

The DockablePluginAndroidUI for EL Console

User's Manual: Software

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1. Overview

1.1 Features

This document describes how to setup and how to use the Plugin (DockablePluginAndroidUI_API6.dll).

We create an Android UI for the plugin, it will help you design controls on UI, allows moving, deleting, copying and pasting of controls in the layout by the Mouse/Keyboard.

1.2 Scope

Following the task requirement, the Plugin supports with two purposes:

- Allow developer to design an Android.
- Allow developer to export/import the .xml files, these xml files are used to create UI for Android application.

1.3 Environmental Requirement

Table 1.1 Environment Requirement

Equipment	Explanation
Windows Host PC	Windows 7 (32bit or 64bit) Windows 8 (32bit or 64bit)
EL Console	EL Console V97.8427
Installer	Installer for the Plugin

2. Plugin block diagram

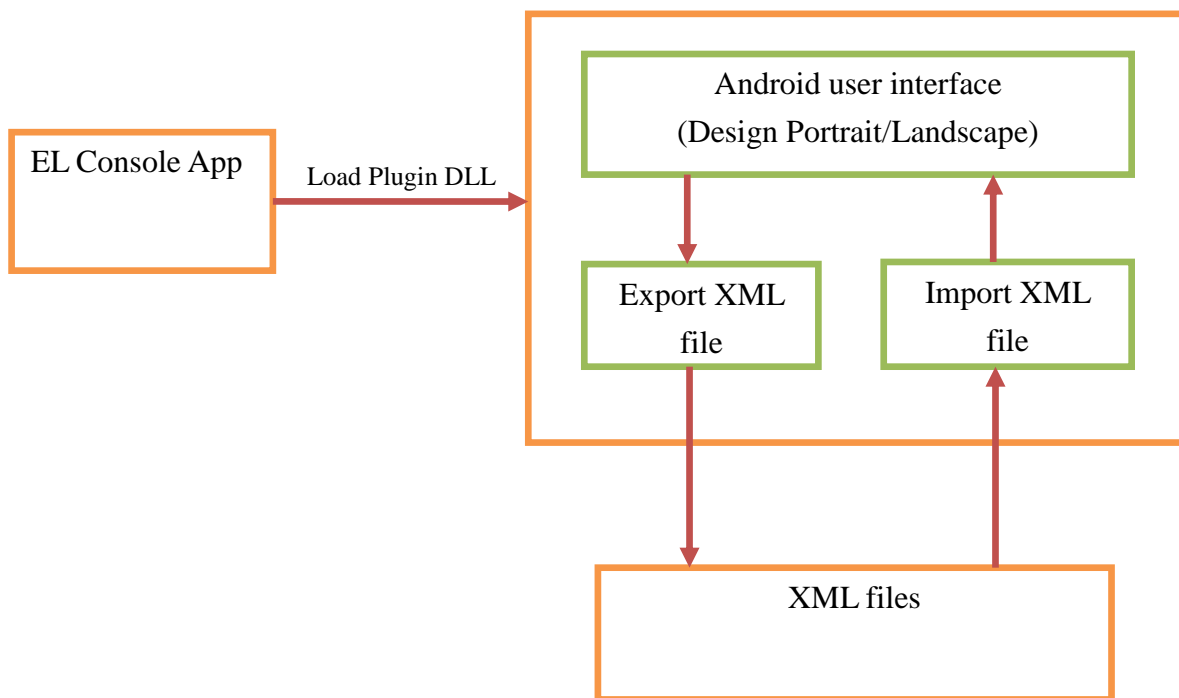


Figure 1-Plugin Block Diagram

3. Set up the Plugin for testing

3.1 Install EL Console version 97.8427

Make sure that you install right the EL console **version 1.97.8427**, this version supports API `el_dockable_dll`. To install the EL Console version version 1.97.8427, you can find `setup.exe` file on the SVN at the location:

...\\el-public-qa\\trunk\\Software\\ELConsole\\V97**EL8427.zip**.

After install EL Console app and launch the app, the screen will be displayed as below.

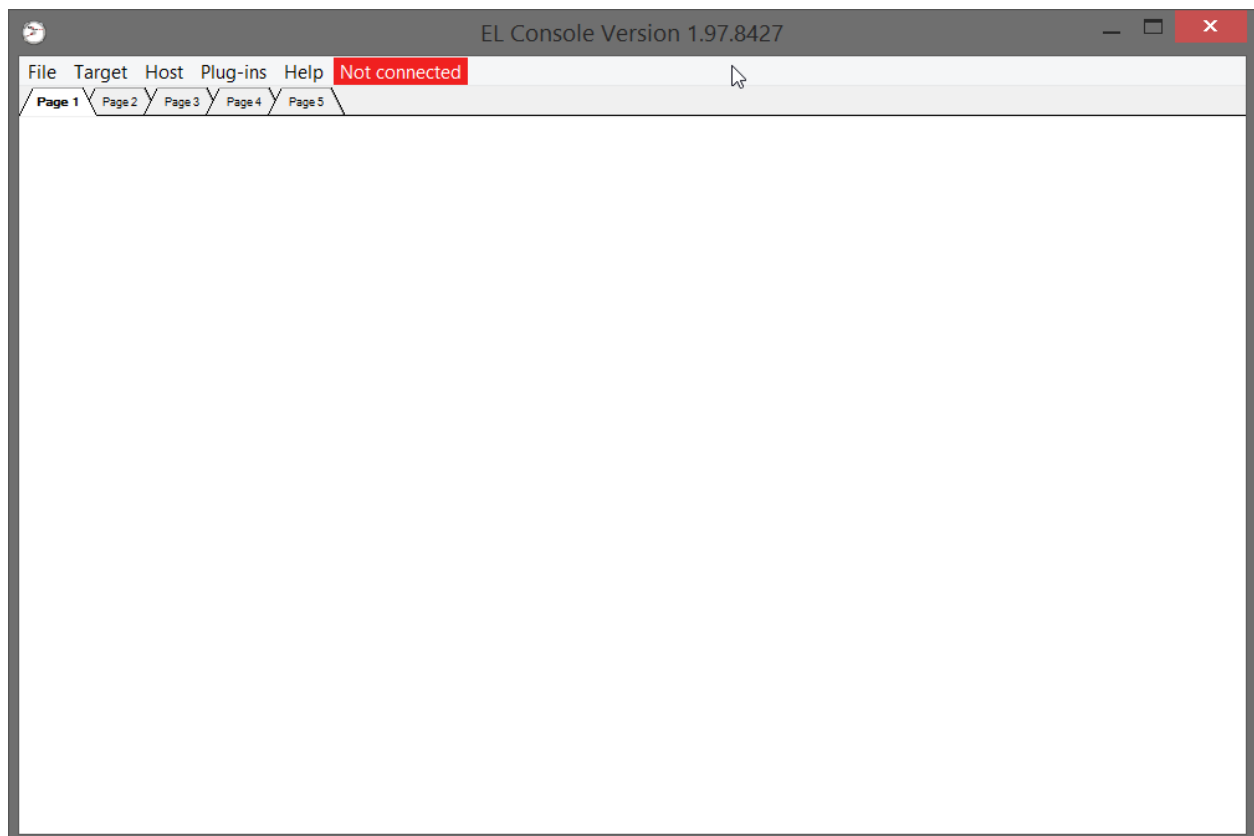


Figure 2-The screen of the EL Console

3.2 Install the Plugin

To install the Plugin, you can find the files (setup.exe, Plugin Installer.msi) in the Installer folder on the SVN at the location:

...\el-external-shc\trunk\Apps\Plugins\ DockablePluginPythonQt_API5\Testing.

- a) Click on setup.exe file, the screen will be displayed as below.



Figure 3-Main Installer

- b) Click on Next -> I agree.



Figure 4-License Agreement

c) Click on Next, the screen will be displayed as below.

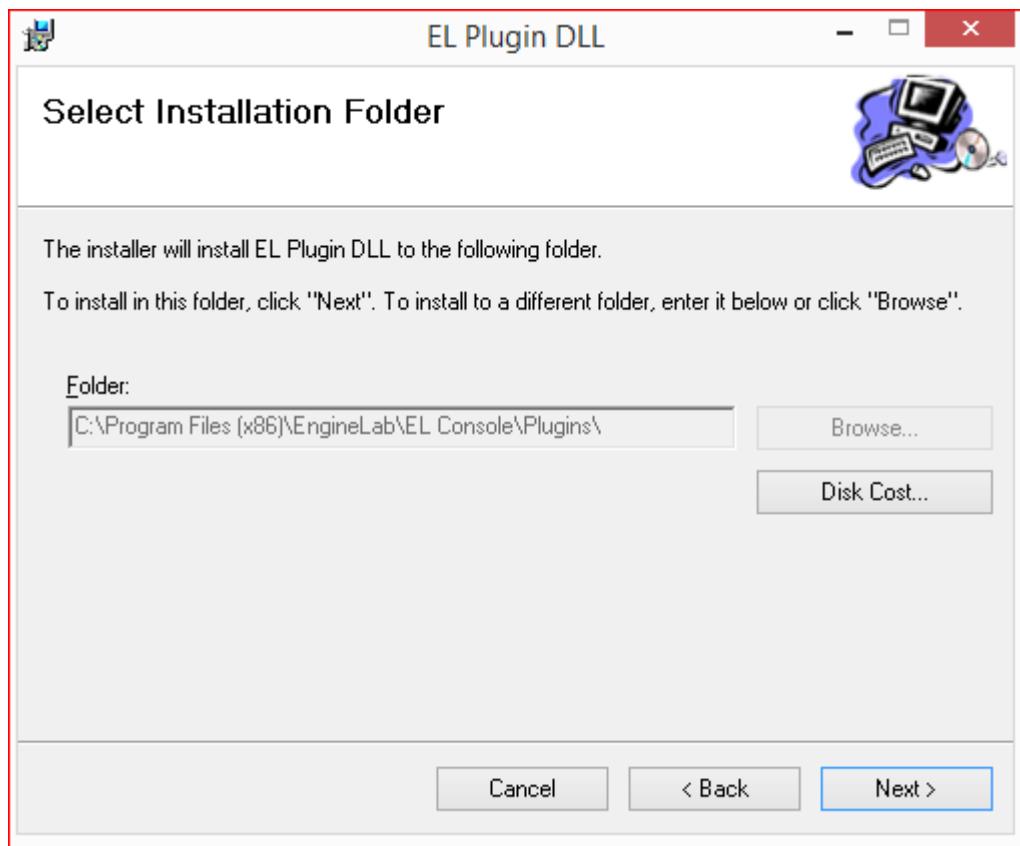


Figure 5-Select Installation Folder

d) And Click on Next to complete installing.

e) After install the Plugin, the Plugin dll is placed at the location: C:\Program Files (x86)\EngineLab\EL Console\Plugins

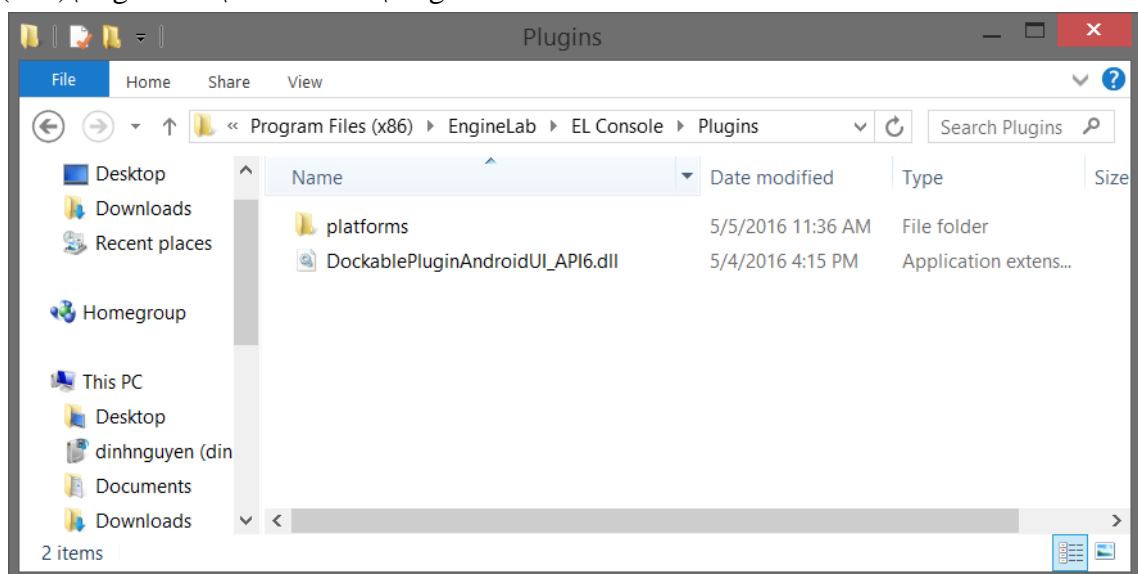


Figure 6-Place of the plugin dll

- f) After install the Plugin, files (.elcfg) are placed at the location:
\$(DocumentPath)\EngineLab\EL Console\Plugin\EL_AndroidUI
- The **session** folder contains session file (...“ModelID”\sessions\“ModelID”.elcfg) of your model, you should load this file before you start the plugin.

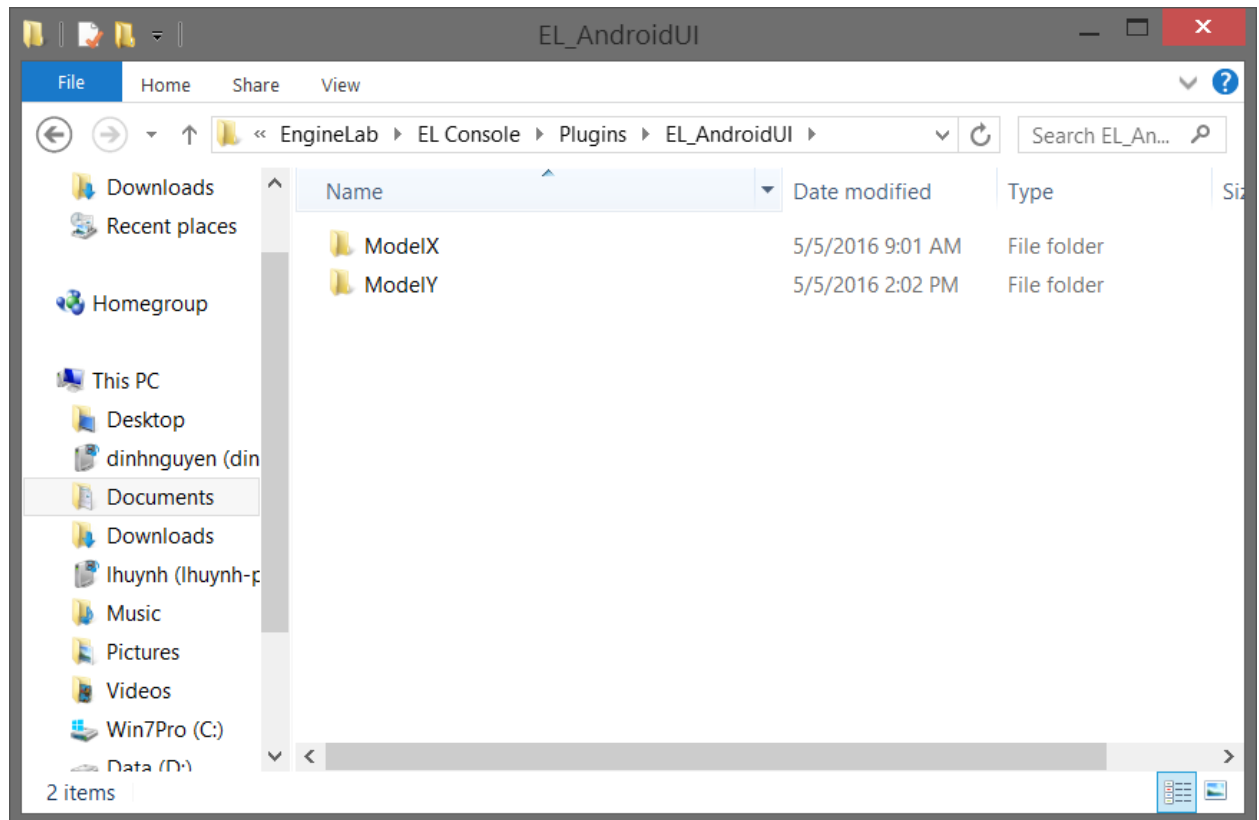


Figure 7-Folder Organization of Plugin

4. How to export XML for Android GUI

4.1 Launch design Android GUI feature

- a) Launch the EL console app, the screen will be displayed as below.

