HD Research Report

COS30017 - Software Development for Mobile Devices

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Abstract

This research report seeks to show the findings of using the RAPPT Android prototyping tool as an initial design and construction tool for Android app development. More specifically it hopes to prove that the use of such a prototyping tool can significally shorten the development timeframe of an app from planning to alpha-level executable. The report also covers any pitfalls of using the tool and tries to identify areas of improvement for the tool to increase it's viability in mainstream application development.

1. Introduction

2. Method

The goal for this research method was to closely follow a 38 hour week proper development cycle, as one would expect a professional developer to do in the commercial environment. The 38 hour weeks are worked by a single developer only.

1. Conception of app idea happens prior to the timed process as it isn't taken to be an important factor into this study.
2. The date that planning and design begins on is recorded. The time that this takes to complete is also insignificant when assessing the prototyping tool, however the importance of this step occurring is paramount due to it laying the foundation for the developer to continue smoothly onto the prototyping stage and not mistakenly label the planning and design stage as part of the prototyping stage, which it is not.
3. Once planning and designs are complete, the date is recorded as the date that prototyping begins.

4. The app is prototyped using RAPPT as many times as needed until the developer feels they have a base from which they have achieved all they can using the prototyping tool. In other words, if the prototyping tool cannot implement anymore of the features or layouts of the app then the prototyping should cease. The date is recorded for when this occurs.
5. Record the date as the start of extending / non-prototype development. The developer should prioritise the main features of the app above other aspects and ensure that they are implemented on top of the codebase supplied by RAPPT. Make notes of the areas of the app that were made easier to develop on by the prototype and those areas that were more difficult to continue developing on.
6. Once all major / critical components of the app are functional and stable the developer should improve the visual, usability and overall stability of the app until they feel it has reached an alpha release level. That is, there may be bugs present, however the main app features are functional and should be usable by initial-uptakers / testers. Record this date as the termination of alpha development.
7. Run 'lines of code' counter on the original prototype and the final alpha source code to see how much was generated vs. how much was an extension of the prototype. Estimate based on lines of code written and time taken how much time was saved by the prototype tool.

3. Results

4. Discussion

5. Conclusion

6. References

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