# *Programming V (420-B51-HR)*

# *Lab 6 – Views*

Date assigned: Wednesday, October 11, 2017

Date due: **Wednesday, October 18, 2017, 11:55 p.m.**

**Learning Objectives**

Upon successful completion of this lab exercise, the student will have:

* Create activities using different types of views

Lab Setup

1. Get a Nexus device and connecting cable.
2. Create a new project use the URI ca.username.L06 where username is your name.
3. Call the project username\_B51\_L06. That is the name of the ZIP file to include.
4. Use an appropriate graphic icon for your project.

To do:

The purpose of this lab is to build an Android app that has five activities: the main activity, one to browse the web, one to play music, one to list band album names and an About activity.

**Main Activity**

Create a Main Activity that extends ListActivity to create a ListView with four choices:

* **Browse Internet**
* **Play Music**
* **Other Songs**
* **About**

**Notes:**

* You **must** use a custom XML file for your ListView to change the text size and colour.
* This lab does not have to handle screen rotation so you should lock the app in Portrait mode to avoid any rotation issues.

**Browse Internet Activity**

The browse activity uses Intents to open web pages in the default Android browser. Your activity should be set up as follows:

1. A banner at the top of the page that links to college’s web site. (Use an ImageButton)
2. A spin control that contains a list of 10 popular websites of your choice. (PG13 please!)
   * This spin control **must** use a custom XML file to change the text size and colour.
3. An EditText that allows the user to enter the name of a web site to link to. Note the user should not need to type the **http://www** part of the site name.

To start a browser create a new intent and set the action to Intent.ACTION\_VIEW. Then set the data to the parsed URI of the string containing the website. Remember that the URI must be complete with **http://www** in order to work.

**Play Music Activity**

The play music activity plays one of 4 songs selected by the user. You can use the songs and associated images on the S: drive in the B51 folder (S:\Computer Sciences\3rdYear\420-B51) or you can use your own. Note if you use your own songs, you must find or create images to be used as indicated below.

1. The user is presented with the song images in the top half of the screen. The user clicks on an image to start playing the song.
2. When a song is chosen, that song is played using the media player and will be displayed in the bottom half of the screen. The band and song name must be displayed as a TextView above the Media Player. For example: Coldplay – Vida La Vida
3. You must ensure that only one song is being played at a time. If the user selects another song from the gallery while one is playing, stop the one playing and start playing the newly selected one. To do this check if the media player (mpSong in the example below) is playing (not null) and release it if it is (this is not in the example below), then start the new song.
4. You will need to create a raw folder under the res folder to store the mp3 files. Right-click on the res folder and add a resource directory called raw of type raw and copy the mp3 files to it. As usual, the images go in res/drawable.
5. Use the onPause callback to stop the music that is being played and the onResume callback to restart the music.

**Other Songs Activity**

This activity should contain 5 other songs for each band that when clicked will bring you to a YouTube video of that song. You can use the song list at the end of this lab to make this easier.

This should be in a GridView with 1 or more columns on the page. The page will be as long as necessary to show all the songs. Use padding to create space both horizontally and vertically between the song titles.

You must use a custom XML page to change the size and appearance of the text.

The songs should be listed in the format as such:

Coldplay – Vida La Vida

**About Activity**

In this activity put your name, the course name, lab number, date and a short description of the program.

**Guidelines**

* Choose appropriate text sizes and colours to make the program look good.
* View arrays (URLs and song names) must be in a string-array in the res folder
* Find or create a unique icon for your program.
* Include Android lifecycle code so that your song/page pauses when your activity loses focus and resumes when your activity gains focus again.
* You should stop the song/browser when your application is closed.

To submit:

Zip the project created and hand it in. If it is too big, you can delete the build files before you zip it. If you do this, make sure it rebuilds correctly before removing the build files a second time and then zipping the remaining files. If it is still too big or if you do not want to experiment with removing the build files, you can wait and give it to me on my USB key in class.

