

CMPS 312 Mobile Application Development

LAB 3: ANDROID RESOURCES

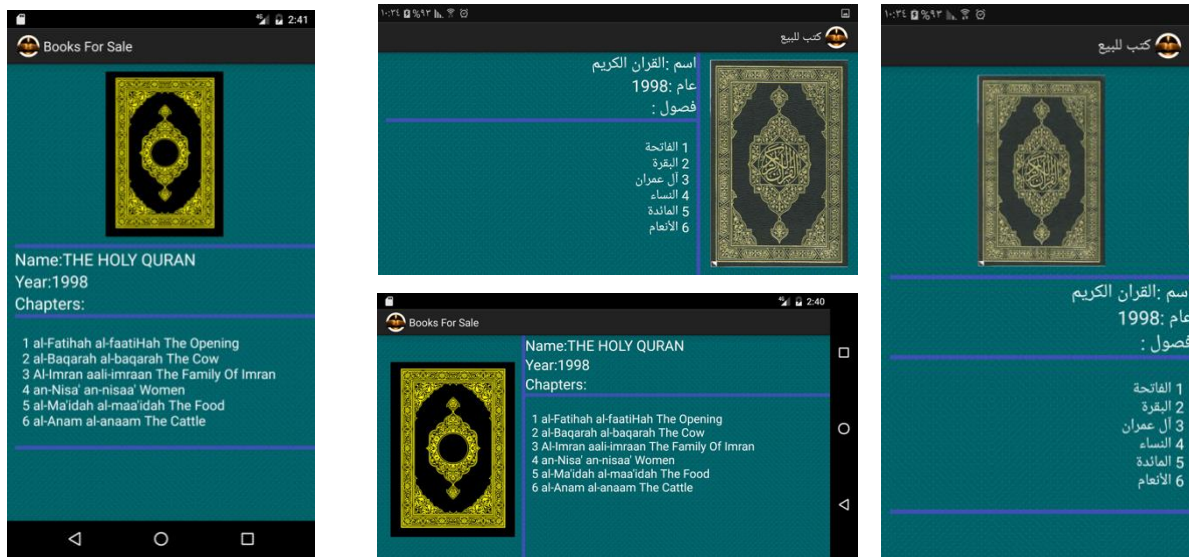
OBJECTIVE

Familiarize yourself with the Android Resources. Android Resources are the additional files and static content that your code uses, such as bitmaps, layout definitions, user interface strings, animation instructions, and more. In this lab, you will learn how to:

1. declare and access resources items from (anim, color, drawable, layout, menu, raw and values) directories
2. handle multiple screen orientations
3. localize your application in terms of language
4. declare a string and string-array resources
5. use the drawable folder to create background tiles, vectors and images
6. create application icons and menu icons
7. change application theme
8. create toolbars, menu bars and much more

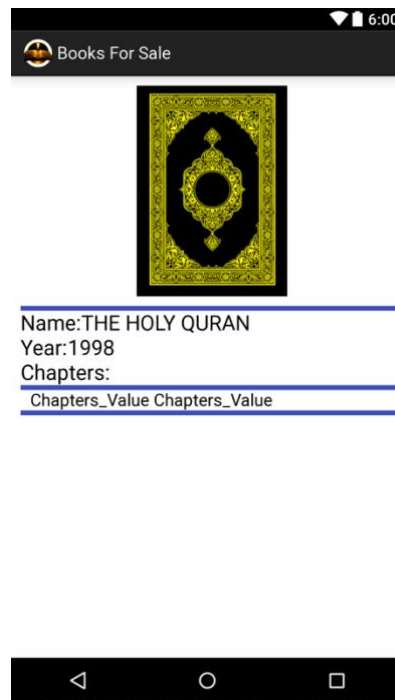
OVERVIEW

In the lab, we will be creating the following application which will demonstrate all of the above concepts.



