

# AssetCheckPlusMap Version 1.0 – An Android Business App

## Introduction

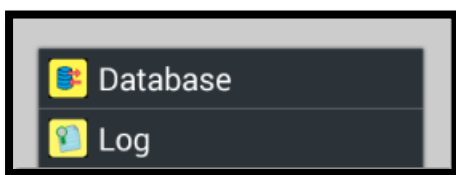
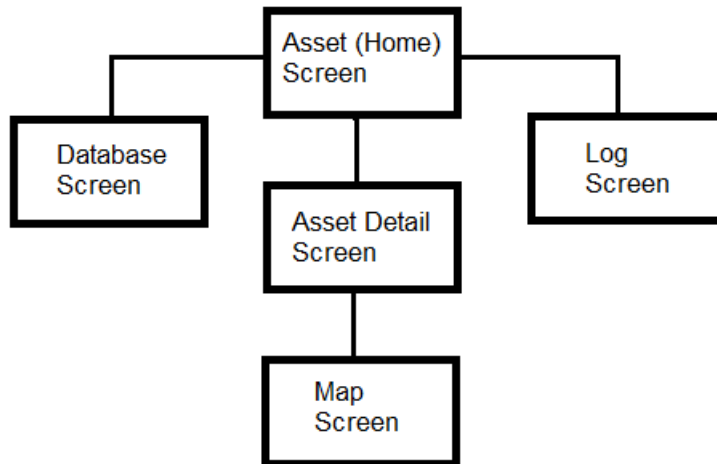
AssetCheckPlusMap is a simple to use Android App designed and developed to allow the manual checking of an organisations assets where the assets are physically dispersed. It has been designed for use by employees who need to go away from their desks to physically check the condition of the organisations assets. The type of organisation could be a railway, a water company or an oil refinery, any organisation which owns equipment that needs to be checked on a regular basis so that the equipment is guaranteed to be maintained at or above a defined level.

AssetCheckPlusMap takes the app AssetCheck as its starting point and includes Google Maps within the app and displays the location of the asset within the map. This allows the personnel charged with the checking of the asset to see its location.

## Overview

AssetCheckPlusMap is simple to operate and efficient in its operation. The app is made up of five screens as shown in the diagram on the right, with the Asset Screen and Asset Detail screen being at the heart of the app.

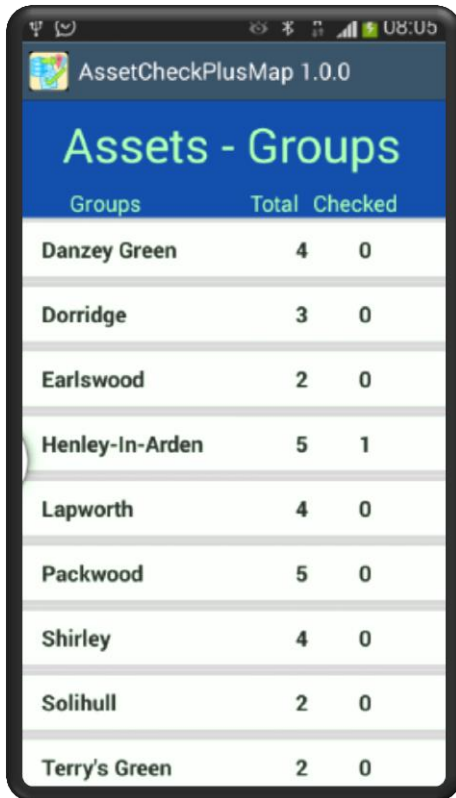
Navigation around the app is carried out by using the menu which is shown below.



Additionally the Home screen and Map screen can be accessed by touching icons sitting on the activity row at the top of the screen. The Home screen is the Asset Group screen.

The Asset Screen is shown below on the left and gives a breakdown of the Asset entries broken down by group. For each group the total number of assets in that group is displayed together with the total numbers that have been checked.

Selecting a specific group by touching the entry leads to the Asset Detail Screen being displayed as shown below on the right. This screen displays all of the entries that are within the group selected.

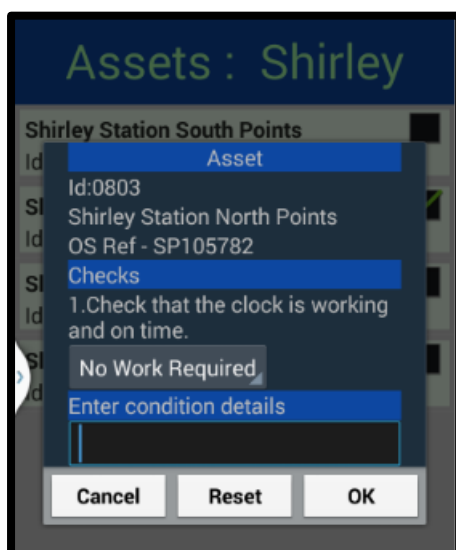


The individual asset entry consists of the assets description and then below it the asset identifier together with the secondary description.

