**Midterm for CS 639 - Android**

**Summer 2015**

**Version 3**

**Dr. Scharff**

* **Read the complete document.**
* **Complete this document. Rename it as *LastNameFirstnameAndroidExam-S2015-v1.docx***

**and send it to Dr. Scharff by email** [**cscharff@pace.edu**](mailto:cscharff@pace.edu)**.**

* **Do not change the order of the questions.**
* **Push your code to GitHub.**
* **Send me questions by email** [**cscharff@pace.edu**](mailto:cscharff@pace.edu) **or through chat:** [**scharffc@gmail.com**](mailto:scharffc@gmail.com)

**Your name: Tianyu Wang**

1. **Practical part**

Develop an app **that converts dollars into Comorian francs**. The app will take dollars as inputs and return francs CFA as outputs. Note: 1 dollar = 439.36 Comorian francs. Comoros is a country in the Indian Ocean.

Your app will use **Fragments**.

Be creative and design a good-looking user interface!

Push your code in github with the name FirstNameLastNameMidterm.

Grading criteria:

* Code is in GitHub
* Code uses **fragments**
* Code is indented
* Apk is easily accessible
* Code uses variables with well-chosen names
* No errors and no crash
* Look-and-feel
* Names of files are respected

**URL of the code:**

https://github.com/tisage/MyCode/tree/master/Converter

**URL of the apk file:**

https://github.com/tisage/MyCode/blob/master/Converter/TianyuWangMidterm.apk

1. **Written part**
2. What is the permission that permits to make a call? Write the XML code that will be present in AndroidManifest.xml.

<uses-permission android:name=”android.permission.CALL\_PHONE”></uses-permission>

1. What is the directory where string files are located? Explain.

~AppProjectName/src/main/res/values/

String file’s name is strings.xml

Because saving strings in an external XML file can let other developers or nontechnical people manipulate the display text in the screens, menus, and pop-up dialogs without bothering developing process.

1. During an Activity lifetime, what is the first callback method of the *Activity* class invoked by the system?

onCreate()

1. In order to display a Ul defined in the XML layout file *main.xml*, what *Activity* method should be called?

setContentView(R.layout.main);

1. What *Activity* method should be called to retrieve a reference to an Android view by using the *id* attribute of an XML resource?

findViewById()

1. What does the following code achieve?

Intent intent = new Intent(FirstActivity.this, ForthActivity.class);

startActivityForResult(intent);

To launch the ForthActivity with the expectation of getting some result back to FirstActivity.

It will be used when we want to pass data from the second activity (Forthactivity, in this case) back to the first activity(FirstActivity, in this case).

1. Write the code to log a **warning**. The code will display “Warning” and the value of a variable *i.*

Log.w("warning", "Warning");

Log.d("valueTag", "Value of i: " + Float.toString(i));

1. Write the code to create a Toast that displays “*This is just a Toast!*”. The duration of the Toast is *Toast.LENGTH\_LONG*.

Hint: You will use the method *makeText*.

public static Toast makeText (Context context, CharSequence text, int duration)

Complete the code below:

Context context = getApplicationContext();

CharSequence text = “This is just a Toast!”;

Int duration = Toast.LENGTH\_LONG;

Toast toast = Toast.makeText(context, text, duration);

Toast.show();

1. Complete the code of the following AsyncTask class. What you have to complete is introduced by \_\_\_\_.

public class DownloadFilesTask \_\_extends\_\_\_ AsyncTask<URL, Integer, String> {

protected \_\_String\_\_\_ doInBackground(\_\_URL\_\_... urls) {  
         int count = urls.length;  
         long totalSize = 0;  
         for (int i = 0; i < count; i++) {  
             totalSize += Downloader.downloadFile(urls[i]);  
             publishProgress((int) ((i / (float) count) \* 100));  
             // Escape early if cancel() is called  
             if (isCancelled()) break;  
         }  
         return totalSize;  
     }  
  
     protected void onProgressUpdate(\_\_Integer\_\_\_... progress) {  
         setProgressPercent(progress[0]);  
     }  
  
     protected void onPostExecute(\_\_String\_\_\_ result) {  
         showDialog("Downloaded " + result + " bytes");  
     }  
 }

How do you execute a DownloadFilesTask t?

DownloadFilesTask t = new DownloadFilesTask();

t.excute(URL)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_;

1. What is the name of the build system that is used in Android Studio?

Gradle