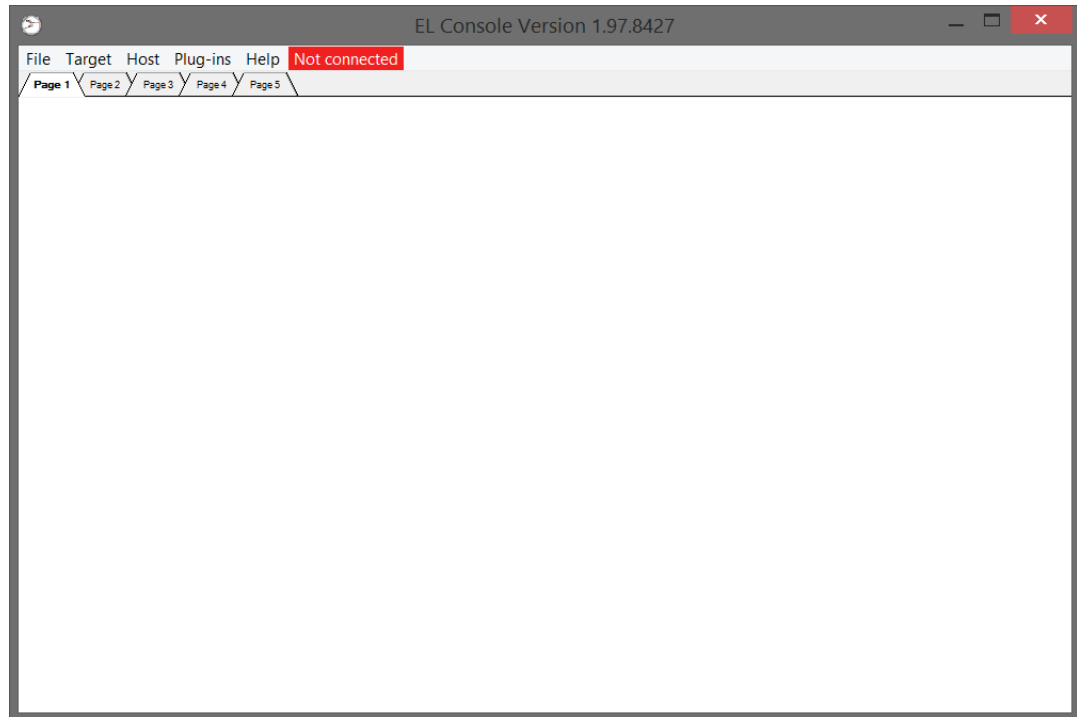


Figure 8-EL Console application

❖ **Note:** To use this feature, you have to open a session which contains a Model ID.

- b) From File menu, select File -> select Open Session -> browse to the Model_X.elcfg file.
(Path: \$(DocumentPath)\EngineLab\EL Console\Plugins\EL_AndroidUI\ModelX\sessions).

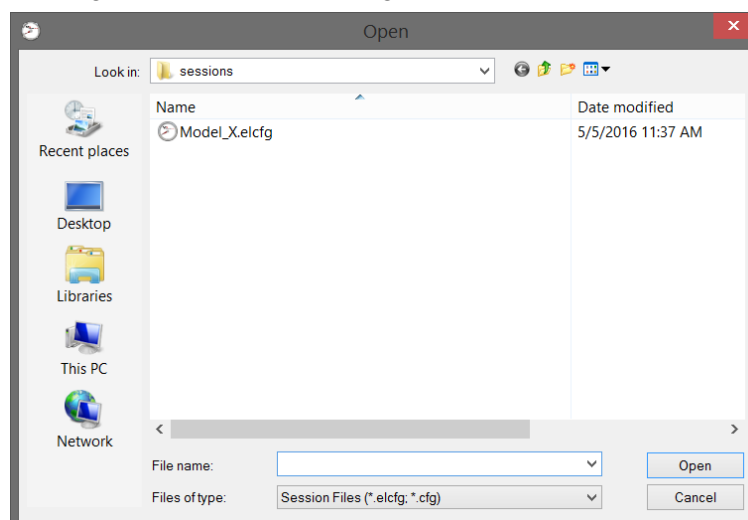


Figure 9-Open sample session file

- c) Select Plug-ins-> Android UI Plugin->Design Android UI, the screen will be displayed as below.

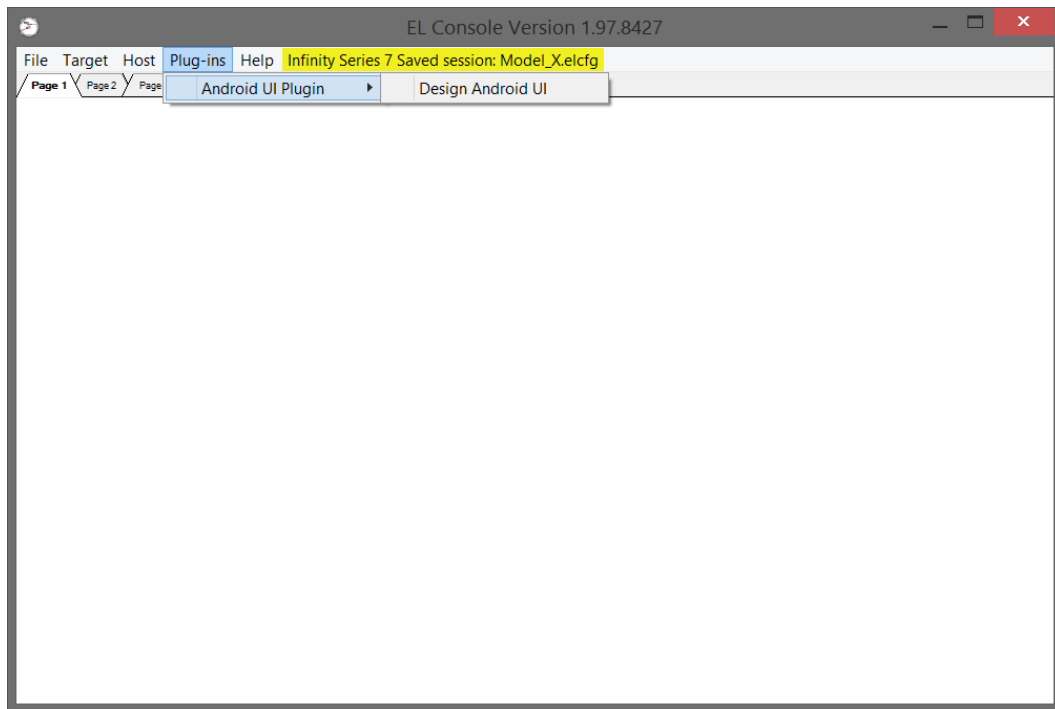


Figure 10-Load Design Android UI

- d) After load the Plugin, a small dialog will show up as below.

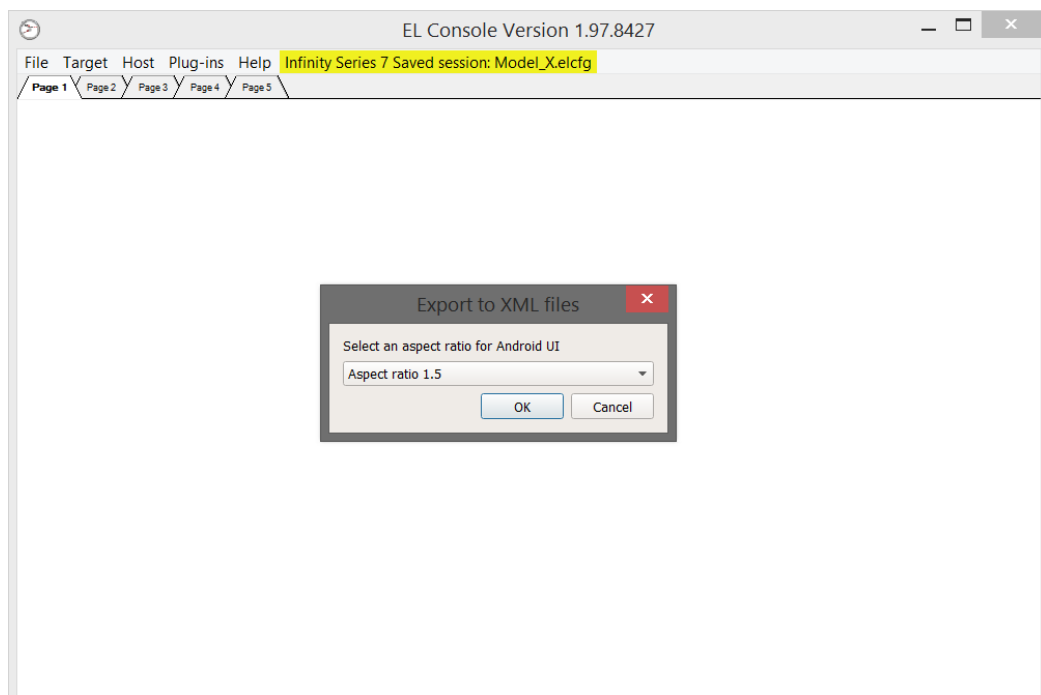


Figure 11-Select mode for Android GUI

- e) There are two aspect ratios: “Aspect ratio 1.5” and “Aspect ratio 1.777” for Android GUI. Select one and press “OK”. This dialog is modal, so you will have to close it before doing any other features.

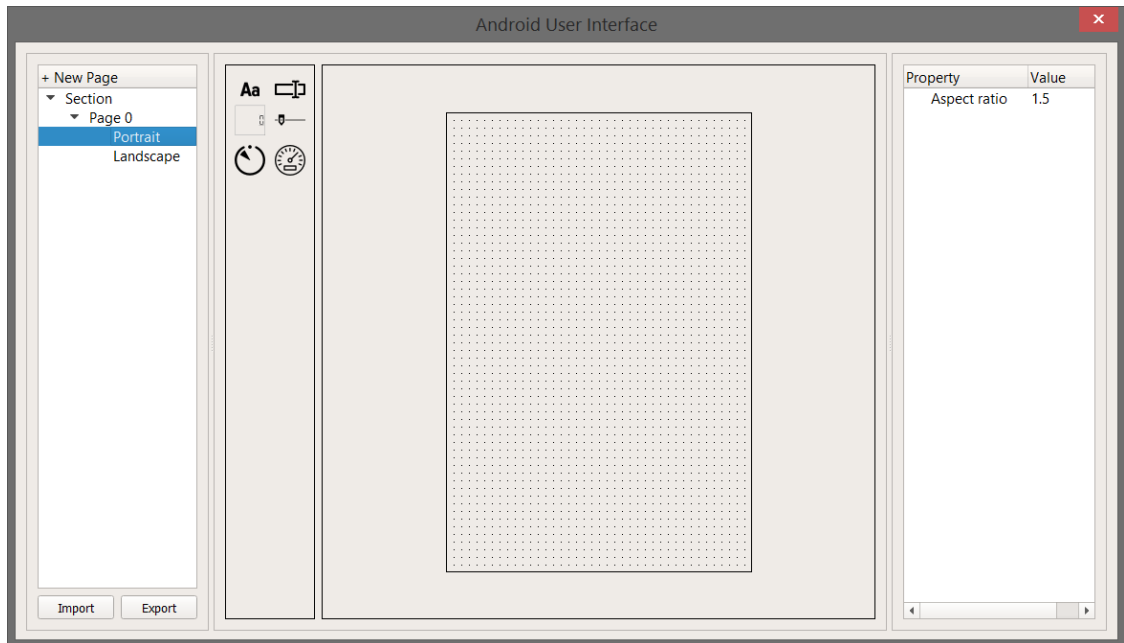


Figure 12-Aspect ratio 1.5 (Portrait)

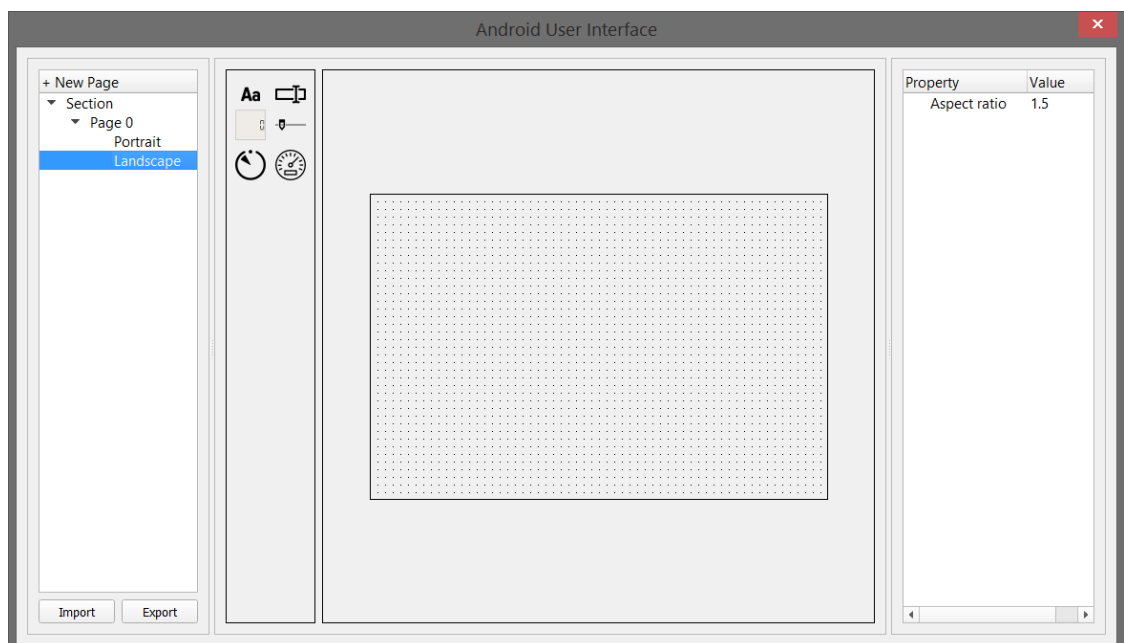


Figure 13-Aspect ratio 1.5 (Landscape)

