

Introduction

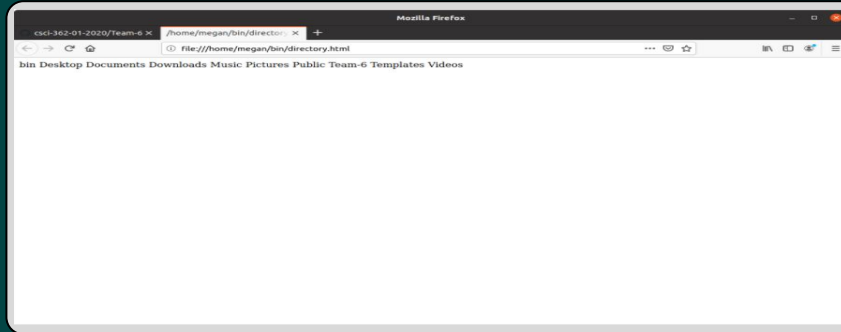
A proper understanding of how to participate in a software project requires experience. A dry run on a non-critical system allows practice in a safe and forgiving environment where lessons can be learned quickly and effectively. What are the hidden aspects of success in a project? What are some speedups you can do? How many licks DOES it take to get to the center of a Tootsie Pop™? These are the types of questions we answered along our practice.

What Is OpenMRS?

OpenMRS is an open source medical record keeping software. It's focus is to be a relatively lightweight Java application build and designed to do easy browser based displaying and manipulation of information.

Dry Run on A Unit Testing Project - Christian Ellwood, George Lutas, and Megan Simpson

Browser Display First Build



Fault Injections

```
Date and Time Test Run: 23/11/2020 23:11:19 EST
Test Case ID: TC023
File Being Tested: ./project/openmrs-core/ap/ut/src/main/java/org/openmrs/ut/ThreadSafeCircularFifoQueue.java
Method Being Tested: containsAll
Test Arguments: {390, 4710, 3094} {390, 4709}
Expected Result: false
Test Result: false
Test case PASSED.

Date and Time Test Run: 23/11/2020 23:11:24 EST
Test Case ID: TC024
File Being Tested: ./project/openmrs-core/ap/ut/src/main/java/org/openmrs/ut/ThreadSafeCircularFifoQueue.java
Method Being Tested: containsAll
Test Arguments: {390, 10} null
Expected Result: true
Test Result:
Test case FAILED. Result of the test is not the expected result.

Date and Time Test Run: 23/11/2020 23:11:29 EST
Test Case ID: TC025
File Being Tested: ./project/openmrs-core/ap/ut/src/main/java/org/openmrs/ut/ThreadSafeCircularFifoQueue.java
Method Being Tested: containsAll
Test Arguments: {390, 40, 10} {390, 40, 10}
Expected Result: true
Test Result: true
Test case PASSED.
```

Difficult to purposefully introduce bugs.

Bash Scripting

Experience was gained in the bash scripting language. One significant challenge, which consisted of difficulty in discovering a bug in otherwise seemingly functioning code, also presented itself within the bash scripting language. For example, the `getExpectedResult()` function would loop through the lines of each test case text file in order to retrieve the expected output of the function to be tested based on a specified input. This method functioned as intended for the first test case file, but instead returned what appeared to be an empty or wordless string for the other four test case files. This was puzzling, as all test case files are structured identically. After research regarding this problem, it was discovered that the bug was due to hidden, incorrect end-of-line characters caused by differences in various text editors. Once this cause was discovered, simply two lines of code per variable corrected the issue.

Conclusions

Completion of project resulted in basic project management as well as teamwork in a technical field, better understanding of how to integrate standard toolchains into development, and general increase in competence.