School of Business and Information Technology

IT7374 Programming III

Assignment 2 – Tri 1 2016

Due Date:	**31 May 2016 (11:55pm)**
Total marks:	**100**
Weighting:	**30% of final mark**

Assessment Guidelines

- You are required to submit an electronic copy of your source code and compiled byte codes.
- Create a project folder called **IT7374_Assignment2_yourStudentID** where you will place all your files. Remember to zip this folder before submitting it to Assignment 2 submission box in the IT7374 Moodle course page.
- Submit your work on or before the due date. The submission box will be closed and will no longer be accessible after the deadline.

Late Work & Extension

- Handing in the work after the due date without extension is considered **late**. Students will be advised of any penalties to be imposed for late submission.
- Lecturers reserve the right not to mark work that is handed in late.
- Students are encouraged to manage their schedules in order to meet deadlines. Under exceptional cicumstances (e.g. bereavement, illness, accident) students may be granted an extension of the due date of Assignment 1.
- Extensions are **not** granted automatically. A request for extension must be made at least 24 hours before the deadline of Assignment 1. If a student applies for an extension, a relevant evidence (e.g. medical certificate) must be presented.

Pass Requirements

- Students must attempt all Assignments and Exam.
- Students must obtain at least 40% in the examination and a final mark average of 50%.

Summary of Tasks for Assignment 2

For this assignment, you are required to show your competency in applying some of the advanced features of Core Java such as:

- Building and implementing a distributed application in Java
- Designing a multi-tiered application that uses distributed technologies
- Developing an Android app with Java components

Assignment Options

Option A. Distributed Application in Java

For this assignment, you are required to design and implement a small Java distributed system. Below are some possible project that you can work on.

a) Online examination system
b) A reservation system (e.g., bus, restaurant, airline)
c) Online Auction System
d) Distributed game

Proceed as follows:

1. Design and code the problem-domain classes in Java.
2. Design and code the user-interface in Java.
3. Add persistence and/or distributed capabilities to the system. Possibilities include:
   a. Storing data using a database
   b. Storing data as XML
   c. Using network sockets, Spaces, RMI, Servlets, or any other distributed/enterprise Java technology to provide distributed capabilities
4. Integrate the user-interface and problem domain components with the distributed and/or persistence mechanisms selected and test the application.

Option B. Android Application

Another option is to create an Android application. Please make sure that you discuss this with me first.

Option C. Build Anything

You can also build any Java application that you wish to work on, please discuss this with me first before proceeding.

Create a separate package for Task1 and include it in the IT7374_Assignment1_yourStudentID folder.

Assignment 2 Requirements

Below is your checklist to be completed before submitting Assignment 2.

Option A Distributed Application in Java	Completed
■ Evidences of your design • A short requirement specification • Class diagram • Testing result	
■ Evidence of a working application (i.e., screenshot when you execute your application)	
■ All source codes and documents are placed in one folder `IT7374_Assignment2_yourStudentID`	
■ The `IT7374_Assignment2_yourStudentID` folder is zipped and submitted in the Assignment 2 Submission box in Moodle course page	
Option B Android Application	
■ Evidences of your design • A short requirement specification • Class diagram • Testing result	
■ Evidence of a working application (i.e., screenshot when you execute your application)	
■ All source codes and documents are placed in one folder `IT7374_Assignment2_yourStudentID`	
■ The `IT7374_Assignment2_yourStudentID` folder is zipped and submitted in the Assignment 2 Submission box in Moodle course page	
Option C Build Anything	
■ Proposal that outlines your project plan	
■ Evidences of your design • A short requirement specification • Class diagram • Testing result	
■ Evidence of a working application (i.e., screenshot when you execute your application)	
■ All source codes and documents are placed in one folder `IT7374_Assignment2_yourStudentID`	
■ The `IT7374_Assignment2_yourStudentID` folder is zipped and submitted in the Assignment 2 Submission box in Moodle course page	

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Assignment 2 Marking Scheme

Marking Criteria	**Marks**
▪ Clear implementation of distributed design	10
▪ Elegant implementation of Java code	10
▪ Use of the following Core Java concepts: • Garbage Collection, RTTI, and Reflection • File I/O • Object Serialization • Cloning • XML • Threads • Socket Programming • Remote Method Invocation (RMI) • Database Programming • Shared Memory Models • Enterprise Java Beans Internationalization • Java Security • Android Applications	60
▪ Documentation • Project description & requirement specifications • Class Diagram • Testing result/summary • Evidence of a working program	20
Overall Total	**100**