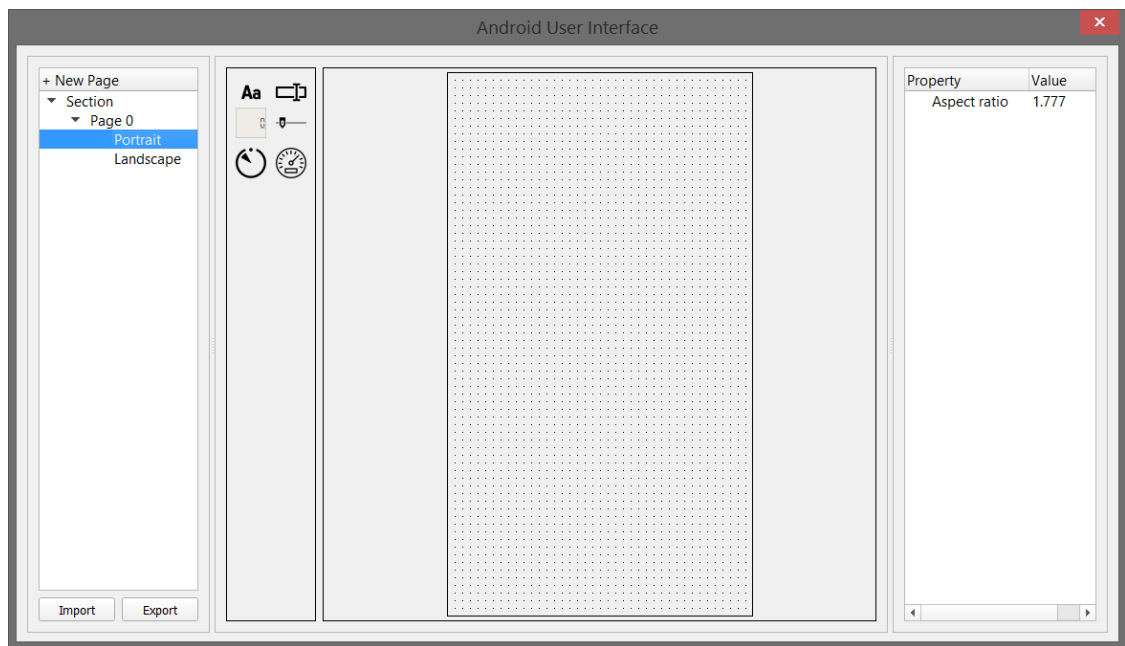


Figure 14-Aspect ratio 1.777 (Portrait)

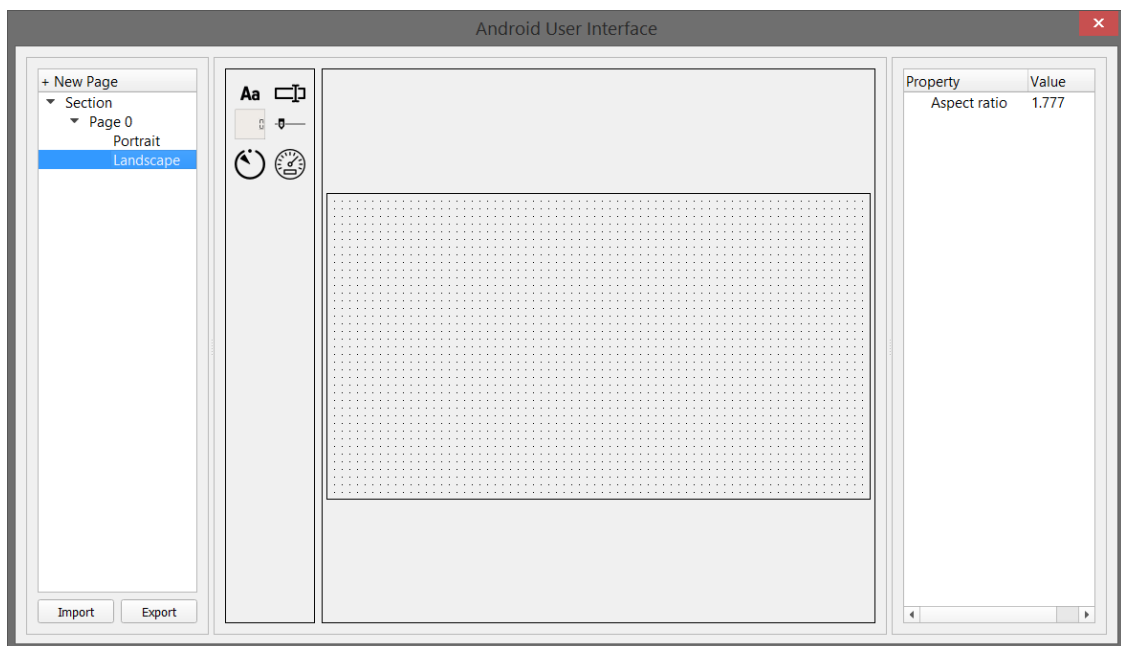


Figure 15-Aspect ratio 1.777 (Landscape)

4.2 Design Android GUI components

There are four components in this feature.

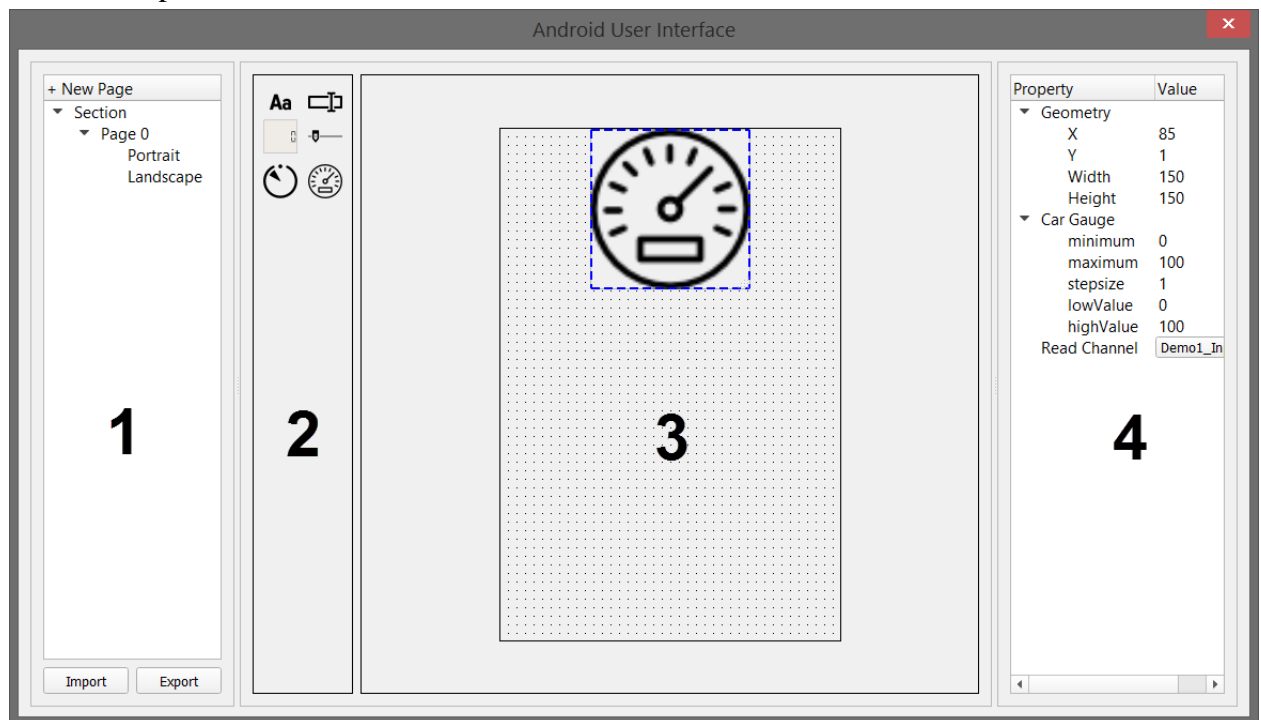


Figure 16-Design Android GUI components

4.2.1 First component

A tree list contains one section. This section contains pages. Section and page's name can be change (Double click on that section or page on tree list). Each page contains two separate design modes (Portrait and Landscape). You can create a new page by click on header “+ New Page” (on the top of the list). You can also remove a page by right click on a page and select “Remove”.

There are also two buttons in this component: “Import” and “Export”. Button “Export” is used to export a folder names after “Model ID” contains all XML files represent for everything you designed. Button “Import” is used to import all XML files from that folder and display what you just designed for reviewing and editing purpose.

- To change section or page's name. Double click on them on tree list. Edit the name you want and press “Enter”.

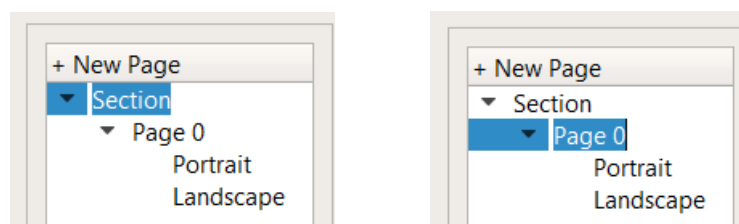


Figure 17-Change section or page's name

- b) To add a new page, click on header “+ New Page” (on the top of the list). Name of the new page will be default as: Page + number.

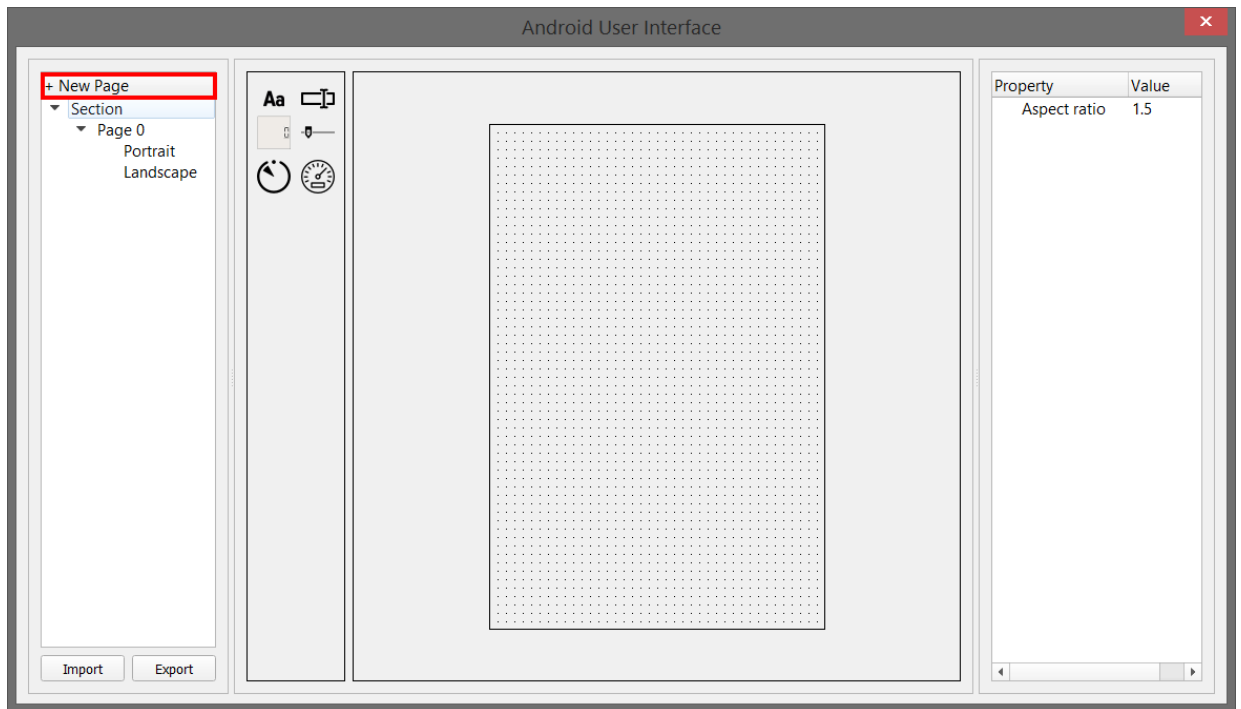


Figure 18-Add new page

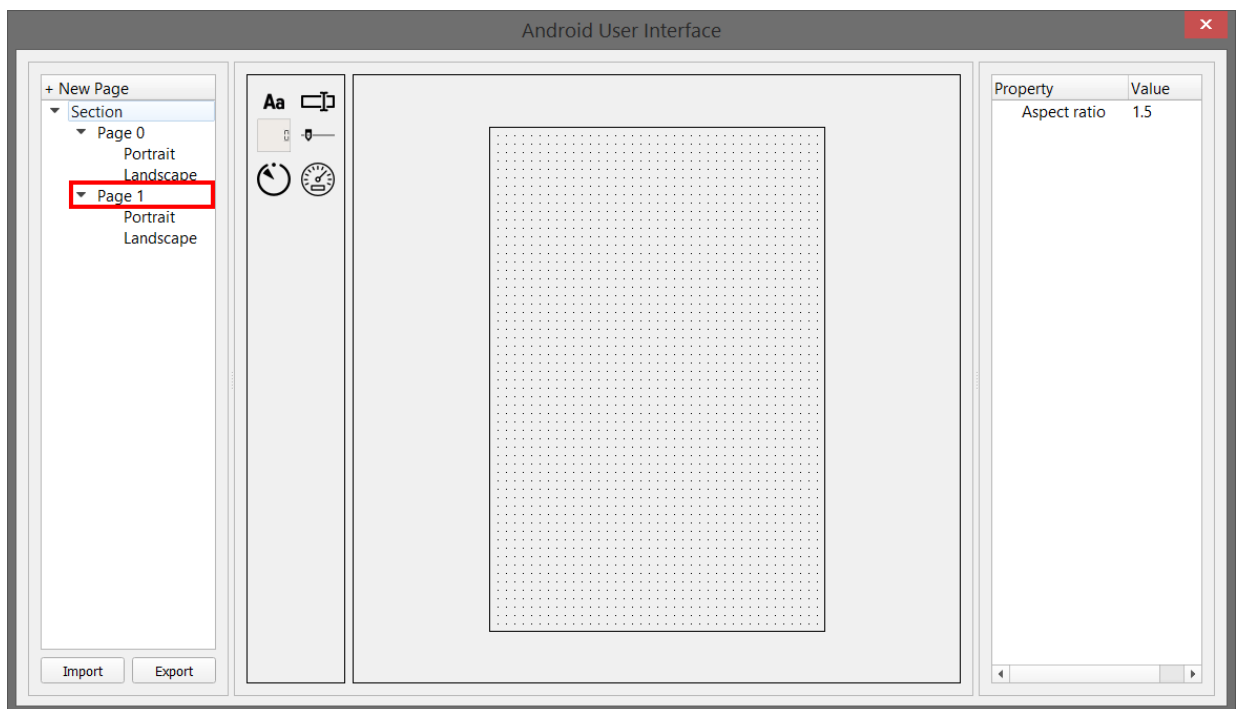


Figure 19-New page

- c) To remove a page, right click on a page and select “Remove”.

