SENG 300 – Introduction to Software Engineering **Assignment #3**

Due Date: Sunday, March 29, 11:30 pm

Overview:

This assignment focuses on performing a code inspection to discover faults in a java code file. You will do some software engineering research too in this assignment.

What is an inspection?

An inspection is a powerful technique that can help in achieving significant improvements in software quality [1]. Many faults and defects can be discovered in the requirements, design and code using various inspection processes. There are variety of code inspection processes such as task directed inspection[2], ad-hoc inspection [2], inspection checklist [3], abstraction driven technique [3] and use-case technique [3]. An inspection checklist is considered to be the best process for inexperienced inspectors and gives more productive results [2]. The inspection checklist covers most of the faults and defects from both coding and comments that may otherwise be missed using some of the other techniques.

Requirements:

You will perform code inspection on a provided java file. There is no inspection checklist provided with the assignment.

You will search over the Internet to find a checklist and then based on that checklist, you will perform code inspection. You should properly cite the reference of the checklist. Your checklist should identify the max. faults.

You may use the following template to describe faults and their severity.

Sr. No.	**Code Line #**	**Description**	**Severity**
Serial number (e.g. 1,2,3…)	Actual line # of the code	Description of the fault	Major, minor (You can come up with your own scale)

Submission:

You are required to submit your report (4 pages maximum including the cover page) as a single PDF document in D2L Dropbox folder before the due date/time. Your solution PDF file should contain the following:

1. Inspection checklist:
   You will write the checklist that you have used to perform code inspection. If your checklist is 2 – 3 pages long, feel free to reduce the checklist and provide a summary of the checklist used. You should also cite your checklist.

2. Faults and their severity
   A table describing the faults and their severity

Grading:

The grade would be assign as follows:

- Inspection checklist (2 marks)
- Faults and their severity (6 marks)
- Overall quality of the document (2 marks)

Individual Work:

All assignments in this course are individual work. Individual Assignments are to be performed strictly individually. The point is to demonstrate that you have acquired the individual skills. Questions may be asked on the D2L Discussion Forum. Students may not discuss details of their solutions, nor share details of their solutions. Students are required to specify all sources of information that they use, whether verbal, written, or online. In any case of uncertainty, students must discuss the details with the course instructor prior to utilizing the source of information. Students are also advised to read the guidelines for avoiding plagiarism mentioned in the course outline and university website.

Failure to follow these rules may result in charges of academic misconduct, leading to an F on the assignment, an F in the course, suspension, or even expulsion. Academic misconduct is a serious offence, so the consequences are also serious.

Late Penalty:

Late submissions will not be accepted.

References:

[1] Rakitin, R. S. Software Verification and Validation for Practitioners and Managers. 2nd Edition. Artech House, Boston, London. 2001.

[2] Kelly, D. and Shepard, T. 2002. Qualitative observations from software code inspection experiments. In Proceedings of the 2002 Conference of the Centre For Advanced Studies on Collaborative Research (Toronto, Ontario, Canada, September 30 - October 03, 2002). D. A. Stewart and J. H. Johnson, Eds. IBM Centre for Advanced Studies Conference. IBM Press, 5.

[3] Dunsmore, A., Roper, M. and Wood, M. 2003. Practical code inspection techniques for object-oriented systems: an experimental comparison. IEEE Software, vol. 20, no. 4, 2129.