

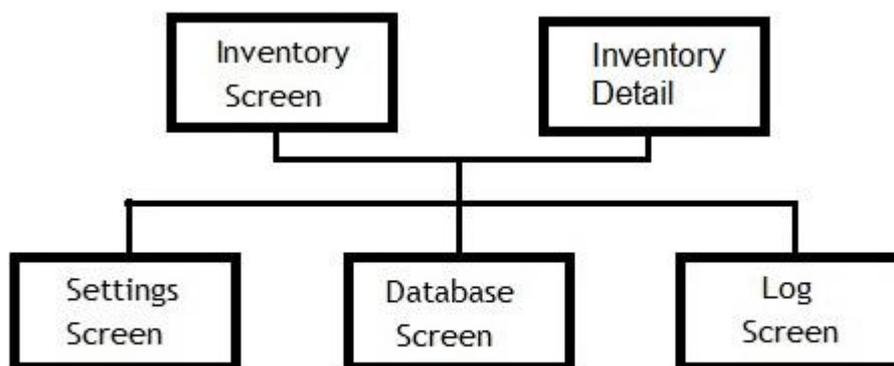
InventoryCount – An Android Business App

Introduction

InventoryCount is a simple to use Android App built to allow the manual checking of inventory levels. It has been designed and developed to meet the requirements of organisations that carry out manual inventory counts as a check against their computerised inventory systems. It is aimed at eliminating the paper based method and utilises the Android Smart phone to store its data.

Overview

The app is simple to operate and efficient in its operation. It is made up of five screens with the Inventory screen and Inventory Detail screen being the core screens and the other three screens, Settings, Database and Log, supporting it.

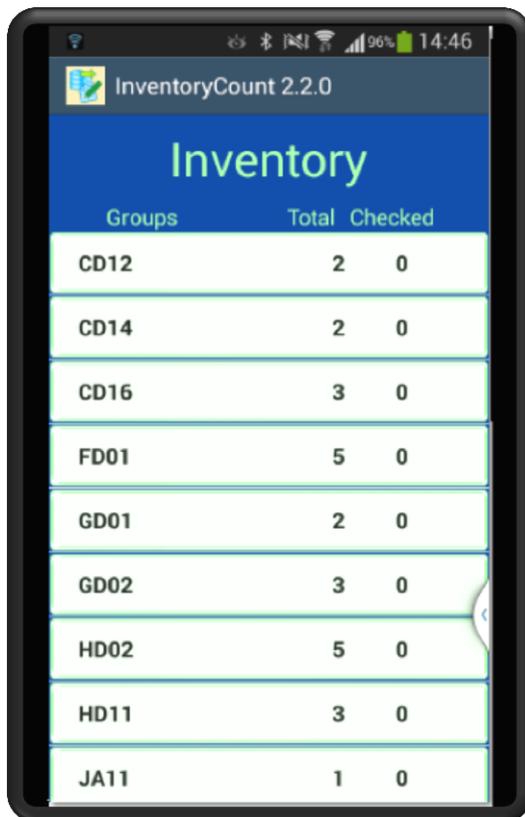


The data is stored in a SQLite database within the Smart phone and is input into the database using a CSV (comma separated values) flat file. The data can be output to a CSV file that can be uploaded to your computerised inventory system. There are three files that can be output. These are first, the entire Inventory list including the updated stock levels, second, the adjustments that have been made and third and finally the output from the log table. These are operations that are carried out from the Database screen.

The Log screen displays the log entry items. This includes the number of rows exported or imported and any errors that may occur have in these operations. It is a good idea to check the log screen after any database operations. It will at the very least confirm that the operation was 100% successful.

The Settings screen allows the settings for InventoryCount to be setup and modified. These include the import/export directory, the file names of both the input and output flat files and the separator that is to be expected in the CSV flat files. You will need to set these values before you can import any data.