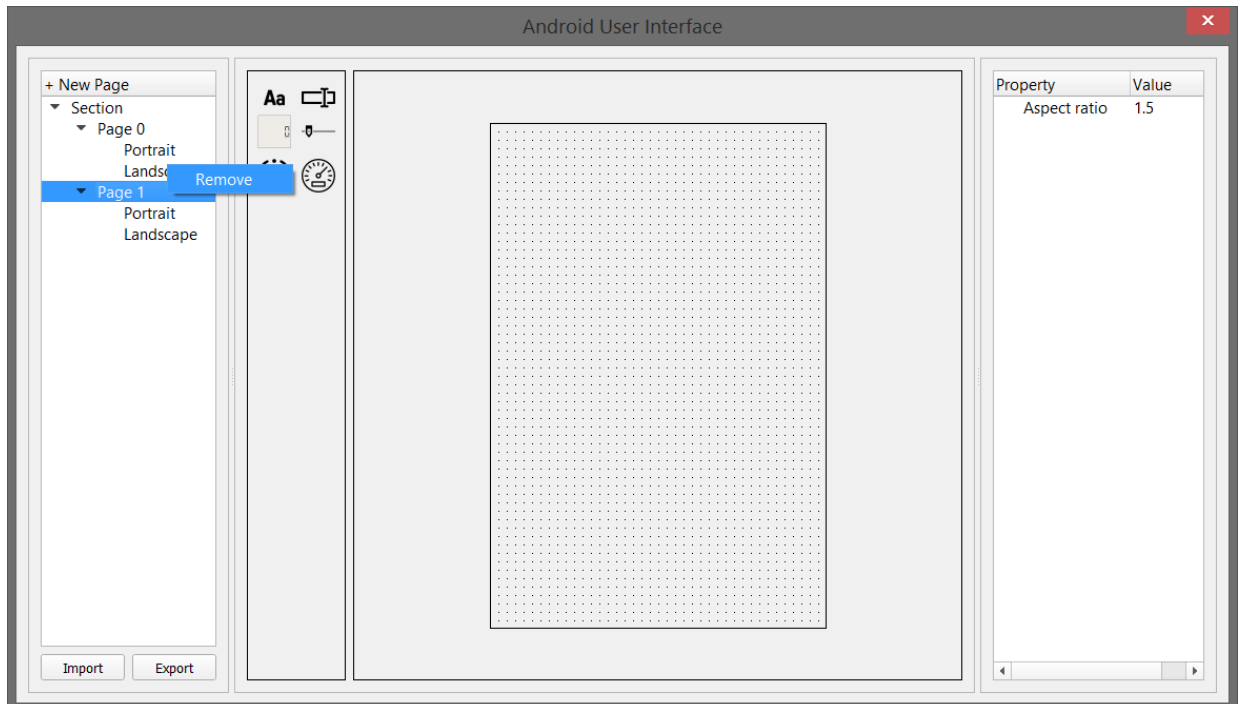


Figure 20-Remove a page

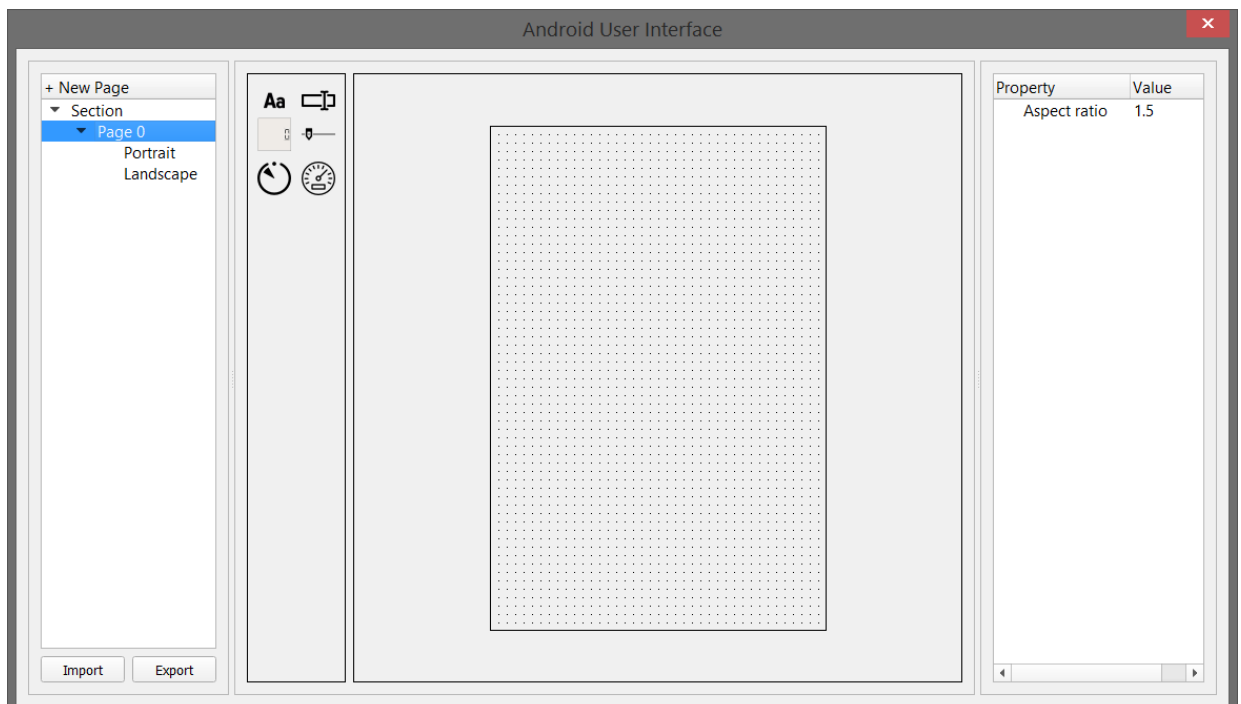


Figure 21-Page was removed

- ❖ **Note:** When you remove a page, all controls (on design region: [Third component](#)) that belong to that page will also be removed with it.

4.2.2 Second component

A tool box contains controls. You can add controls to each page by dragging and dropping them on design region ([Third component](#)).

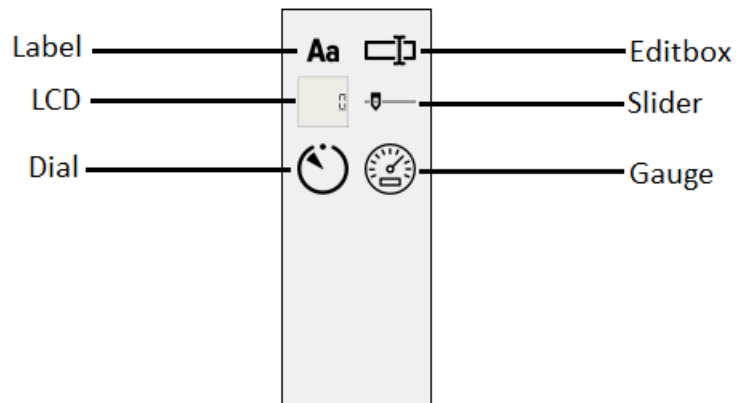


Figure 22-Controls

- a) To drag a control, left click and hold the mouse on a control. Move the mouse to drag control, then release left mouse and drop it on design region.

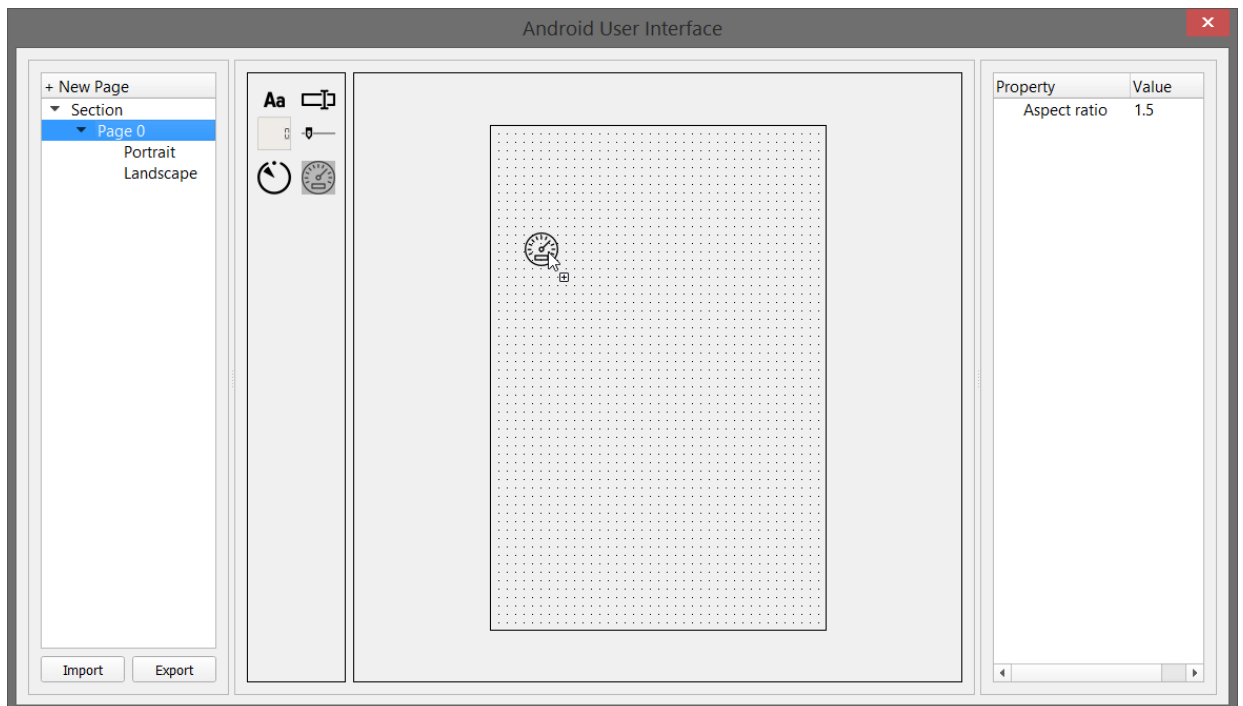


Figure 23-Drag control

4.2.3 Third component

Design region of each page contain two modes: Portrait and Landscape. This simulates the screen of Android mobile phone with aspect ratio were selected before. When controls are dropped on this, you can move, resize, copy and delete them only within this region.

To work with controls in you have to select them. Controls are selected will have a blue square focused on them. There are two select modes:

- Select a single control: Left mouse click on a control to select it.
- Multi select control: Use “Ctrl + Left mouse” and click on controls or “Ctrl + A” to select all controls.

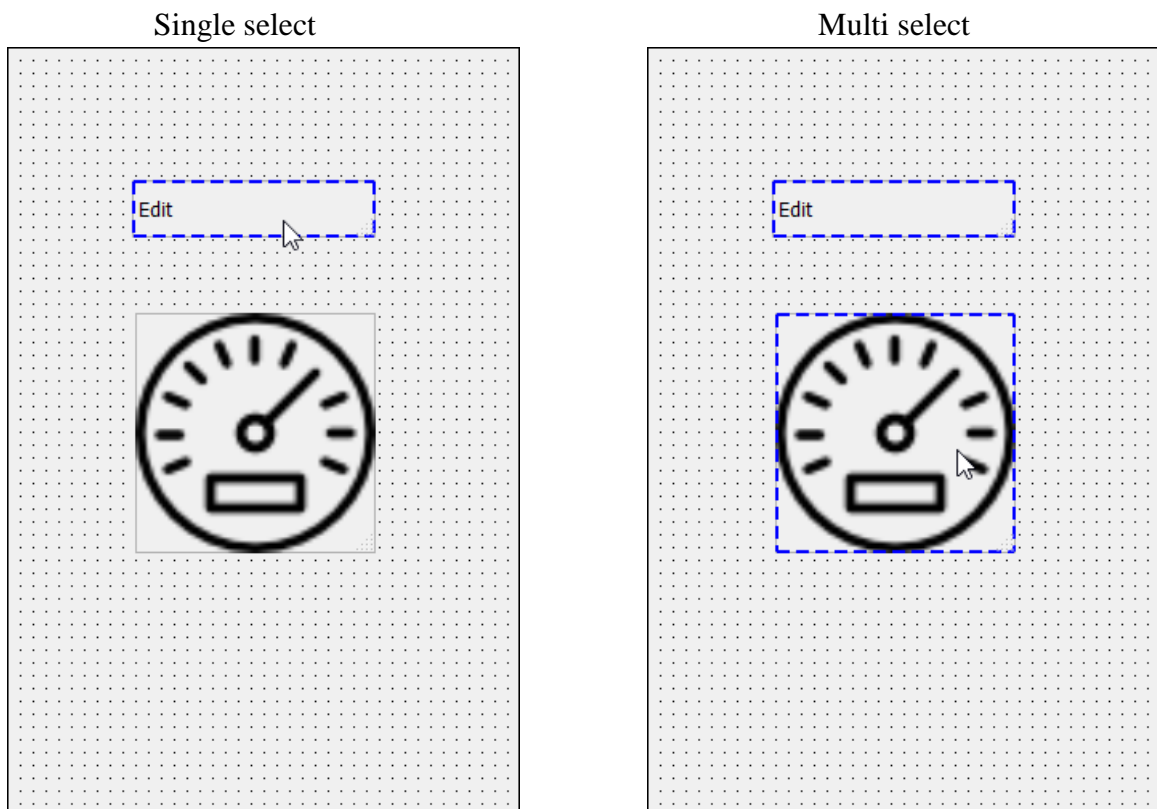


Figure 24-Select modes

- a) To move controls, select and hold the mouse on them. Move the mouse to move those controls. Another way is change a control's value (X, Y) on property tree in [Fourth component](#) (only allow for single control).

