CSC 191 – Final Exam Study Guide

Test date: Monday, 12/12, 2:00-5:00pm, in Manchester 024

The test will be designed to take around 50 minutes to an hour (though you can stay longer).

List of topics covered in course since last test (struck-out can be ignored):

- **Views & GUI:**
  - Overlays on a MapView
  - Toasts
  - Dialog boxes (AlertDialogs, ProgressDialogs)
  - Menus
  - Notifications

- **Data sources (where data can come from) and sinks (where data can go to):**
  - Location tracking (LocationManager, GPS, etc)
  - The concept of web-services, and specifically, SOAP access to webservices
  - The XML language
  - The concept of parsing, and specifically, parsing of XML documents
  - The concept of databases, the idea of rows and columns in a database table, and the four fundamental operations on database tables
  - Android SharedPreferences
  - File input and output
  - Network input and output
  - Sensors
  - ContentProvider interface
  - Telephony

- **App design:**
  - Threads
  - Runnables
  - AsyncTasks
  - Handler

Suggestions for studying:

- The focus will be pretty much exclusively on the 2nd half of the course (though it is impossible to get away from fundamental ideas at this point – Activity, Intent, View, etc. – for those, you will not be asked details but should understand big-picture ideas and understand them in the context of other questions)

- Make sure you understand the big conceptual ideas behind the topics above – an example of a conceptual-style question:
  - In general, why are threads useful?

- Understand the meta-ideas behind the Android API (that is, look for similarities in what we are working with and think about why different Android functionality has been designed in similar ways) – an example:
  - The ideas of Listeners and Managers appear across the Android API - why?
• Be able to read and understand a scenario and be able to discuss whether or not particular Android features would be useful to employ in that scenario
  o I will try (thought can’t guarantee) to put such questions in the context of the CityApp or similar style apps.
  o Answers would be similar to: “No, XYZ is not appropriate because it doesn’t do…”
• Be able to read and understand a scenario and be able to choose among multiple possible techniques for an implementation and then rationalize your choice
  o I will try (thought can’t guarantee) to put such questions in the context of the CityApp or similar style apps.
  o Answers would be similar to: “I would choose using XYZ over ABC because XYZ does this and ABC does not.”
• You will be expected to have the deepest understanding of topics that you have employed in assignments and the CityApp project, which I believe are:
  o Overlays, LocationTracking, Webservices, XML
• Understand the workers/work relationship between Threads and Runnables and understand issues concerning the GUI thread and other threads.
• Familiarity with the common types of Sensors that are exposed on an Android device (accelerometer, ambient light, …) and the common types of ContentProviders exposed (CallLog, Contacts, …) could be useful in questions that are posed as “help me design a program to do this”
• Be able to read and understand code that employs Android classes
• Given a part of the Android API documentation, be able to read that API and be able to indicate how you would make use of it

Things that will not be on the test:
• You will not be asked to write complicated code, or asked to pull from memory specifics of particular functions (i.e. that function X needs these three parameters in this order).
• Eclipse specifics are not covered on the test
• Anything “struck-through” in the topics list above (such as Telephony) will not be on the test