Proposal for Implementing Automated Testing

To: ENGL 301 Class

From: Luke Zhang

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Subject: *Proposal for Implementing Automated Testing for a Hotspot WebUI*

Introduction

Testing is an important part of the software development life cycle. It is not uncommon for developers to make errors when writing code. These mistakes can lead to small graphical glitches or cause the web server to crash impacting thousands of clients.

Although it is simple enough to let a human manually test a new feature by acting like a consumer, a tester can still make the same mistake as a developer and overlook a critical bug.

Statement of Problem

A new WiFi hot spot device was released by Netgear. While connected to a computer via a USB, a web UI is used to change network bands, setting passwords, and managing connected devices. Testing of this web UI is generally done manually by a human tester making sure all functionalities are working. However, this is a long tedious process that uses up a lot of time especially with multiple builds being pushed out every few days.

Proposed Solution

With automated testing, a tester or the developer can use a testing framework such as Selenium to finish all of the usual test cases and print out a test result file without having to manually execute the tests themselves. This allows the tester to leave the workstation running the tests on its own while working on another task simultaneously. I believe having these automated tests will greatly increase productivity at Netgear for both developers and testers.

Scope

To implement this project, I will pursue four areas of inquiry

1.   Do the developers or testers have knowledge of testing frameworks such as Selenium?

2. Will a dedicated team work on this project or will everyone contribute to it a little at a time?
3. What features will the automated testing cover?
4. How much time will be required to finish this project?

Methods

My primary source will be consulting with the the QA lead at Netgear Canada, Jamil Majlesi. I will inquire the resources required to develop such a project and the requirements needed to make the automated testing worthwhile. Through a series of questions I will determine whether the large initial investment of time required to develop automated testing will improve the productivity of the QA team in subsequent test cases of new hot spot web UI builds.

My secondary source will be collected from peer opinions such as other co-op students and articles I find on the pros and cons of automated testing. I will research the experiences other companies have had with the process and determine whether the technology will fit with the development culture of Netgear.

My Qualifications

I have worked at different co-op work places and my most recent placement at a startup company, RESAAS, has used automated web UI testing as part of their software development cycle. Although it did allow the developers and testers to save the effort to manually execute the UI tests, there were also a lot of overhead in maintaining a working UI test suite. My previous co-op placement at Netgear will help me fully understand the technology and development culture at the company to understand whether automated testing will be a good fit.

Conclusion

Automated testing will be a huge boon to a software development company as it allows developers to run the test suite right after the implementation of a new feature. It will provide additional guaranteed test coverage without the risk of human error. With the four points of inquiry that I will conduct with the QA lead at Netgear I will determine whether automated testing will be a worthwhile investment or if the technology will simply not fit the main selling product of Netgear.