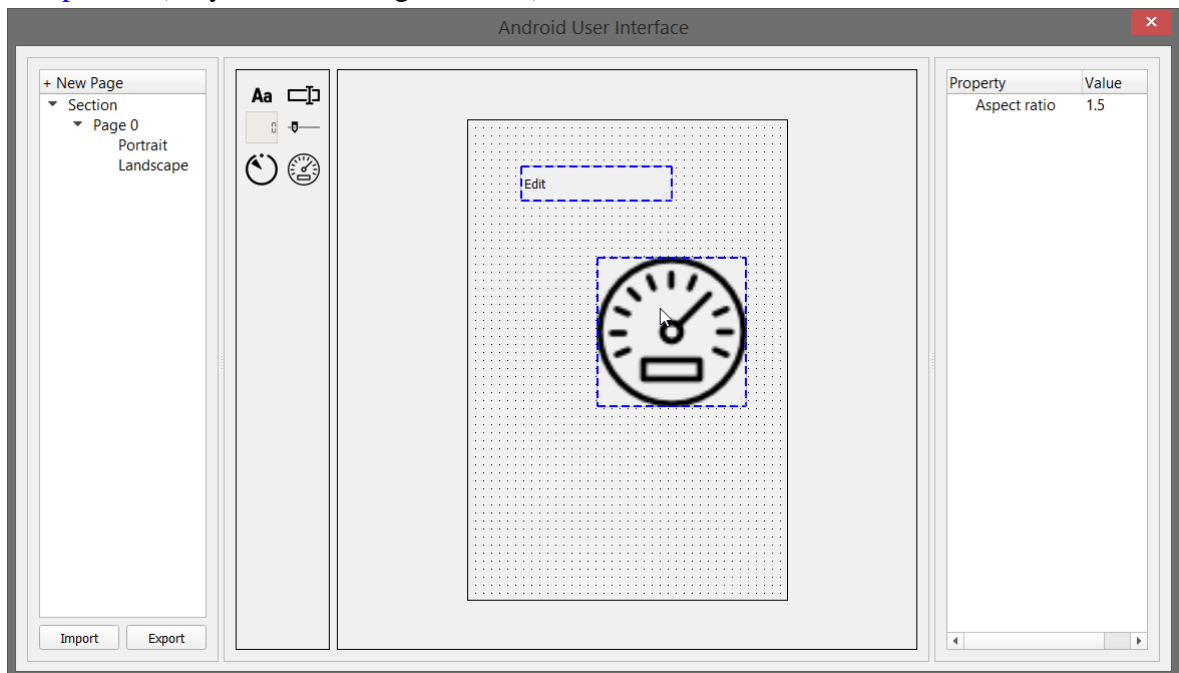


Figure 25-Moves control

- b) To resize a control, select it hold the mouse on the bottom right corner of a control. Move the mouse to resize control. Another way is change its value (Width, Height) on property tree in [Fourth component](#). Note: Resize feature only allow for single control.

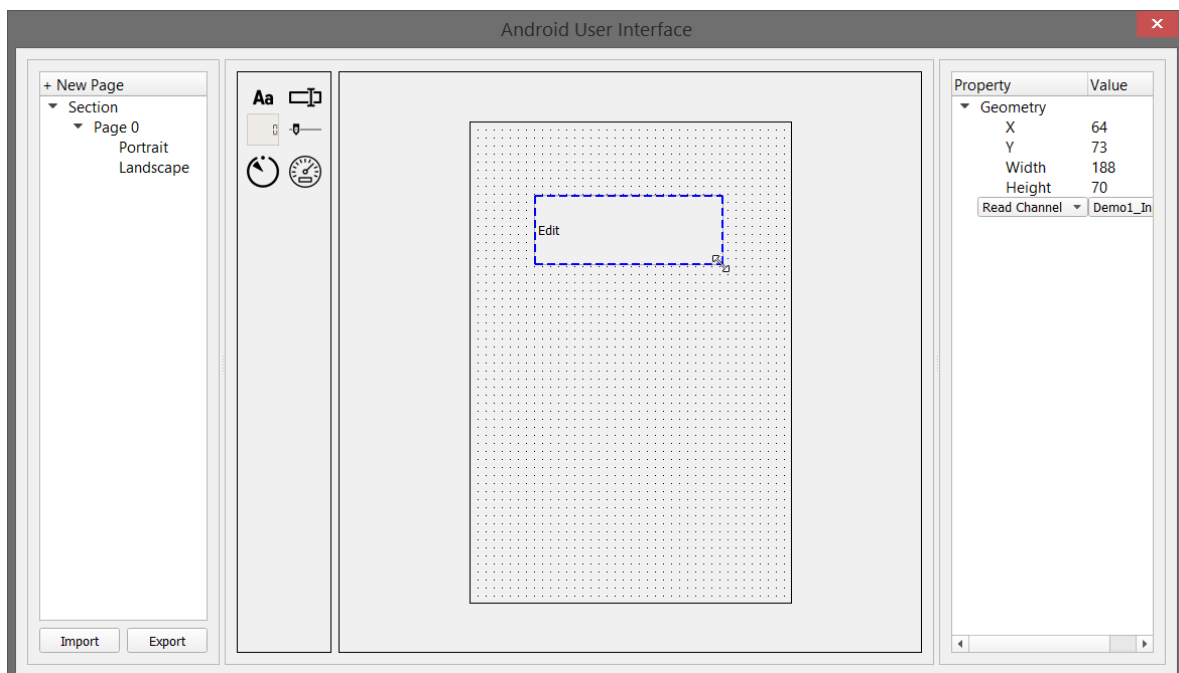


Figure 26-Resize controls

- c) To delete controls, select them, right mouse click and choose “Delete” or press “Delete (Del)” on keyboard.

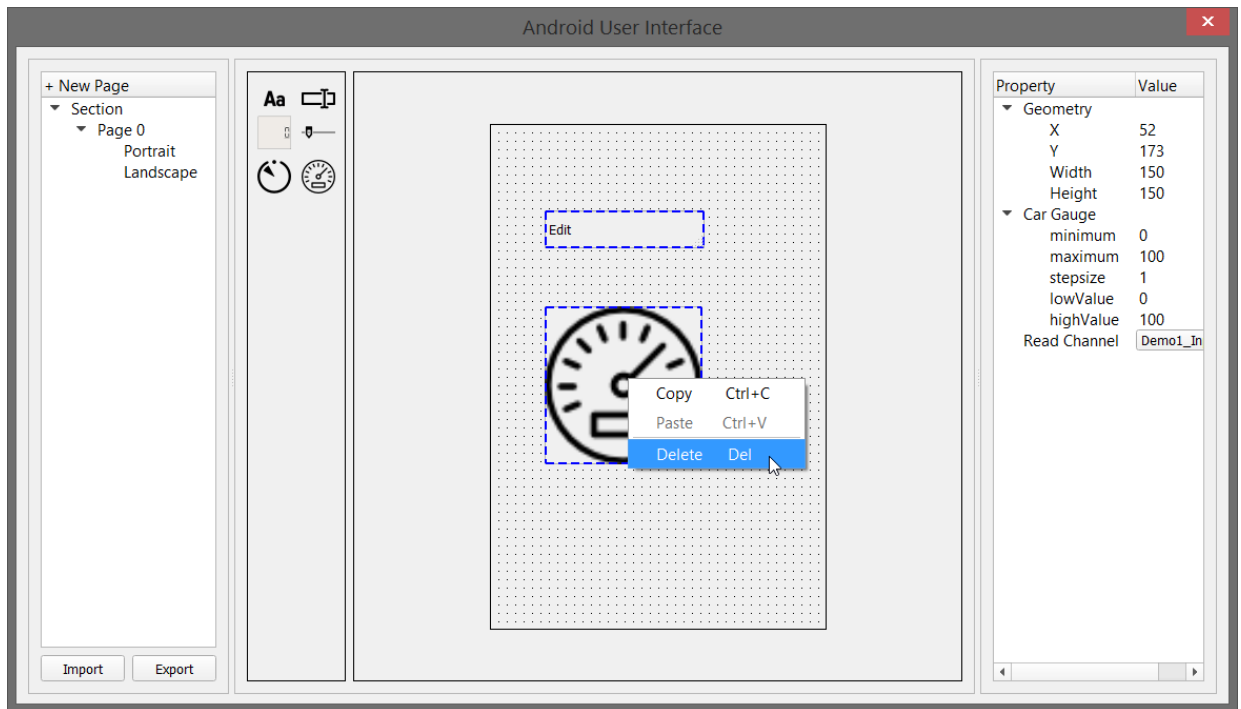


Figure 27-Delete controls

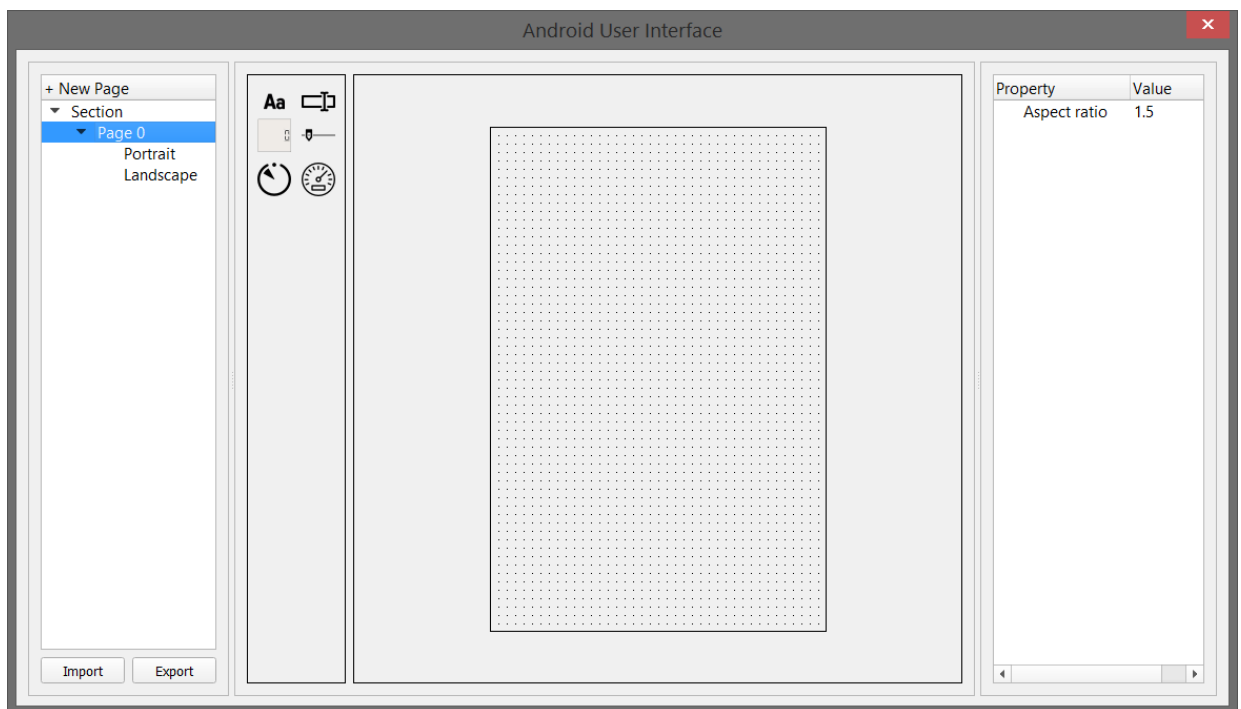


Figure 28-Controls were deleted

- d) To copy controls, select them, right mouse click and choose “Copy” or press “Ctrl + C” on keyboard. Then right mouse click at position you want and select “Paste” or press “Ctrl + V” on keyboard.

