Check Status

Submission ID: 1271

Title: An Engineering of Secure Mobile Applications Course

Status: Reject

Reviewer 1:

Summary: The manuscript proposes a course where material on mobile computer, software engineering, and security is presented.

Strengths: The proposed course is interesting and would be motivating to students interested in learning how to develop secure applications.

Author Comments: The proposed course on engineering mobile security does sound interesting, however, no evidence of the course's effectiveness or feasibility is given with data collected from even one course offering to students. The authors are encouraged to develop their ideas further by offering the course at least once and making a broader survey of the literature on mobile security courses and include such offerings as "Learning mobile security with android security labware" by Guo et al, "Software engineering issues for mobile application development" by Wasserman and surveying other mobile security courses, such as http://wnss.sv.cmu.edu/courses/14829/f13/.

Reviewer 2:

Summary: The paper presents a new course. The course is based on three basic pillars, according to the authors: mobile applications, software engineering, secure software.

Strengths: A honest attempt to combine three different areas into a single coherent course is a challenge. Involving a team project in an additional difficulty. The submission gives an interesting account on disigning such a course.

Author Comments: The paper presents a new course. No matter how many brilliant new ideas are incorporated in it, one course among dozens forming a complete curriculum has only a limited potential of bringing fundamental changes. On the other hand, the level of granularity that corresponds to a single course opens for the authors room for very concrete design decisions related to the course design.
The course is based on three basic pillars, according to the authors: mobile applications, software engineering, secure software. This is mentioned in the paper at least three times, which is not a problem – after all, why not reiterate your position? What I should like to suggest, however, is to formulate this more clearly in the abstract, where you mention the number three but it is hard to identify the three pillars in the rest of the sentence.
The three pillars, I am afraid, cannot be interpreted in any close-to-completeness sense. Just to mention software engineering, this is a too broad concept to be covered in one third of any single course. In 2.1, you mention the students optionally should have some background in software engineering. In other words, this does not guarantee that every student has some background in software engineering. The only prerequisite that you mention is Computer Science I or an equivalent introductory programming course. Two remarks. 1: Programming is not software engineering. 2: Computer Science is not programming. Please be aware that many people realize this and there are discussions on what should be the appropriate content of the CS 1 course. The suggestions go beyond programming.
The course involves a team project. This is certainly a very commendable pedagogical method. On the other hand, team project is a separate concept and incorporating them into a curriculum is a special issue to be carefully designed. There are several examples on designing team projects specifically in software engineering education:
Bieliková, Mária - Návrat, Pavol: Experiences with Designing a Team Projects Module for Teaching Teamwork to Student : No. 1, March 2005.
In: C.I.T. Journal of computing and information technology. - ISSN 1330-1136. - Vol. 13, No.1 (2005), s. 1-10
Ivanovic, Mirjana - Putnik, Zoran - Budimac, Zoran - Bothe, Klaus: Teaching Software Project Management course-Seven years experience. - , 2012. In: EDUCON 2012, IEEE Glolal Engineering Education Conference : Marrakesh, Morocco 17-20 Aprril 2012.
Budimac, Zoran - Putnik, Zoran - Ivanović, Mirjana: Conducting a Joint Course on Software Engineering Based on Teamwork of Students. In: Informatics in Education. - Vol. 7, No.1 (2008), s. 17-28
Hnatkowska, B.: Software engineering team project-lessons learned. In: e-Informatica Software Engineering Journal. - ISSN 1897-7979. - Vol. 7, Iss. 1 (2013), s. 77-85
(please be advised this list indicates sources to facilitate your reading of the review – it is in no way suggesting any referencing in your paper is mandatory)
The problem here could be in cumulating too many concepts in one course. Unless the team project is tought and experienced by students in some separate course before this one, it is not likely, cf the experience reported above, that students are able to grasp, besides the three pillars, also several key principles underlying team projects.
Among the positive aspects, I should like to mention the cross-team testing. The idea has been applied before by others, so it is not the absolute novelty that should be acknowledged. But there are so many subtle points involved, especially from the students point of view, that any serious experience is an interesting contribution.

Reviewer 3:

Summary: The course design of a course combining Software Engineering and Computer Security with a practical application in software development for mobile devices as well as the participation in open source projects is described.

Strengths: This article describes a well designed course which is likely to be popular among students and successful from a pedagogical point as well as in terms of curriculum coverage as it covers the main issues in three sub-disciplines within computing.

Author Comments: The comment that this course is unique can simply not be true. The statement implies that all current software engineering courses that teaches the concepts by means of the implementation of a mobile computing application does not cover security adequately.

I have no doubt that the course can be a huge success in many aspects but would rather like to see an experience report on this after it has been presented than the dry facts about how it can be presented.

Reviewer 4:

Summary: The paper proposes a corse that combines software design, mobile applications, and security issues for such software into one course. The curriculum description is nice, detailed, well organized. The problem is that there is no indication that a course like this has been ever taught by the authors or anyone else. It looks like a very ambitious course - without the proof of feasibility.

Strengths: I think such a course would provide students with a wealth of knowledge of the key three areas --- software design, mobile applications, and security aware programming. All ideas presented here are very important and combining them into one comprehensive course would help students see a more complete picture of the various aspects of program design process.

Author Comments: Maybe by the time the final copy is due you would have taught the course, or at least covered most of the material. Some comments on how well it worked would really help. Without anyone showing that the course as proposed is feasible, the benefit to the reader is limited.

Reviewer 5:

Summary: This paper describes a curricular innovation: it merges a security course with a mobile apps development course, and it presents an engineering framework to develop secure mobile apps.

Strengths: The contents are well described and the course is carefully planned. There is not only a table of contents but also a short description of how each subject has to be addressed.

Author Comments: It would be worthwhile to describe how mobile apps development courses are taught nowadays.
