Chapter 4

Experience

Our experience with this deliverable was somewhat unexpected, as our group had a more difficult time in creating all twenty-five test cases than we had originally thought. Because our first five test cases were already up and running successfully, we assumed that creating twenty more in a similar fashion would be a piece of cake. However, as with seemingly all computer science related tasks, things did not always go as planned and we learned that our assumption was made naively and prematurely. One small challenge that the group ran into was diligently looking through all code documentation to ensure that the correct datatypes were used for test case input and expected output, as several of our test cases involve abstract data types.

Additionally, we faced a problem specific to just one method, toArray, and its test cases despite all other test cases for the other tested methods functioning as intended. Although the toArray expected outputs and actual outputs of the test cases matched and should have caused all test cases to pass, the results of the test run indicated that the cases had failed. After some research, we found that the problem was likely due to regex-matching within the script, and placing quotations around the variable name, $expected, allowed for a simple fix, which allowed the variable to be treated as a string literal.

The positive side to deliverable #4, however, is that the group nonetheless continued learning new things and gaining valuable experience. Furthermore, the work progressed at a faster rate than for past deliverables, allowing the group time to fine-tune past deliverables. This included adding a time and date stamp to the testing output file for each time that the runAllTests.sh script is run. Our group also worked to better format the output of the test case results so that it is in a neater format that is easier to read and more detailed information is presented for each test case, including the expected output for each test case, the actual output, method being tested, etc. One way that the output is more neatly formatted is the use of color; "PASSED" is colored in green for each test case if the test case output matches the expected output, while "FAILED" is colored red if test case output does not match expected output for the tested method.

Deliverable #4 Details

The final five methods tested for deliverable #4 can all be found using the path: ~/TestAutomation/project/openmrs-core/api/src/main/java/org/openmrs/util

All methods are located within the ThreadSafeCircularFifoQueue.java file and are as follows:

- public <T> T[] toArray(T[] a)
- public boolean add(E e)
- public boolean addAll(Collection<? extends E> c)
- public boolean contains(Object o)

- public boolean containsAll(Collection<?> c)

Each method contains five test cases each, which may be found in the testCases directory of our team repository. Each tested method has one driver each, called by the bash script, runAllTests.sh, and the script automatically uses all twenty-five test cases within the testing framework. Like in past deliverables, output from the testing is written into the file out.html, which is automatically opened within a web browser upon completion of running the bash script.