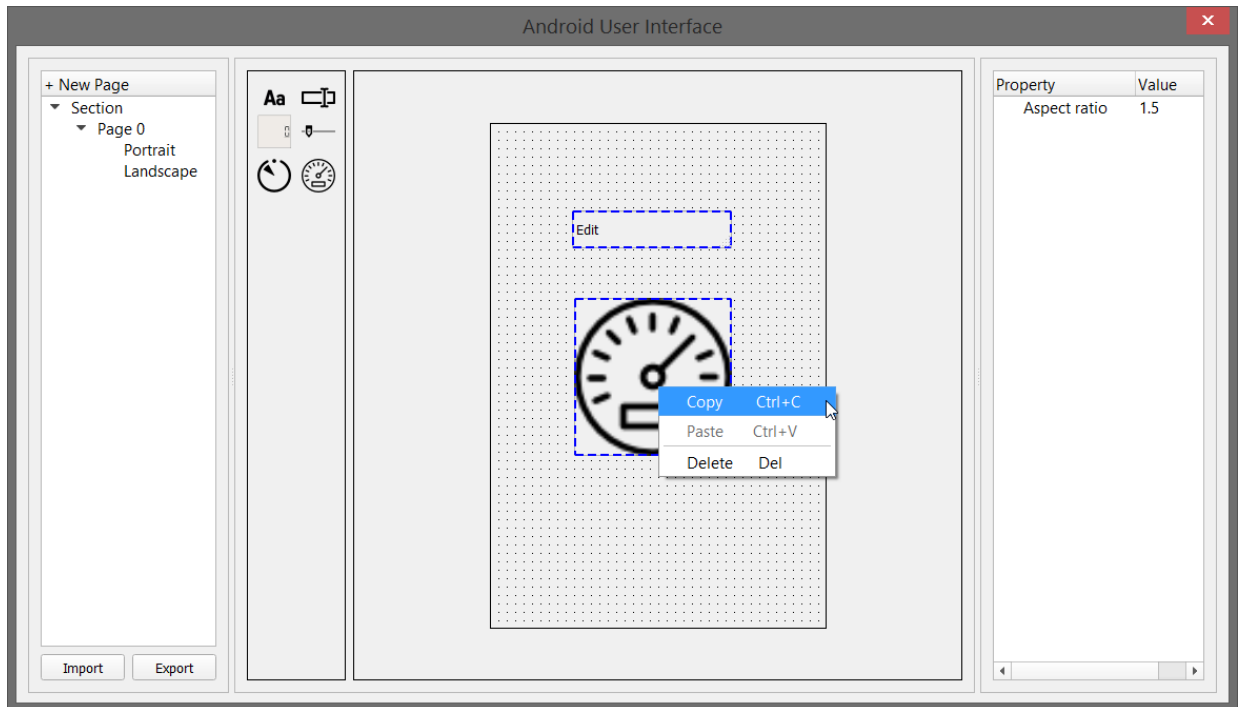


Figure 29-Copy controls

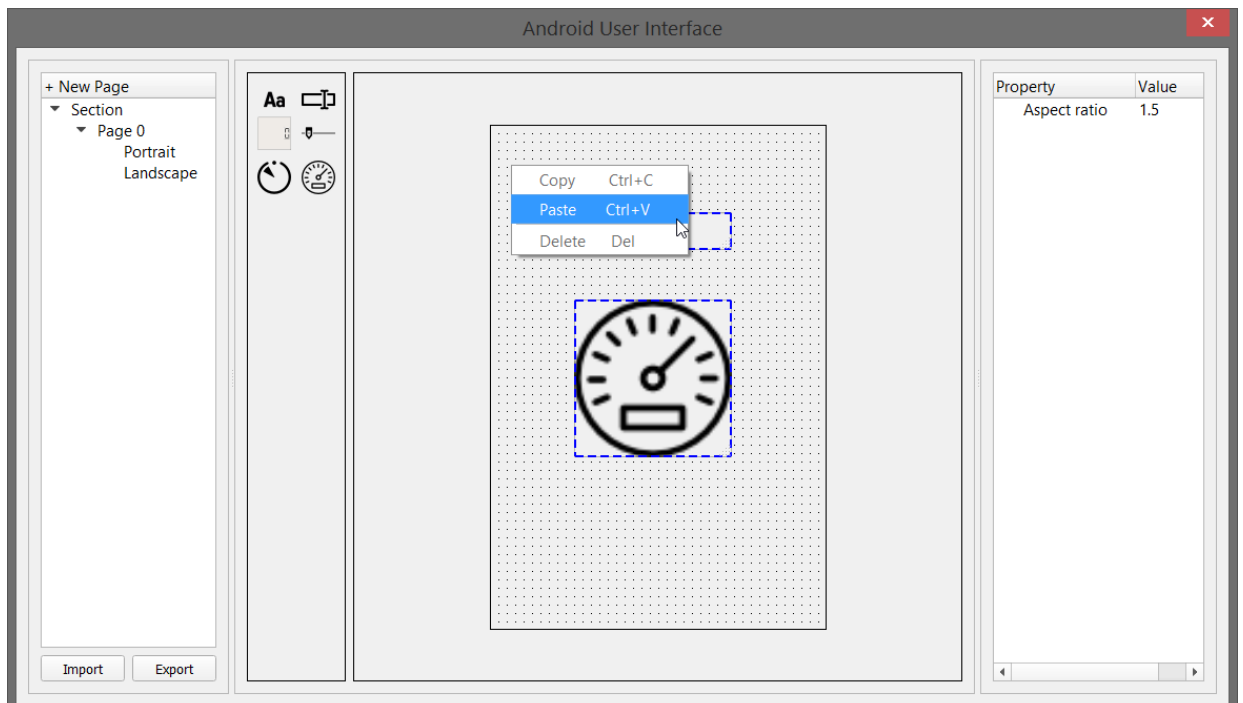


Figure 30-Paste controls

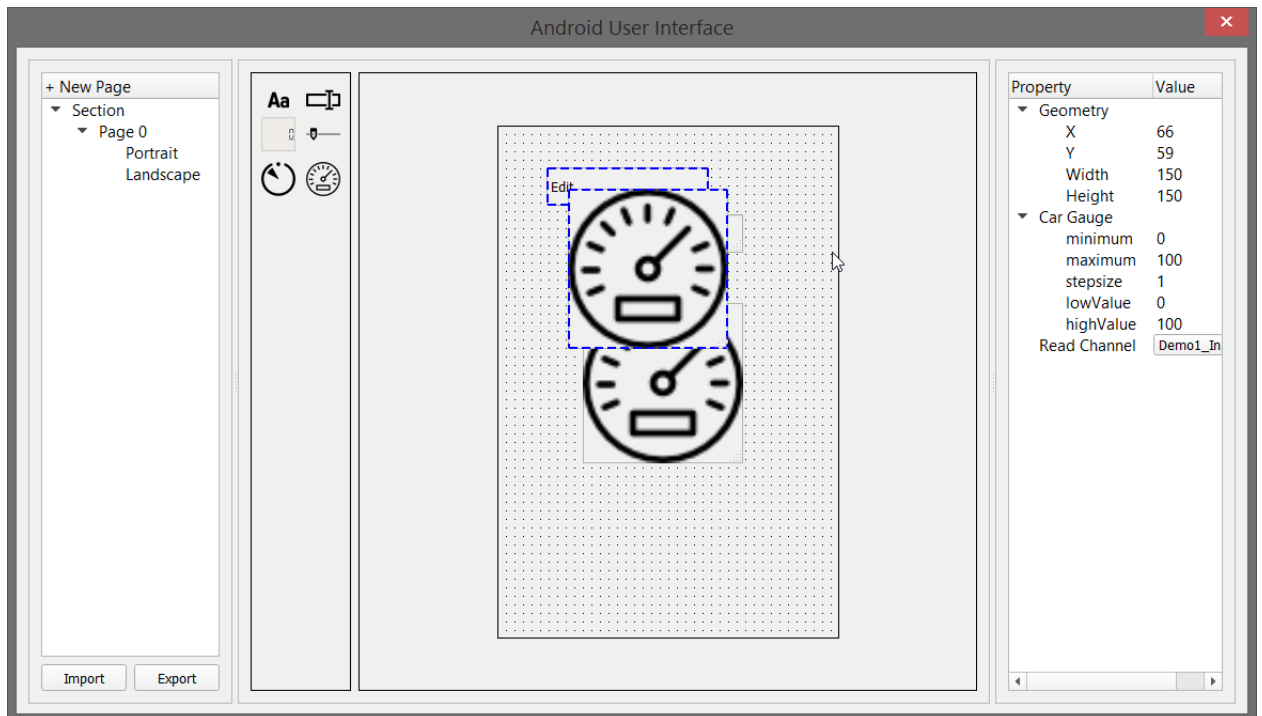


Figure 31-Paste controls

- ❖ **Note:** After pasting, new controls will be auto selected. Paste feature only available if “Copy” command were excuted.

4.2.4 Fourth component

A tree list contains all properties of a control. Click on a property to edit its value can effect directly to controls.

- a) To edit a control's properties, click on that control to show its property tree list. This property tree represent all attribute were described in [5.1.4 Table Controls](#). Click on any property on that tree to start edit. Press "Enter" to finish.

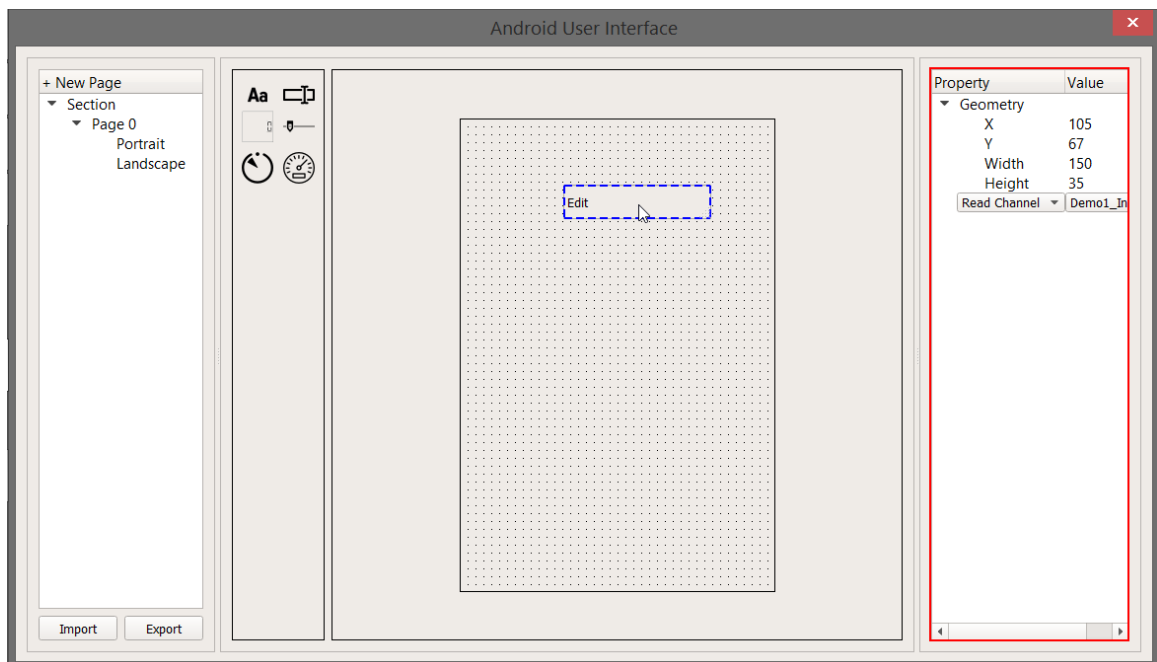


Figure 32-Control's property tree

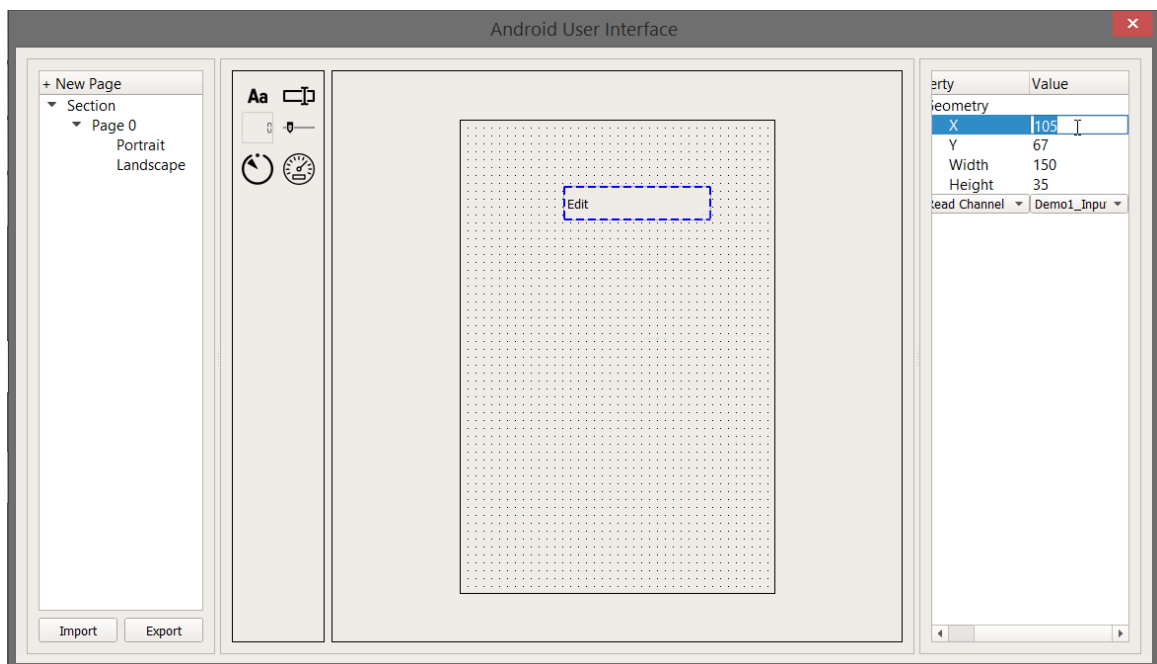


Figure 33-Edit a property

4.3 Export to XML file

- a) Drag some controls to design region, then edit those control's property as you want. For example:

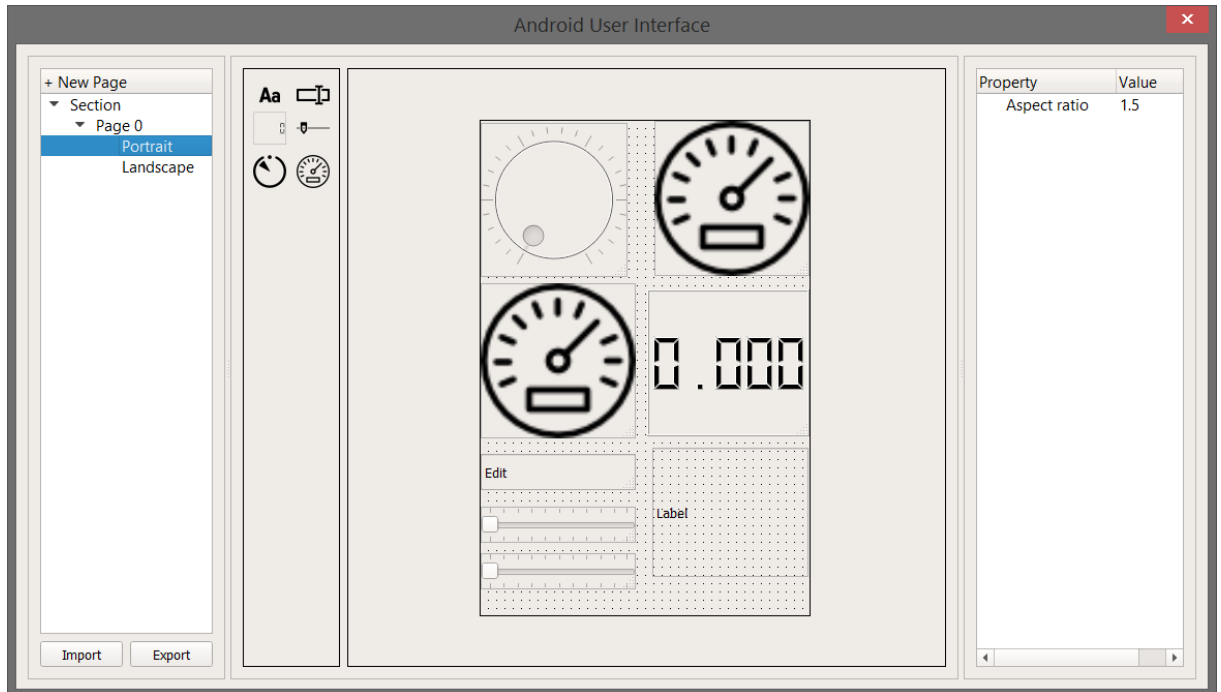


Figure 34-Design Android GUI (Portrait)

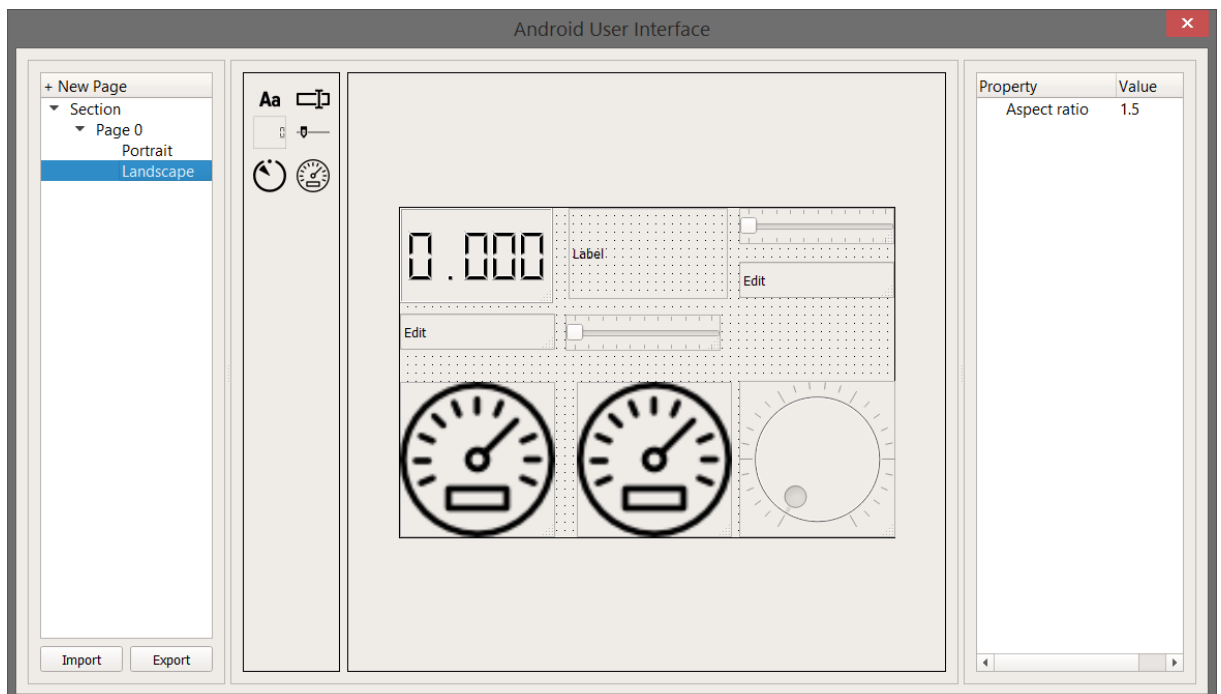


Figure 35-Design Android GUI (Landscape)

b) Click on “Export” button. A browser will show up.