The Inventory Screen

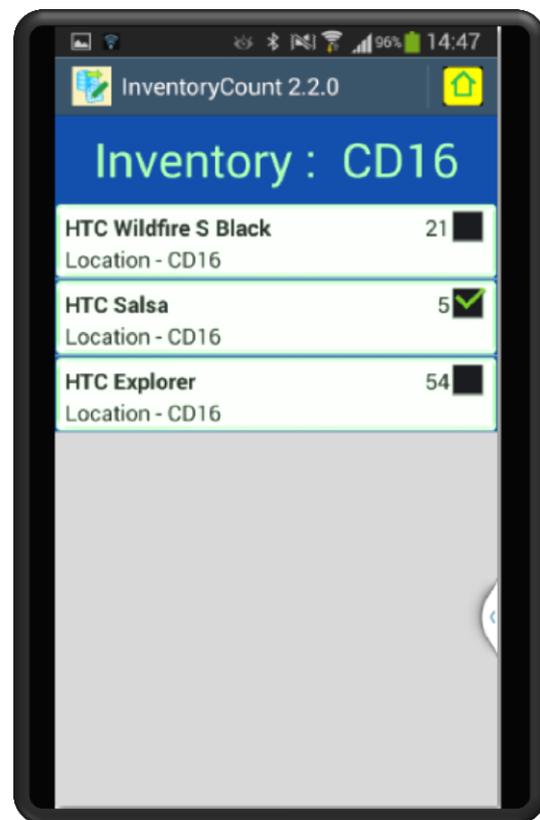


Groups	Total	Checked
CD12	2	0
CD14	2	0
CD16	3	0
FD01	5	0
GD01	2	0
GD02	3	0
HD02	5	0
HD11	3	0
JA11	1	0

On entering the app the first screen to appear is the Inventory screen as shown on the left. The display is in a list format with the individual entries being a group item together with the total entries for that group and the number that have been checked. These are listed down the screen. On pressing one of the group entries the Inventory Detail screen will be displayed as shown on the right. Each item displays the item description in bold letters and then underneath a sub-description that can be set up to display information

that might be useful to the personnel carrying out the manual inventory count. In this instance the storage location of the item is displayed.

To the right of the item description is the current count of items in stock. Finally to the far right is a check box that displays a tick if the item has been checked and null otherwise. If the checkbox is null then the quantity is the quantity that has been downloaded.



Inventory : CD16	
HTC Wildfire S Black Location - CD16	21 <input type="checkbox"/>
HTC Salsa Location - CD16	5 <input checked="" type="checkbox"/>
HTC Explorer Location - CD16	54 <input type="checkbox"/>

At the bottom of the screen are the phones four menu items. These will vary from phone to phone but on this mobile the left item when pressed displays the InventoryCount menu which will then be displayed and is shown below.

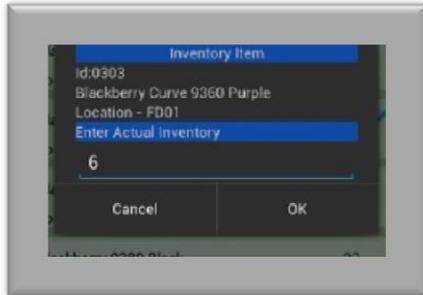
The second menu item, the Home entry, results in the exit from the InventoryCount App.

The third menu item causes control to return to the previous screen but has no functionality from the Inventory screen. It is used on the other three screens to return to the Inventory screen.

The InventoryCount menu shows three menu items. These are firstly, the Settings screen, secondly the Database screen and thirdly and finally the Log screen.

The main function of the Inventory screen is to display and update the Inventory items. To carry out these operations you the user can scroll the data up or down using your finger on the touch screen. You can also touch the entry that you want to update by pressing firmly on the specific entry. This will result in the update dialog screen appearing as is shown below.

The update dialog screen allows you the user to update the quantity by replacing the quantity shown with a new value.



As can be seen there are two buttons on the update dialog. The cancel option will result in any changes that have been made being discarded. The OK button will result in the changes that have been made being accepted and saved in the database plus the checkbox being set with a tick indicating that the item has been manually checked. Even if the inventory value is unchanged, if the OK button is pressed then the

checkbox will still be checked. Pressing either of the buttons results in control returning to the main Inventory screen.

The Database, Settings and Log Screens

The Settings screen is the screen that you need to visit first on downloading the App, as you will need to setup values on this screen before you can load any data.

The Settings screen is the screen that you need to visit first on downloading the App, as you will need to set some of the values on this screen before you can load any data.

The Settings screen consists of six options, as follows:-

- Directory Name
- Input Items File
- Output Items File
- Output Adjustment File
- Output Log File
- Column Separator

The first setting is the Directory Name and this allows you to set up the directory from which you will import and export files. I suggest you enter "//mnt/sdcard/Download/" and then put your input file in the "Download" directory.

The second entry is the Items Input File name. This is the name of the file that contains the items you are going to import.



The next three entries are the settings for the three output files. These are in order, the Item output file name, the Adjustments output file name and the Log Information output file name. The data that is output is given in Appendix A. The final setting is the column separator which is the character that separates the data in your input file and the character that will be used as a separator in your output files.

