**SE401: Software Quality Assurance & Testing**

**Activity 4.1: SpotBugs**

## Objective:

Practice static testing with a Static Analyzer

## Setup Instructions:

## Use a recent version of Eclipse.

* Open Eclipse, select the "Help" Menu ---> "Install New Software..."
* Click “Add” button
* Enter "https://spotbugs.github.io/eclipse/" in "Location", and enter a proper name. Click OK.
* Select the "SpotBugs" Package to install. You might have to restart Eclipse when the installation is completed.
* Click Next and install Spotbugs.

## Assignment:

1. For this activity, download the CalendarManager Example.
2. In Eclipse, import CalendarManager Example.zip by clicking on File --> Import --> "Existing Project Into Workspace"
3. Project into workspace --> Select archive file --> Browse to "CalendarManager Example.zip"
4. Now that your code is imported, right click on the project --->SpotBugs --->Find Bugs
5. Wait for SpotBugs to complete running.
6. Open Bug Explorer View
7. The "Bug Explorer" view will show a list of bugs as well as their types and rank. You can see the details of each bug by double-clicking on it.
8. Take two different bugs from each of the four categories (the "scariness" levels). That is eight bugs in total.
9. If your project does not have two different bugs in each category, choose bugs in other categories to fill the gap, up to eight bugs.
10. Explain the bug in context of the surrounding code. You might copy the relevant code and annotate it in your submission.
11. If you were the testing manager, which of these bugs would you fix? Which of these bugs would you ignore?
12. If you were to perform a manual code review, would you have found these bugs? Would you have found the scariest of the bugs? What about the bugs that are only "of concern"?

## Submission Instructions:

* List and explain one bug from each bug category (total of four) for Question #10 in the following format:
  + Category of Bug
    - Bug Description
    - Code with bug
    - Fixed code
* Provide answers to Questions #11 &#12.
* Please submit your report in PDF format only.