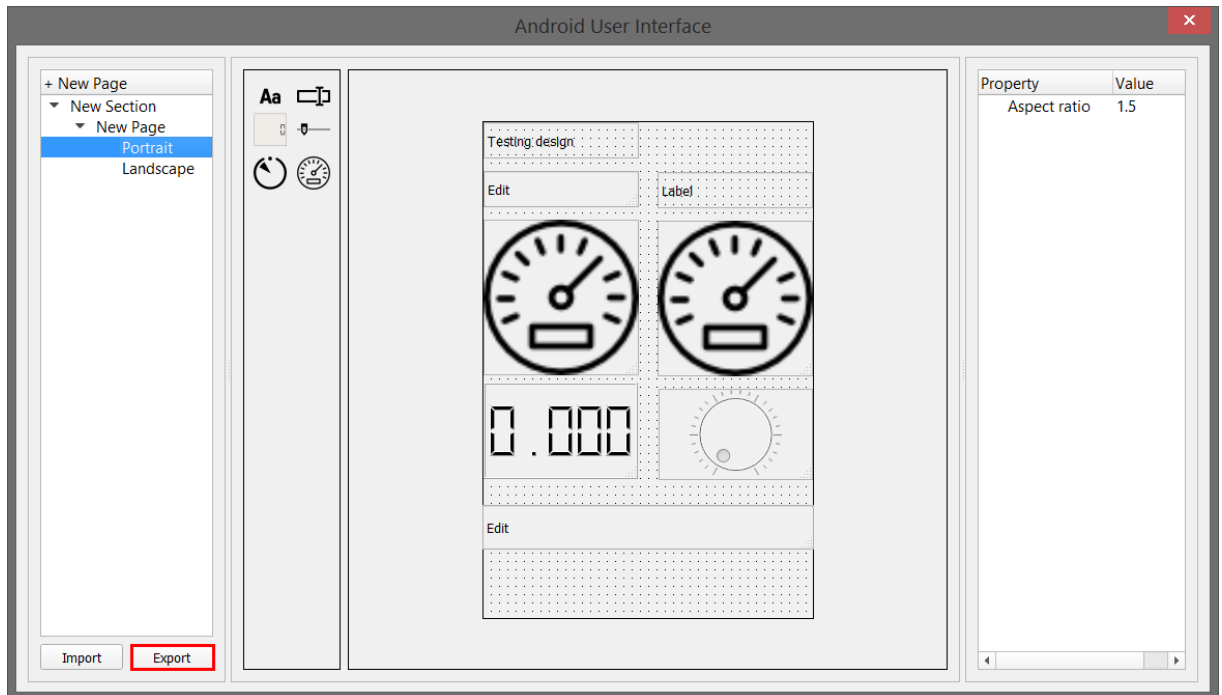


Figure 36-Click “Export” button

f) A small dialog will show up for choosing an export mode. Export mode will decide which xml will be made. To be more specific, there are three modes:

- Portrait: File TopXml_“ModelID”.xml will contain information of all portrait pages and only files “ModelID”_“Page”_p.xml for portrait pages will be created.
- Landscape: File TopXml_“ModelID”.xml will contain information of all landscape pages and only files “ModelID”_“Page”_l.xml for landscape pages will be created.
- Portrait and Landscape: File TopXml_“ModelID”.xml will contain information of all portrait and landscape pages and both files “ModelID”_“Page”_p.xml for portrait pages and files “ModelID”_“Page”_l.xml for landscape pages will be created.

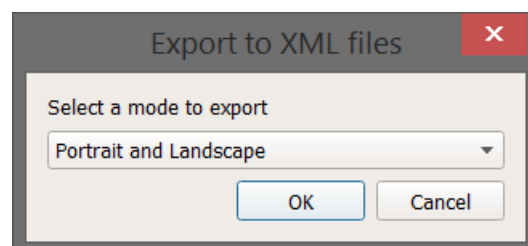


Figure 37-Export mode

- c) Choose the path to save the export folder, then press “Select Folder”.

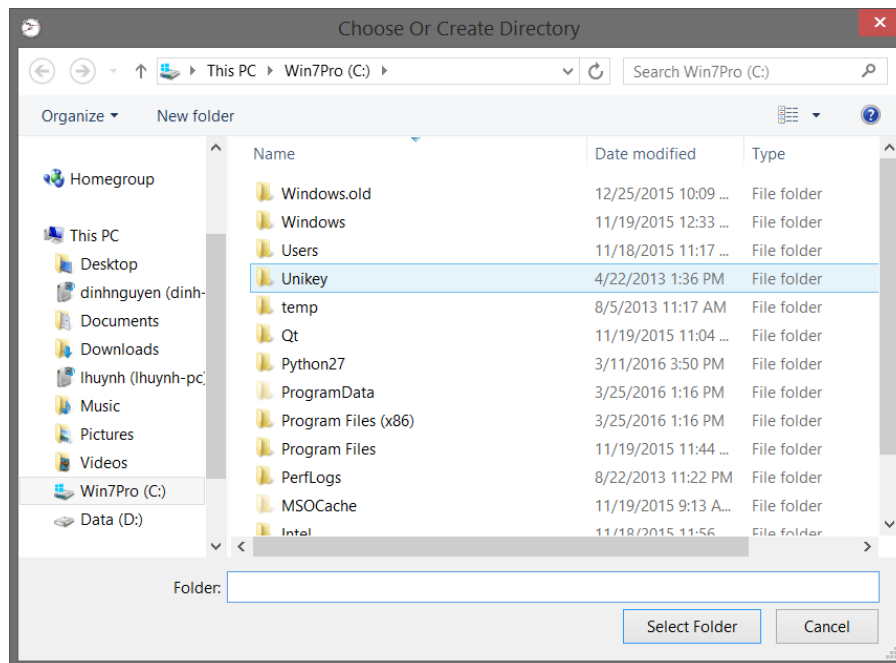


Figure 38-Browser

- d) A message will show up to inform that XML files was exported successfully.

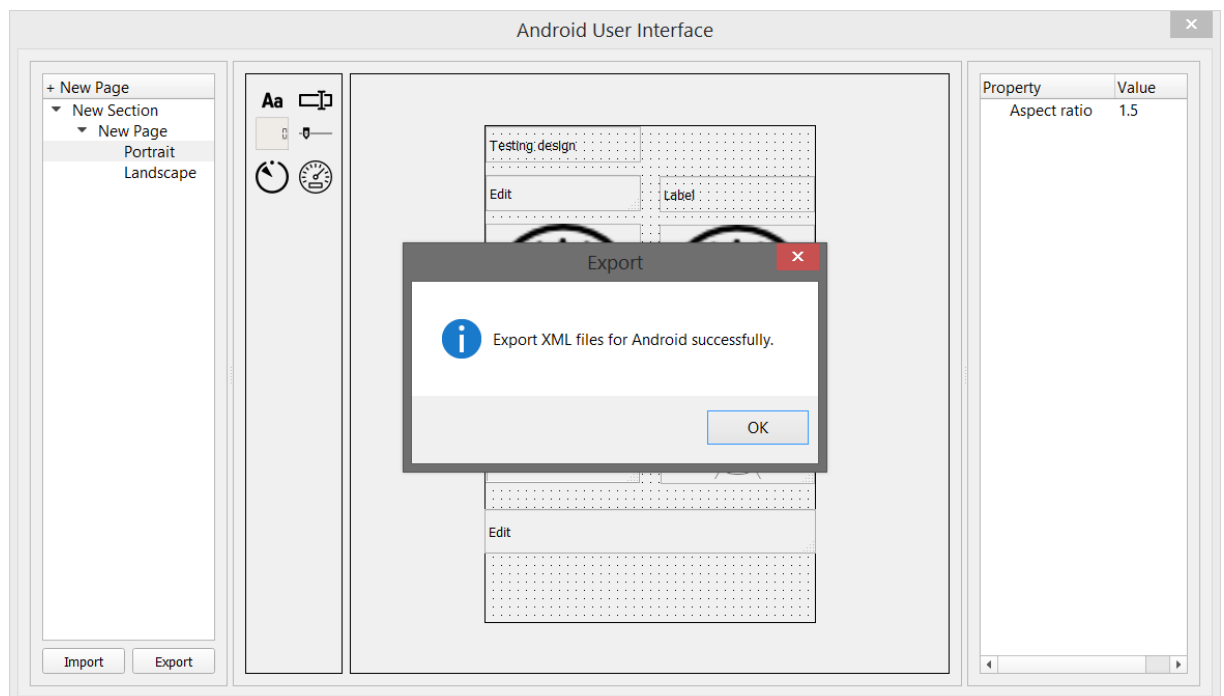


Figure 39-Export successfully

- ❖ **Note:** If the folder existed, it would inform a message to confirm your replacement. If you accept to replace that folder, all old XML files in that folder will be deleted and replaced by new ones.

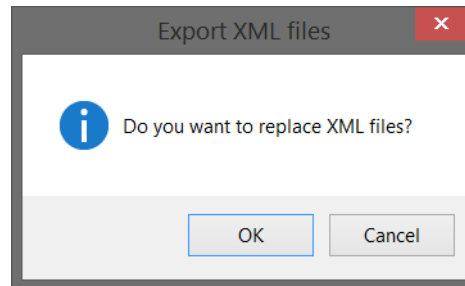


Figure 40-Confirm replacement

- e) Browse to folder just exported and open it. This folder contains XML files for your design.

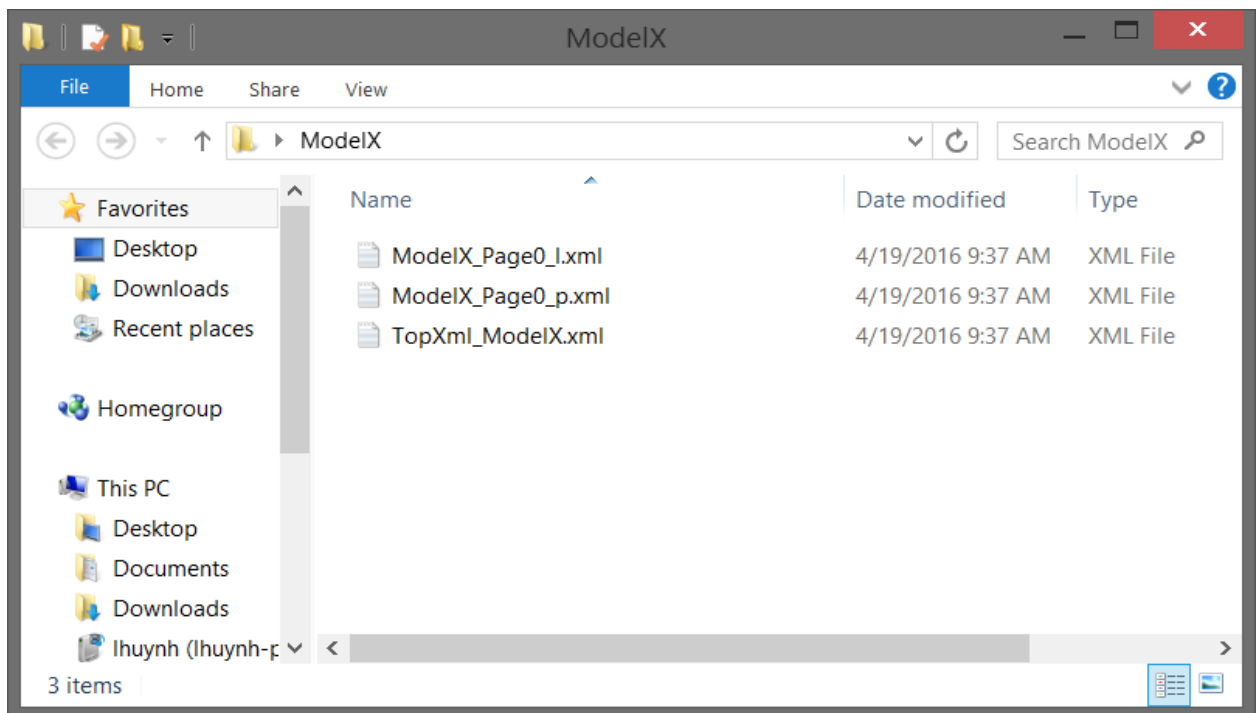
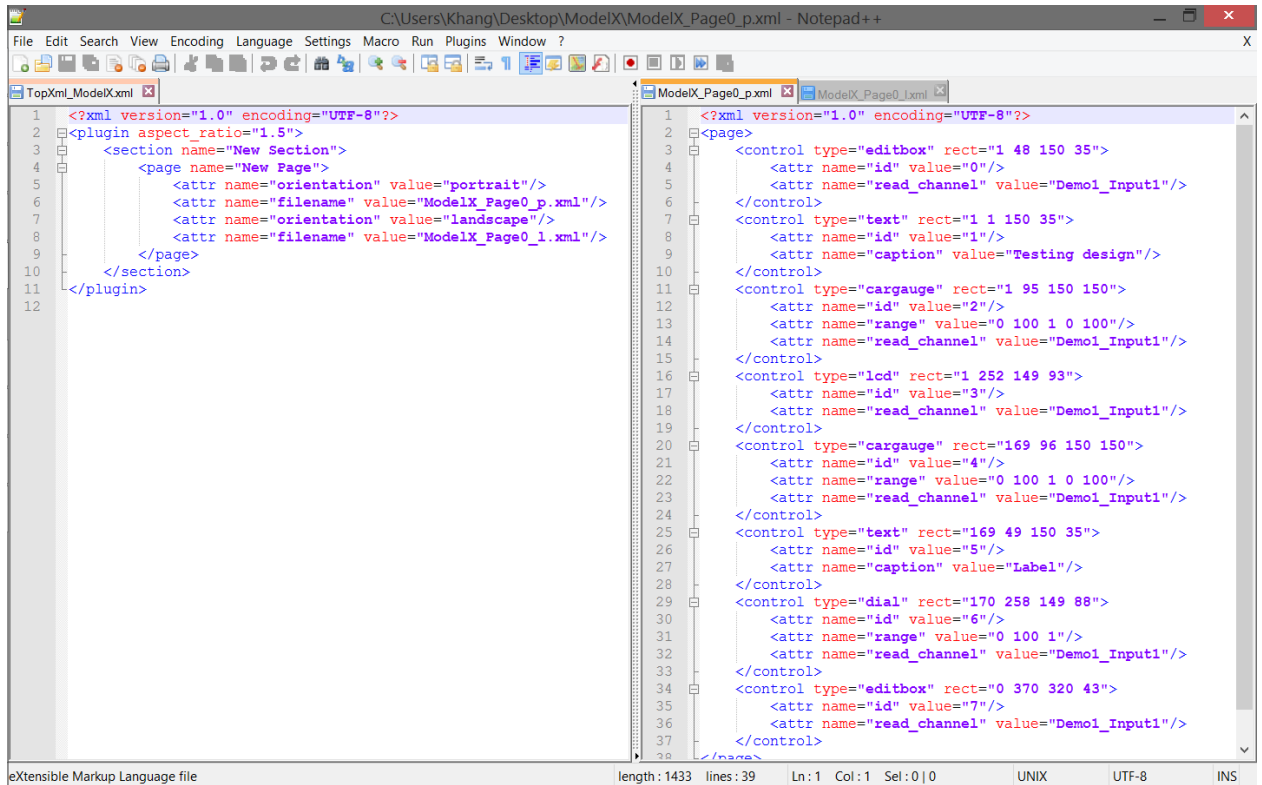