The grouping of the assets is entirely dependent on how your organisation decides to group the data. In the example shown below the assets are grouped by physical location. On the right is a check box which when the asset has been checked will display a tick within the box together with the status of the asset that has been selected from a pull down list.



When the user selects an asset by touching the entry on the screen a dialog screen will be displayed. This consists of a description of the current asset at the top. There then follows a help text briefly stating the checks that need to be carried out. Below that is a pull down list that identifies the condition of the asset and which has to be selected by the user. There then follows a free form text box where the user can enter additional information. Finally at the bottom are three buttons entitled "Cancel", "Reset" and "OK". If the Cancel button is pressed then any values entered are ignored and no change is made to the asset. It



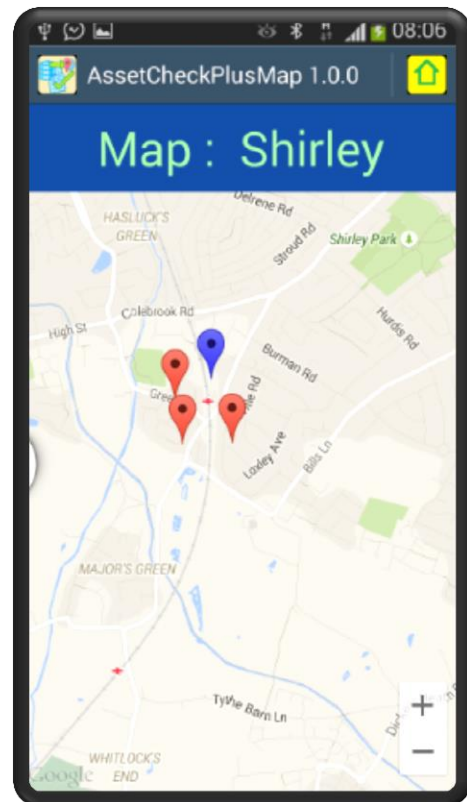
is assumed that the entry was pressed by mistake and it has not been checked. The alternative button is the OK button which if pressed identifies the asset as having been checked and the pull down list entry will be saved against the asset together with any free form text that has been entered. The asset will now be ticked as having been inspected. The final button is the "Reset" button which is there if an asset has been mistakenly set as checked and the user wants to reset the asset as not checked. The dialog can be seen on the right.

## The Map Screen

From the Asset Detail screen the user can access the Map screen as shown on the right. It will be centred around the midpoint of all the assets within the group displayed. The assets that have been checked are displayed in blue and the assets that have still to be checked are shown in red.

By touching the icon the id and description of the asset will be displayed in a box above the icon. To relocate the asset touch the assets icon and hold down until you see the icon shift up slightly. Then, keeping your finger on the screen, move the icon to its new location. This new location will be saved and will be the location displayed the next time you access this asset on the map screen.

To return to the Asset Detail screen press the return icon. To go to the Asset Group screen press the Home icon on the activity bar at the top of the screen.



## Setting Up AssetCheckPlusMap

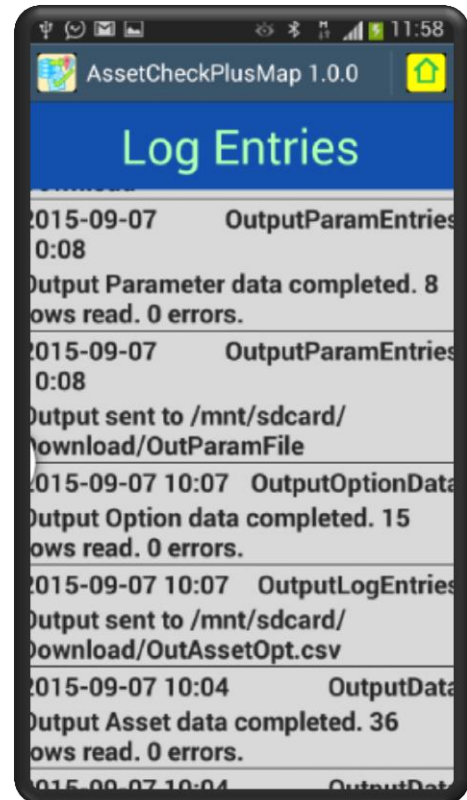
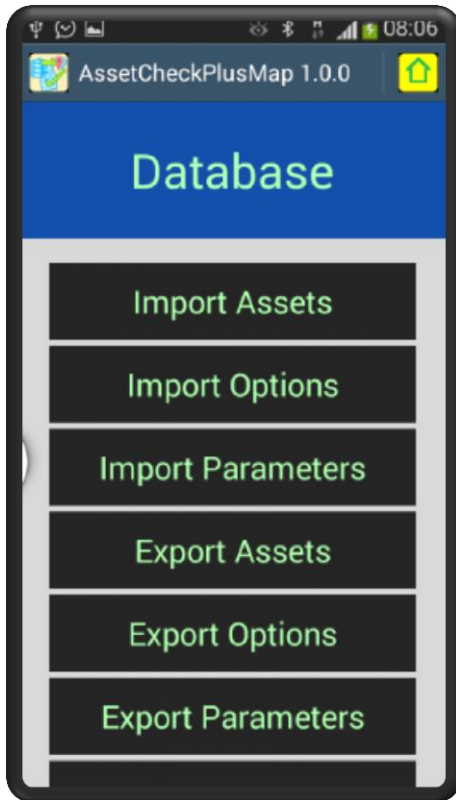
AssetCheckPlusMap is preloaded with the test data. After you download the app you can go straight in and see the app screens using the test data.