The Database screen is shown on the right. It is made up of five entries. These can only be used after the settings have been entered. The first entry on being pressed will import the data into the SQLITE database. This requires the directory and import file name to have been set up. The next three entries are the buttons to export data out to flat files. They again require the directory and output file names to have been set up. The final

option clears the data from the SQLITE database.

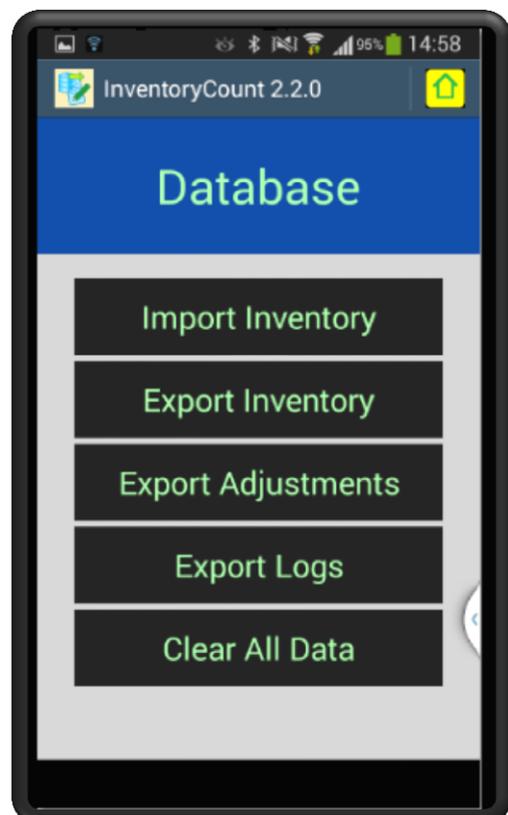
All of these database operations display a message towards the bottom of the screen when the operation is over.

The final screen is the Log screen which is shown on the left. All database actions carried out from the database screen are logged and in addition any errors that occur while importing data are logged. It is good practise after each database operation to check the log screen to confirm that the actions you have taken have indeed taken place.

Like the Inventory screen the Log screen shows each event as one of many in a vertical list.

Each item displays the date and time of the event followed on the right hand side with the name of the operation. Underneath is a description of the operation or of the error whichever may be the case. The items are listed in date/time order with the most recent operations displayed at the top.

There are no operations that can be carried out on the data, it is there for information purposes only.



Appendix A – Flat File Structures

The Input file format is as follows:-

Column	Description
1	Unique identifier
2	Group code
3	Item Description
4	Item Sub-description
5	Inventory quantity

An example is shown below:-

```
0101,AA34,Samsung Galaxy W,Location - AA34,3  
0102,AA21,Samsung Galaxy S II White,Location - AA21,2  
0104,CA34,HTC Sensation XL,Location - CA34,4  
0106,CD12,HTC Sensation XE,Location - CD12,1
```

The output file format is identical to the input file format with the addition of an extra column at the end indicating if the entry has been checked. The possible values are Y or N.

The Adjustment output file format is as follows:-

Column	Description
1	Unique identifier
2	Item Description
3	Quantity Adjustment
4	Date/Time of adjustment

An example is shown below :-

0305,Blackberry Torch 9810,-4,2012-03-05 20:47

0203,HTC Sensation XE,-3,2012-03-05 20:46

0206,HTC Salsa,6,2012-03-05 20:46

The Log output file format is as follows:-

Column	Description
1	Name of operation
2	Description of the operation.
3	Date/Time of the operation.

An example is shown below:-

OutputData,Output Inventory data completed. 39 rows read. 0 errors.,2012-03-04 19:58

OutputLogEntries,Output Log data completed. 0 rows read. 0 errors.,2012-03-04 17:49

Appendix B – Technical Requirements

InventoryCount has been developed in Android Java and requires a minimum of Android api of 14. This is Android 4.0, Ice Cream Sandwich.

InventoryCount holds its data in a Content Provider. There are public constants within the class InventContentProvider that give the URI's used. These are as follows:-

URI	URI Value
CONTENT_URI	content://uk.co.blueshireservices.inventorycount.InventContentProvider/inventory
GROUP_CONTENT_URI	content://uk.co.blueshireservices.inventorycount.InventContentProvider/inventgroup
ADJ_CONTENT_URI	content://uk.co.blueshireservices.inventorycount.InventContentProvider/inventadj
LOG_CONTENT_URI	content://uk.co.blueshireservices.inventorycount.InventContentProvider/inventErrLog
PARAM_CONTENT_URI	content://uk.co.blueshireservices.inventorycount.InventContentProvider/inventParams