Workshop 8 (Week 9) – Non-functional Testing and Test Management

The purpose of this workshop is to practice and develop an understanding of non-functional testing and bug management.

1. Security Testing

Consider a shopping application that displays products in different categories. When the user clicks on the Gifts category, their browser requests the URL:

https://insecure-website.com/products?category=Gifts

This causes the application to make an SQL query to retrieve details of the relevant products from the database:

```
SELECT * FROM products WHERE category = 'Gifts' AND released = 1
```

This SQL query asks the database to return:

- all details (*)
- from the products table
- where the category is Gifts
- and released is 1.

The restriction released = 1 is being used to hide products that are not released. For unreleased products, presumably released = 0.

Can one hack the system to display all products (including both released and not released) through SQL injection?

2. Performance Testing

As described in the lecture, JMeter is a performance testing tool, which can be used to measure the performance of a software system. In this workshop you will download and try out JMeter:

- Download and install the JMeter tool from https://jmeter.apache.org/.
- Apply JMeter to measure the performance of the UON website (HTTP requests):

  www.newcastle.edu.au . You may simulate 1 and 10 users.
- Report the min, max, and average HTTP request time of the UON website.

3. Measuring Eclipse Bugs

Eclipse JDT is a (https://www.eclipse.org/jdt/) an Eclipse plug-in for supporting Java development. Its bugs are managed by Bugzilla, which is a popular bug tracking system that allows individual or groups of developers to keep track of outstanding bugs in their products effectively. Eclipse JDT bugs can be found at:

https://bugs.eclipse.org/bugs/query.cgi?format=advanced

In this workshop, you will analyse the number of bugs reported against Eclipse.JDT:

- The total number of bugs in Eclipse JDT in March 2020 and April 2020.
- The number of bugs in Eclipse JDT that were resolved (status is Resolved) in March 2020 and April 2020.
- The number of bugs in Eclipse JDT that are still remain outstanding (status is NEW) in March 2020 and April 2020.
- The number of bugs in Eclipse JDT that have been assigned to a developer but have not yet resolved (status is Assigned) in March 2020 and April 2020.