CPSC 324: Tutorial Project

Topics Due Tuesday, February 23
Presentations and Reports Due Thursday, March 25

For this assignment you are to work in groups of 3. The goal is for your group to research and present a short tutorial on a Java technology that we have not discussed in class. Each group will also turn in a short report on the topic (i.e., 3–5 single-spaced pages using 12 point font). Tutorials are to be between 8–10 minutes in length, and will be presented on March 25th.

PART I: Form Groups and Identify Topics (Due Feb. 23rd). Please form a group consisting of 3 people and select a topic to present a tutorial on. Below is a list of suggested topics. You are free to choose a topic other than from those below (however, you should run it by me first). Each group should hand in a single document listing your group members and the topic you have selected. Also include the sources of information you plan to use to help you create your tutorial (your “references”). Note that you are not bound to use only these references for designing your tutorial. This part of the assignment is due on Tuesday, February 23rd.

1. JUnit. JUnit is a very popular unit-testing framework for Java that is used in many large Java development projects. The JUnit website is located at http://www.junit.org.

2. Groovy. Groovy is a scripting and programming language built on top of Java. It has a similar syntax as Java, but with a number of extensions and simplifications. Groovy is “compiled” to the JVM, and Groovy code can be integrated with plain-old Java code. The Groovy website is located at http://groovy.codehaus.org.

3. JavaFX. JavaFX is another scripting language for Java, which unlike Groovy is targeted at building rich client applications (e.g., similar to Flex). The JavaFX website is located at http://javafx.com.

4. Google Web Toolkit. The GWT is a framework for creating dynamic web applications. It is used, e.g., in Google Wave and various other applications. GWT allows you to write client-side applications in Java, and then converts them into corresponding JavaScript applications. The GWT website is located at http://code.google.com/webtoolkit.

5. Java Servlets. Servlets are Java applications that can be installed within a web server. Servlets are often used for developing large web applications. More information about Java servlets can be found at: http://java.sun.com/products/servlet/

6. JavaServer Pages. JSP is Java’s version of ASP for creating dynamic web content (server-side scripting). JSP provides a simple scripting language that is embedded within HTML pages, and results in Java code that is called via a web server when an HTML page is loaded. More information about JavaServer Pages can be found at http://java.sun.com/products/jsp.

7. Android SDK. Android phone applications are written in Java using a library provided by Google called the Android SDK. The Android SDK website is located at http://developer.android.com
8. **Java API for XML.** The Java API for XML allows you to incorporate XML into your applications. JAXP comes standard with Java. More information about JAXP can be found at: [https://jaxp.dev.java.net](https://jaxp.dev.java.net)

9. **JavaDB.** JavaDB is a database management system written in Java. It can be embedded within your applications or used in traditional client-server mode. The JavaDB website is located at: [http://developers.sun.com/javadb](http://developers.sun.com/javadb)

10. **Ant.** Ant is an XML-based scripting language (similar to “make”) for building large Java applications. We will briefly discuss ant in class, but this is a chance to get into the details (and tell the class about them)! Ant is fairly easy to use and get started with. The ant website is located at: [http://ant.apache.org](http://ant.apache.org).

11. **NetBeans or Eclipse.** These are both popular IDEs for building applications. Here you can explore more of the Java features of these tools (there are a lot!) and teach them to the rest of the class.

**PART II: Tutorials (Due Mar. 25th).** Your 8–10-minute tutorial should cover at a minimum:

1. The technology you looked at
2. The problem the technology tries to address
3. How the technology works
4. How the technology is used
5. The advantages and disadvantages of the technology.

You should also consider giving a short demo of the technology as part of 3 and 4 above (if possible). You are encouraged to develop a small set of power-point slides that you can use during your tutorial. Also, each group member must speak during your group’s presentation.

**PART III: Reports (Due Mar. 25th).** Turn in a 3–5 page report that is based on your presentation. Your report should largely follow your presentation, i.e., it should describe the basic aspects of the technology, the problem it solves, how it works, how to use it, and advantages and disadvantages. You must post your tutorial reports (and slides if you use them) to the Google group page so that the rest of the class can access and read them. Be sure to include the name of each group member on the report as well as references and links to resources you used in creating your tutorial. Note that you should not use wikipedia as a reference for this tutorial. Your overall grade will be based on the **content** and **clarity** of your presentation and report.