Proposal: Unaligned Expectations in Universities and Industry for New Graduates in Computer Science and Software Engineering

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ABSTRACT

Abstract-There is a widespread agreement that new graduates from computer science and software engineering does not always possess required skills, abilities or knowledge when joining software industry.

Abstracts should be about 150 words and are required.

ACM Classification Keywords

H.5.m. Information Interfaces and Presentation (e.g. HCI): Miscellaneous; See http://acm.org/about/class/1998/ for the full list of ACM classifiers. This section is required.

Author Keywords

Authors' choice; of terms; separated; by semicolons; include commas, within terms only; required.

*** PROPOSAL TODO ITEMS ***

A feedback: What is the underlying educational problem or approach you see as a problem? What are the main problem(s) with this approach or problem? How can I fix it?

1- What are the research background that shows the motivation and expectations for student/teachers/employers in cs/se program?

2- what are the problems to limit the gap for new graduates in finding a new job after school? Why there is a gap in the new graduate skills and employer expectations?

3- what are some methodology that can shorten this gap? We can compare ivy league schools and other ones to see the differences and rate of employment after graduation?

*** INTRODUCTION ***

One of the essential elements of a good software is to have a good software engineer (Paul Luo Li et al., 2015). The question is what makes a great software engineer? (Paul Luo Li et al., 2015) All different groups are looking into this question: employers want to hire a good software engineer, universities want to train a good engineer and new graduates want to become great (Paul Luo Li et al., 2015). Paul Luo Li et al. mention some of the employer's expectations for hiring software developers (Paul Luo Li et al., 2015). The research indicates that the expert engineers are more productive in terms of producing faster solutions, produce more amount of code in the same amount of time, and write code with much fewer bugs (Paul Luo Li et al., 2015). Hewner and Guzdial investigate a game company that what are the employer expectations from new graduates (Hewner and Guzdial, 2010). They identify two of the essentials skills or expectations are high programming skills as well as people skills such as working in a team and collaborating with other people (Hewner and Guzdial, 2010). McConnell argue that software developers' personality traits like intellectual honesty, curiosity and being humble about their intelligence are important skills in addition to technical skills (McConnell, 2004). Hewner describes the mismatch between a student's expectations on skills they hope to learn and what they are thought in an introductory computer science class (Hewner, 2011). He notes that students come to the course with preconception about what they will learn in that computer science course (Hewner, 2011). The educators mention some of the preconceptions as below (Hewner, 2011): - Students expect to learn "advanced features" in application softwares. - They expect to do IT work such as assembling computers from parts and configure routers. - They expect to learn only about programming and not the architecture and theory.

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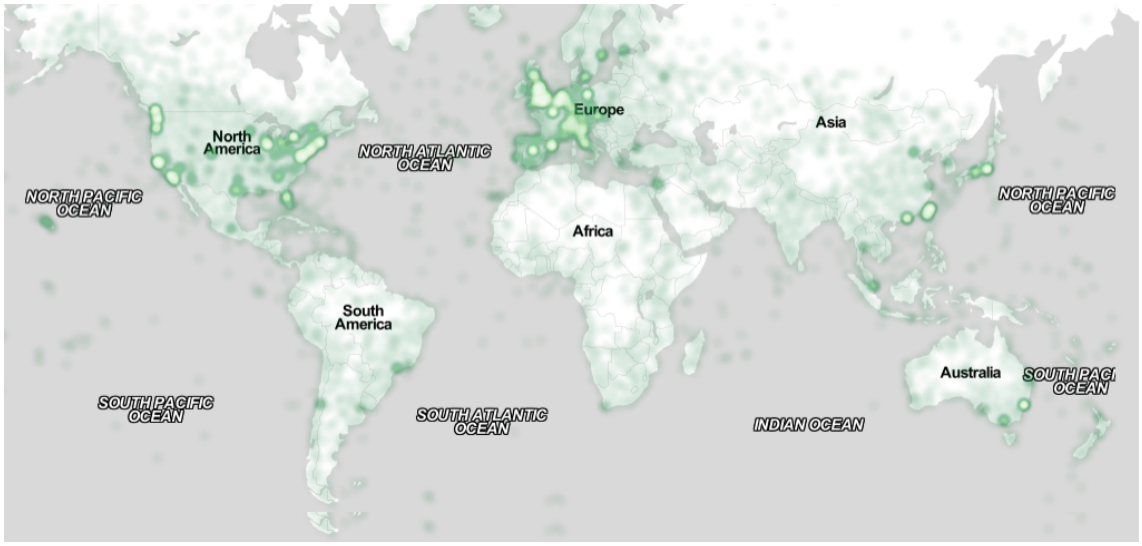

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ACKNOWLEDGMENTS

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