Having played around with the test data you now want to load your own data. There are three distinct sets of data. These are as follows:-

- The Parameter Data
- The Asset Data
- The Options Data

To load and/or update the data the database screen is where you will go together with the log screen that will give you updates on the success/failure of your action. These two screens are shown below.

The parameter data is preloaded with the parameters shown in Appendix A. The easiest method to modify the parameter values is to go to the database screen and press the “Export Parameters” entry. Open the output file, OutParamFile.csv, and modify the entry you want to change. You can remove the entries that you want to remain as they are and then save the file. Rename the file as “InParamFile.csv and then press the “Import Parameters” option. The import option does not insert new rows but updates existing rows. This is different from the other data that you import.



The asset and options data are interlinked and need to be prepared together. The structure of both the asset input file and the options input file is given in Appendix B.

The first task when setting up the asset and option data is to compile a list of valid values for the pull down list. Each asset has to be assigned to a group with a specific set of values for the pull down list. The list of values used in the demonstration example is given below. The demonstration example is designed around an individual who carries out physical checks on railway equipment specifically bridges, points and clocks. The pull down list for the bridges is shown below.

Pull Down Group	Row Order	Description
B	1	No Work Required
B	2	Minor Masonry Work
B	3	Minor Steel Work
B	4	Poor Condition
B	5	Major Work Required
B	6	Critical Condition
B	7	Bridge Closed
C	1	No Work Required
C	2	Electrical Issue
C	3	Mechanical Issue

In addition to the entries in the pull down list there is an entry that populates the text guiding the user what requires to be checked. In the case of the bridges this text is as follows:-

"<p>1.Check the condition of the masonry.</p> <p>2. Check any steel work.</p>"

This entry is defined by having a row order of 0 (zero). Notice that the text is formatted using html.

For each row of data in the input files a new row is inserted into the SQLite tables. The "Import Assets" and "Import Options" entries do not clear down the tables before inserting the new data. This means that you have to clear down the data by entering the "Clear Asset Data" and "Clear Option Data" unless you want the new data to be in addition to the existing data.

## Appendix A – Default Parameters

Id	Value	Description
1	"/mnt/sdcard/Download"	Input Output Directory.
2	"InpAsMapFile.csv"	Input Asset File
3	"InpAssetOpt.csv"	Input Asset Option File.
4	"IniParamFile.csv"	Input Parameter File.
5	"OutAsMapFile.csv"	Output Asset File
6	"OutAssetOpt.csv"	Output Asset Option File.
7	"OutParamFile.csv"	Output Parameter File.
8	"OutLogFile.csv"	Output Log File.
9	" "	Separator

## Appendix B – Input-Output File Structure

Asset Input Data	
Column	Description
1	Unique Identifier
2	Group
3	Pull Down group
4	Latitude position
5	Longitude position
6	Description
7	Sub-Description

Asset Output Data	
Column	Description
1	Unique Identifier
2	Group
3	Pull Down Group
4	Latitude position
5	Longitude position
6	Description
7	Sub-Description
8	Asset Check Value
9	Check Flag
10	Additional text.
11	Date Checked

Option List Input & Output Data	
Column	Description
1	Pull Down Group
2	Row Order
3	Description
If the row order number is zero then the entry is check guide text that is displayed in the dialog screen as a guide in checking the asset.	

Parameter File Input & Output Data	
Column	Description
1	Unique Identifier
2	Value
3	Description

## Appendix C – Technical Information

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

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

Parameter File Input & Output Data	
URI	URI Value
CONTENT_URI	"content://org.BlueshireServices.AssetCheckPlusMap.AssetMapContentProvider/assets"
GROUP_CONTENT_URI	"content://org.BlueshireServices.AssetCheckPlusMap.AssetMapContentProvider/assetgroup"
OPTION_CONTENT_URI	"content://org.BlueshireServices.AssetCheckPlusMap.AssetMapContentProvider/assetOpt"
LOG_CONTENT_URI	"content://org.BlueshireServices.AssetCheckPlusMap.AssetMapContentProvider/assetErrLog"
PARAM_CONTENT_URI	"content://org.BlueshireServices.AssetCheckPlusMap.AssetMapContentProvider/assetParams"
GUIDE_CONTENT_URI	"content://org.BlueshireServices.AssetCheckPlusMap.AssetMapContentProvider/assetGuide"

