



Federal University of Pernambuco

BSc Computer Science

Graduation Project Proposal

What are the main problems that Swift developers face?

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1. Context

The mobile app market is facing a big growth in the last years. A recent article [1] shows that a billion mobile devices are going to be sold in 2015 – that's twice the number of personal computers. This created a demand of new mobile developers [2], particularly in the iOS and Android technologies.

The programming languages that can be used to develop mobile applications are determined by the platform they are destined to. The iOS platform provides two options: (i) Objective-C, used by Apple since 1996; and (ii) Swift, announced in June 2014.

Swift is a multi-paradigm language that combines imperative programming, object-oriented programming (OOP) and functional programming. Since its release, Swift is experiencing a fast popularity growth. According to TIOBE and Redmonk [3,4], it is already one of the top-20 most popular languages. It is also in a unique spot, since it is the successor language in an ecosystem with 900 million devices sold [5,6], which makes its adoption almost guaranteed. Such peculiarities makes Swift a language whose adoption should be studied.

2. Purpose

The objective of this study is to investigate what are the main problems faced by Swift developers. In order to do that, data from StackOverflow (<http://stackoverflow.com>) will be analyzed. StackOverflow is a Q&A (questions and answers) website, focused in programming-related topics, that already contains more than 50,000 Swift-related questions [7], serving as a big knowledge repository about the topic. Furthermore, the study aims to answer the following questions:

RQ1. What are the most popular problems faced by developers when writing in Swift?

RQ2. What are the unanswered questions about Swift?

RQ3. Are developers having issues with the usage of Optionals? What issues?

RQ4. Are developers asking about exception handling in Swift? Are 'workarounds' being suggested to “add” exception handling behavior, as an answer to those questions?

3. Agenda

Activity	August		September		October		November		December	
Bibliography Review										
Tool Development										
Data Processing										
Data Analysis										
Report Writing										
Presentation										

4. References

- [1] Clifford, Catherine. "By 2017, the App Market Will Be a \$77 Billion Industry". <<http://www.entrepreneur.com/article/236832>>. Accessed: September 2015.
- [2] Omojola, Ayo. "The Shortage Of Developer Talent Is Crushing Mobile". <<http://www.forbes.com/sites/ayoomojola/2013/07/15/the-shortage-of-developer-talent-is-crushing-mobile/>>. Accessed: September 2015.
- [3] "TIOBE Index for September 2015", <<http://www.tiobe.com/index.php/content/paperinfo/tpci/index.html>>. Accessed: September 2015.
- [4] "The RedMonk Programming Language Rankings: June 2015", <<http://redmonk.com/sograde/2015/07/01/language-rankings-6-15/>> Accessed: September 2015.
- [5] "Apple by the numbers: 700M iPhones", 25M Apple TVs sold, <<http://www.cnet.com/news/apple-by-the-numbers-453-retail-stores-worldwide-120m-customers/>>, Accessed: September 2015.
- [6] "The rise and fall of the iPad: Sales of Apple tablets slump as people shift to phablets", <<http://www.dailymail.co.uk/sciencetech/article-2929909/The-rise-fall-iPad-Sales-Apple-tablets-slump-people-shift-phablets.html>>. Accessed: September 2015.
- [7] Stack Overflow. <<http://stackoverflow.com/tags/swift>>. Accessed: September 2015.

5. Potential Supervisory Committee

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6. Signatures

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