Figure 41-Export folder

f) Open those XML and check your design.



```

1 <?xml version="1.0" encoding="UTF-8"?>
2 <plugin aspect_ratio="1.5">
3   <section name="New Section">
4     <page name="New Page">
5       <attr name="orientation" value="portrait"/>
6       <attr name="filename" value="ModelX_Page0_p.xml"/>
7       <attr name="orientation" value="landscape"/>
8       <attr name="filename" value="ModelX_Page0_1.xml"/>
9     </page>
10   </section>
11 </plugin>
12
1 <?xml version="1.0" encoding="UTF-8"?>
2 <page>
3   <control type="editbox" rect="1 48 150 35">
4     <attr name="id" value="0"/>
5     <attr name="read_channel" value="Demo1_Input1"/>
6   </control>
7   <control type="text" rect="1 1 150 35">
8     <attr name="id" value="1"/>
9     <attr name="caption" value="Testing design"/>
10  </control>
11  <control type="corgauge" rect="1 95 150 150">
12    <attr name="id" value="2"/>
13    <attr name="range" value="0 100 1 0 100"/>
14    <attr name="read_channel" value="Demo1_Input1"/>
15  </control>
16  <control type="lcd" rect="1 252 149 93">
17    <attr name="id" value="3"/>
18    <attr name="read_channel" value="Demo1_Input1"/>
19  </control>
20  <control type="corgauge" rect="169 96 150 150">
21    <attr name="id" value="4"/>
22    <attr name="range" value="0 100 1 0 100"/>
23    <attr name="read_channel" value="Demo1_Input1"/>
24  </control>
25  <control type="text" rect="169 49 150 35">
26    <attr name="id" value="5"/>
27    <attr name="caption" value="Label"/>
28  </control>
29  <control type="dial" rect="170 258 149 88">
30    <attr name="id" value="6"/>
31    <attr name="range" value="0 100 1"/>
32    <attr name="read_channel" value="Demo1_Input1"/>
33  </control>
34  <control type="editbox" rect="0 370 320 43">
35    <attr name="id" value="7"/>
36    <attr name="read_channel" value="Demo1_Input1"/>
37  </control>
38 </page>

```

Figure 42-XML files

4.4 Import XML file

- a) Launch design Android GUI feature (refer to [8.1 Launch design Android GUI feature](#)).

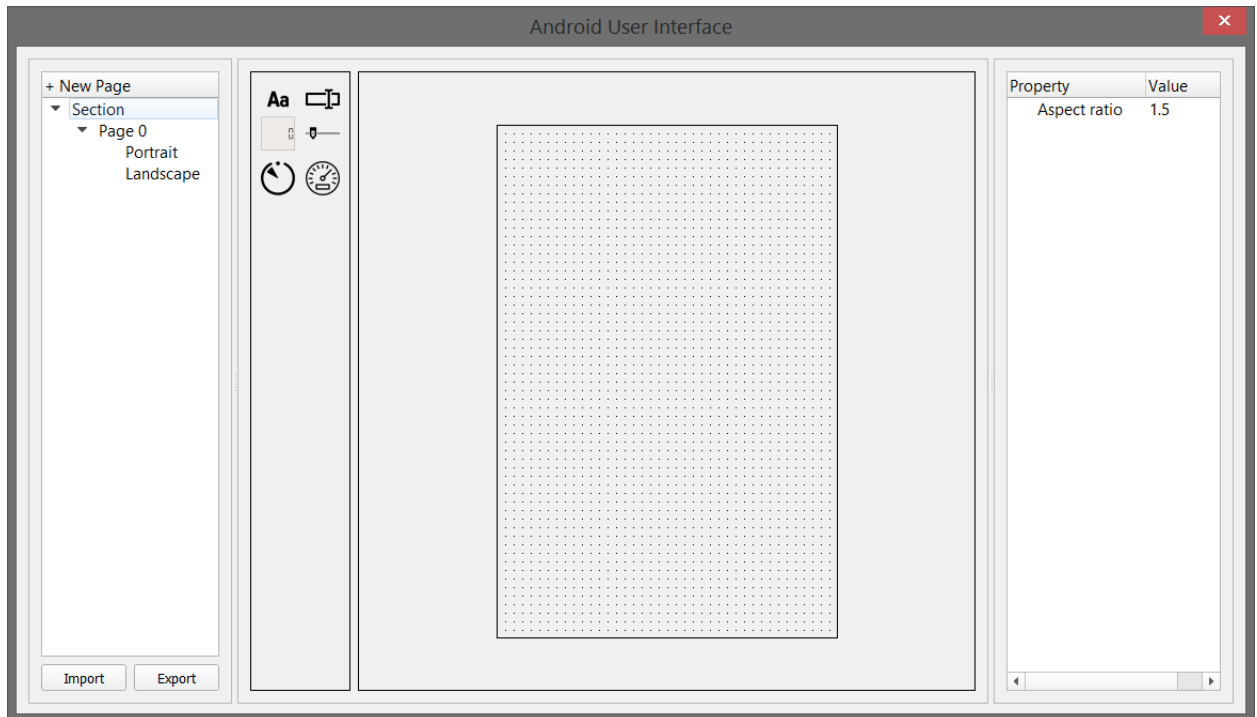


Figure 43-Aspect ratio 1.5

- b) Click on “Import” button. A browser will show up.

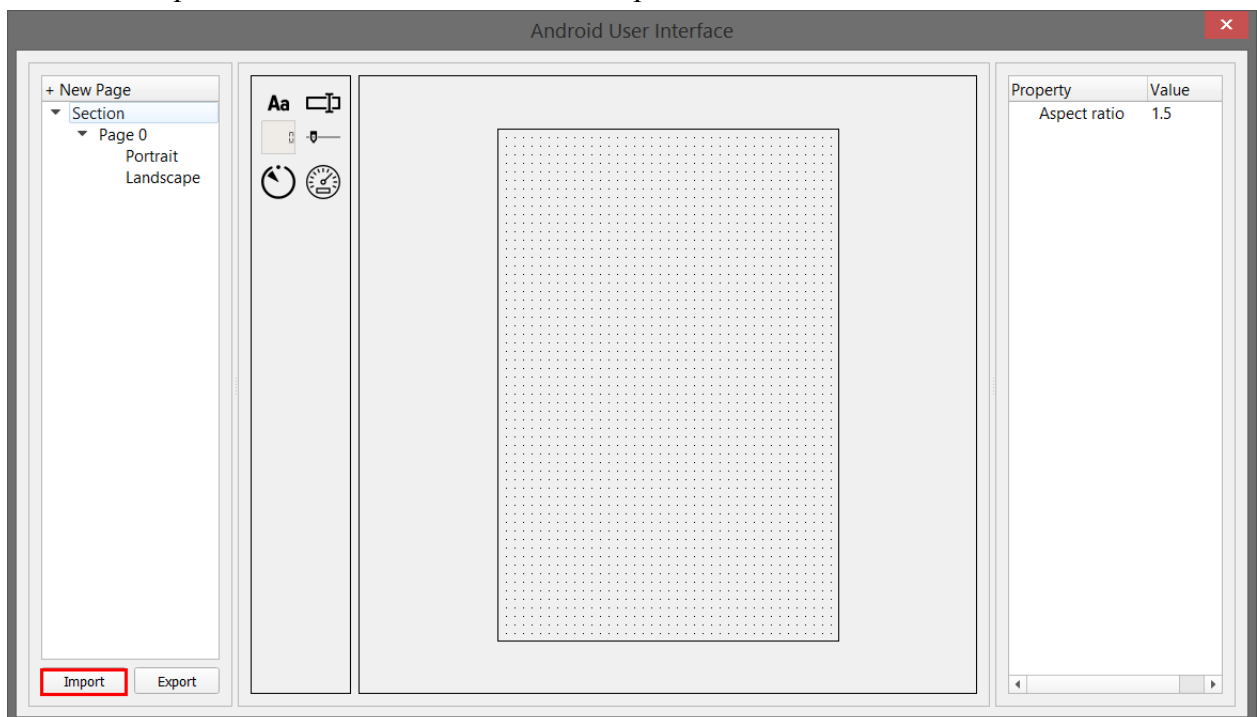


Figure 44-Click “Import” button

- g) Choose the path where you saved the export folder, then press “Select Folder”.

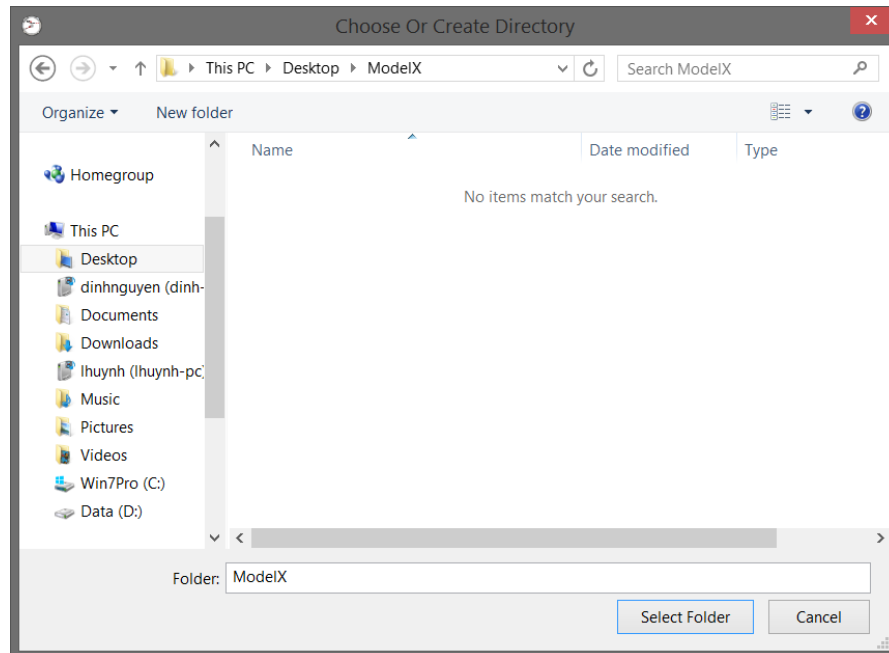


Figure 45-Browser

- h) It will load those XML files and display what you designed lately.

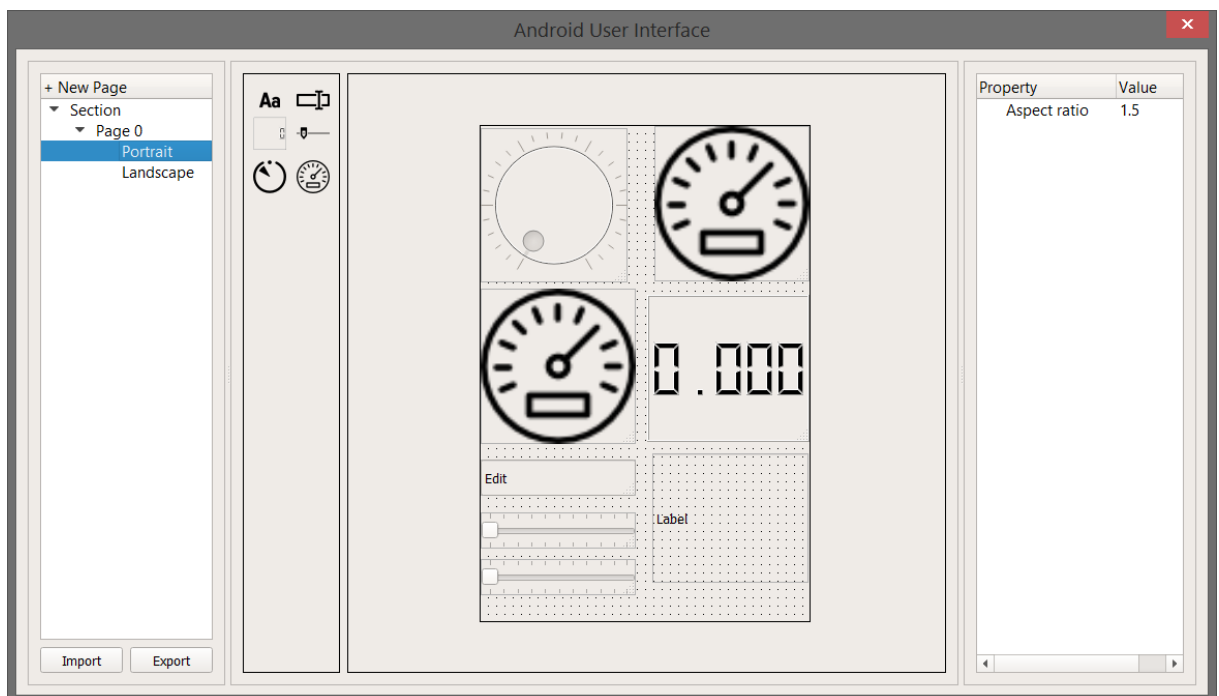


Figure 46-After import

- ❖ **Note:** When you import XML files, it does not matter what aspect ratio you opened. It will return the aspect ratio that you designed in those XML files. For example: If you are in aspect ratio “1.5” and open a design in aspect ratio “1.777”, the plugin will be in aspect ratio “1.777” and vice versa.

5. How to build source code of the Plugin

When you want to change code and rebuild the .dll file for the Plugin, you refer the “*How to build the Plugin.doc*” file.

6. How to create the installer for the Plugin

When you want to create new an installer for the Plugin after you update .xml/Python code/plugin dll, you refer the “*How to create installer.doc*” file.

REVISION HISTORY

DockablePluginPythonQt_Setup_Manual

Rev.	Date	Description	
		Page	Summary
1.00	May 05, 2015		Create new document

Plugin DLL for EL Console