**SE401: Software Quality Assurance & Testing**

**Activity 7.4: Complexity Analysis and Visualization**

**Overview**

In this activity, you will explore the use of a complexity analysis and visualization tool.

We are going to us CodeMR which is an architectural software quality and static code analysis tool.

**Setup Instruction:**

1. Use a recent version of Eclipse.
2. Open Eclipse, select the "Help" Menu ---> "Install New Software..."
3. Click “Add” button
4. Enter "<https://www.codemr.co.uk/eclipse/4.0/codemr-2020.4/> " in "Location", and enter a proper name. Click OK.

In this activity, you will analyze four different Java programs.

**Activity Assignment**

1. Download the checkstyle-checkstyle-8.41 file;
2. Select the right package 🡪 Top menu CodeMR 🡪 Extract Model.
3. From the dashboard, submit the HTML files.
4. From the data, determine:
   * How many methods have high complexity?
   * How many methods have moderate complexity?
   * What is the highest complexity measured?
   * How many classes have methods with high or moderate complexities?
   * From this data, which methods seem most problematic with respect to testing and quality, and how concerned would you be?
5. Repeat the analysis for the other software samples, answering the same questions:
   * BillingSystem
   * JEdit
   * Cobertura

Prepare a **PDF** report on your activity experience, including:

* Your name and activity identification
* A brief description of your analysis results for the software samples listed above. You may wish to include some selected data or analysis output to illustrate your conclusions, but this is meant to be a brief report.
* Other comments on the activity experience and any remaining questions that you have.