

Project Proposal – Comparison of Mobile App Testing Tools

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1. Introduction

For my senior design project, I am developing a mobile application with a heavy focus on user experience which would benefit from the use of testing tools. Additionally, I am developing my application with Xamarin, an open-source app platform for building modern mobile applications with C#. Xamarin has its own testing framework Xamarin.UITest, but I am proposing to compare this framework with other mobile testing tools such as TestComplete, which also supports C#. TestComplete is an automated UI testing tool which allows creating, maintaining and executing UI tests for not only mobile applications, but web and desktop applications as well. The tool also offers both script and scriptless options for test generation.

2. Background

Xamarin is an open-source app platform which offers cross-platform compatibility. There is a framework called Xamarin.Forms which allows developers to have a single shared codebase for their Android, iOS, and Windows applications, and there is also Xamarin Native which simply focuses on one OS at a time. Xamarin.UITest allows testing both apps written with Xamarin.iOS and Xamarin.Android, allowing me to test both targeted systems at the same time.

3. Preliminary Results

I do not have previous experience with either of these mobile testing tools, but Xamarin.UITest supports writing test scripts with NUnit, which I do have prior experience with from a previous co-op. No preliminary results as of yet.

4. Feasibility

Regarding the milestones for this project, I will focus on these three stages:

1. Locate target functionality to test

Based on the UI capability of my app, I will select various functionalities for both iOS and Android to run the testing tools on.

2. Implement the tests

After integrating both the Xamarin.UITest tool and TestComplete tool, I will run prepare and run the tests on the previously selected functionalities.

3. Compare the results

I will conduct an empirical study on the results and determine which tool had the best performance.

5. Merit

As these tools will be integrated into my senior design project, I will directly benefit from the results of both tools. The findings of the tests will allow the end users of my application to have a more pleasant experience with it.