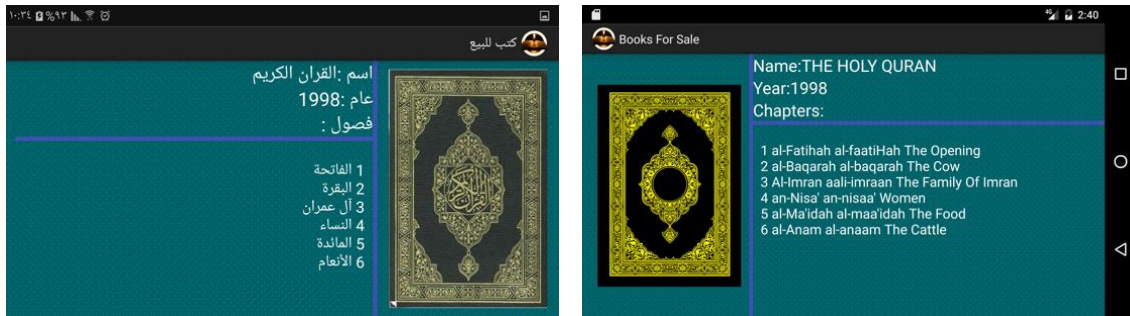
RESOURCES APP DEMO APPLICATION

1. Download the Assets folder in Blackboard and put it somewhere you can locate on your computer. We will be using this folder to accomplish the application shown above.
2. Create an application with a name “**ResourcesDemo**” and package name: “**qa.edu.qu.cmps312.resourcesdemo**”
3. **Create application icons**
 - a. Use the “**launcher_icon.png**” from the **Assets folder** you downloaded
 - b. Modify the look of the launcher icon using the **Trim, Padding**, background, Scaling, Shape, and Effect
4. Replace your “**activity_main**” layout file code with the **activity_main** that you downloaded from blackboard
5. Add the Quran image to your drawbles and reference it in your layout. The final look of the activity be similar to the image shown below



6. Extract all the hard-coded string values and put them on the **values/strings.xml**
7. Create the Surah chapters inside your strings.xml file. Also, make sure the chapters are saved as an **XML array element inside your strings**. Name the array element “**chapters_array**.”
8. Extract all dimensional values of your app and put them inside the **values/dimens.xml** .
Some of the dimensions you need to add are
 - a. [image width and height]
 - b. Text sizes and so on

9. In your **MainActivity** load the chapters Array content from the **strings.xml** resources file into the chapters' text view.
10. Provide an Arabic translation for the application. Also, make sure you have one generic Arabic language translation and one for the Qatari Arabic Translation.
11. Provide alternative **drawables** for the Arabic language. Show the Arabic Quran Cover when the language is Arabic. And English Cover when the system language is set to anything else.



12. Provide alternative layout orientation changes to the landscape. See the application image shown at the beginning.
 - a. After you create the landscape XML file, then get the code from the **Asset folder** that you downloaded from blackboard and search for the "activity_main.xml". Copy the entire layouts XML code.
 - b. Paste the code inside the “**activity_main.xml (land)**” file inside your application.
13. Change the application background using tiles [Both landscape and portrait]
 - a. You can download tile background from the following site [<http://bgrepeat.com/>]



14. Change the “text color” of the TextViews to get better contrast of the foreground text and the background texture
 - a. **Make sure all the colors are saved under the Values/color.xml** file and not hard coded
 - b. Add a new color that contrasts the background you selected.
For example, if the background you downloaded is **light color/white** then create a **black color**. However, if the background texture that you downloaded is **dark**. Then create a white color. Sample code is shown below.
15. Change the style of the entire application
16. Create your own Toolbar and remove the default in action bar
17. Create menu options. The menu should have two items named **Open** and **Close**. Toast a message depending on the menu item that is clicked.
18. Add two sub menu items to the **Open menu item** and name them Activity **One** and **Two**.