Code that may help

To play a song (Note that the code to release the song is not shown)

// Read songs into an array. They are stored in the res/raw folder

Integer[] Songs = {R.raw.*song1*, R.raw.*song2,* R.raw.*song3,* R.raw.*song4* };

MediaPlayer mpSong = **new** MediaPlayer();

// Load the first song into the MediaPlayer

mpSong = MediaPlayer.*create*(**this**, Songs[0]);

mpSong.start();

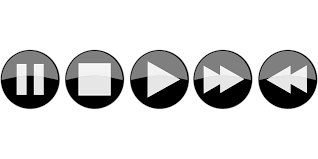
To display a web page

Intent myIntent = new Intent();  
myIntent.setAction(Intent.ACTION\_VIEW);  
myIntent.setData(android.net. Uri.parse(website\_string));

-- or --

Intent myIntent = new Intent(Intent.ACTION\_VIEW, Uri.parse(website\_string));

Media Controls you can crop and use in your app



<string-array name="SongList">

<item>Coldplay - Hymn for the Weekend</item>

<item>Coldplay - Something Just Like This</item>

<item>Coldplay - Paradise</item>

<item>Coldplay - Clocks</item>

<item>Coldplay - Yellow</item>

<item>Imagine Dragons - Radioactive</item>

<item>Imagine Dragons - Thunder</item>

<item>Imagine Dragons - Believer</item>

<item>Imagine Dragons – It\'s Time</item>

<item>Imagine Dragons - On Top of the World</item>

<item>Big Sugar - Sugar In My Coffee</item>

<item>Big Sugar - All Over Now</item>

<item>Big Sugar - Ride On</item>

<item>Big Sugar - Je Suis Cool</item>

<item>Big Sugar - Red Rover</item>

<item>Simon and Garfunkel - Mrs. Robinson</item>

<item>Simon and Garfunkel - El Condor Pasa</item>

<item>Simon and Garfunkel - Baby Driver</item>

<item>Simon and Garfunkel - Cecilia</item>

<item>Simon and Garfunkel - I Am A Rock</item>

</string-array>

<string-array name="SongSites">

<item>https://www.youtube.com/watch?v=YykjpeuMNEk&index=1&list=RDEMuf6htoZivPnz-ZIwGU0dDA</item>

<item>https://www.youtube.com/watch?v=FM7MFYoylVs&index=2&list=RDEMuf6htoZivPnz-ZIwGU0dDA</item>

<item>https://www.youtube.com/watch?v=1G4isv\_Fylg&index=3&list=RDEMuf6htoZivPnz-ZIwGU0dDA</item>

<item>https://www.youtube.com/watch?v=d020hcWA\_Wg&index=11&list=RDEMuf6htoZivPnz-ZIwGU0dDA</item>

<item>https://www.youtube.com/watch?v=yKNxeF4KMsY&index=8&list=RDQtb11P1FWnc</item>

<item>https://www.youtube.com/watch?v=ktvTqknDobU&list=RDEMzMxPuaGyofN40xcgHuZAbw</item>

<item>https://www.youtube.com/watch?v=fKopy74weus&list=RDEMzMxPuaGyofN40xcgHuZAbw&index=2</item>

<item>https://www.youtube.com/watch?v=7wtfhZwyrcc&index=3&list=RDEMzMxPuaGyofN40xcgHuZAbw</item>

<item>https://www.youtube.com/watch?v=sENM2wA\_FTg&list=RDEMzMxPuaGyofN40xcgHuZAbw&index=5</item>

<item>https://www.youtube.com/watch?v=w5tWYmIOWGk&list=RDEMzMxPuaGyofN40xcgHuZAbw&index=7</item>

<item>https://www.youtube.com/watch?v=RXsWz8\_jaS0&index=16&list=PLB6593C487B24A322</item>

<item>https://www.youtube.com/watch?v=2D8MqUs6gaQ&list=PLB6593C487B24A322&index=15</item>

<item>https://www.youtube.com/watch?v=pCMKM6pL6Mk&index=21&list=PLB6593C487B24A322</item>

<item>https://www.youtube.com/watch?v=IxFeo-Lp1bk&index=36&list=PLB6593C487B24A322</item>

<item>https://www.youtube.com/watch?v=FkK9FWb\_RDM&index=15&list=PLns8MJk\_pNar84gEmDn3p-G7cOD1BsQKo</item>

<item>https://www.youtube.com/watch?v=9C1BCAgu2I8&list=RDEMj7ObS6TgJ5zSOH9DUcVq8Q</item>

<item>https://www.youtube.com/watch?v=pey29CLID3I&list=RDEMj7ObS6TgJ5zSOH9DUcVq8Q&index=5</item>

<item>https://www.youtube.com/watch?v=J8i4Rp3qizk&index=7&list=RDEMj7ObS6TgJ5zSOH9DUcVq8Q</item>

<item>https://www.youtube.com/watch?v=a5\_QV97eYqM&index=8&list=RDEMj7ObS6TgJ5zSOH9DUcVq8Q</item>

<item>https://www.youtube.com/watch?v=JKlSVNxLB-A&list=RDEMj7ObS6TgJ5zSOH9DUcVq8Q&index=9</item>

</string-array>

**Note:** You must use the Unicode value for the “&” in the SongSites array to make it work.