be searched and the result will be returned to the user, or they can enter a partial name e.g. "thrones" which could return all of the game of thrones books or dvd's.

Export

Name: Export screen

Data: None

Function:

This is the screen that the user will be presented with when they click on the export option. It will generate a CSV file containing the whole database of items when can then be passed to the email client as an attachment on the phone or one of the various other options depending on what the user has installed on their device.

Website

Login

Name: Login screen

Data: Email & password

Function:

This is the screen that the user will be presented with when they choose to login on the website. Users will not be able to use the website unless they create an account with the app first.

Supplementary Specification

Functionality

- All users are required to log in to use the application.
- Saving of data can only be performed once an internet connection has been made to allow access to the cloud server.

Usability

- The application will allow people who are unfamiliar with smartphones to use the app in a comfortable way.
- A companion website will allow a user to organise their collection in a familiar environment.
- The mobile application must stick to a similar layout which android users are comfortable with.
- The application is designed to have the same look and feel in each screen.
- The application must give feedback to the user in the event of an error or certain actions.

Reliability

- It will be acceptable for the application to crash once a day.
- System information cannot be lost due to phone malfunction as data is stored in the cloud and can be retrieved from there.

Performance

- The application must be scalable. We should be able to go from 100 users to 10,000 users in hours without the system crashing.
- The application must respond to a user request within 3 seconds 80% of the time.
- The transition from one page to the next must take less than 2 seconds 90 % of the time.

Supportability

- The application must be designed to allow for the migration of the application to other platforms in the future with the success of the application.
- The software design must allow for new features to be added to the application.

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- A web application interface should be developed. It should allow the user to navigate the site with ease.
- User data such as names and email addresses must be kept private at all times.

References

[1] Google Images. Available at:<http://images.google.com/>.