CSE 360 Open-Source Journey

Introduction

Software engineering is the science of developing the softwares. This is one f the classic cources in the computer science field that, it is being instructed in amost all universities. The software engineering is closely related to the software making industry which always change its practices to drive itself to the effiiency in making softwares. But the software engineering cources fails to embrace thses changes in the same pace as the industry does. For instance, when the world is moving more into agile, scrum and open development and all new bleeding edge techniques in software making, most of the software engineering cources in undergradute degrees are more concentrated on the waterfall and other practices, which usually stays in the text. We observed that most of these models doesn't give much experience on software making process to the students. This was the main reason why we wanted to update the course structure and incorporate more practical aspect to the course.

From the previous works[1], we have learned that most of the leading software makers in the industry encourages the use of existing softwares for rapidly scaling the architecture. The paper(Wei-Tek Tsai et al, 2014[1]) shows that the industry embraces the use of well nurtured open-source softwares. This lead us to reconstructing the entire course with prime focus on open-source software development. We created a series of lectures and assignments that included both theorectical aspects and industry oriented practical tasks on software engineering.

We implemented this reconstructed course plan at software engineering cource of fall 2014 at Arizona State University, Tempe, USA. The chapters that follows tells the journey that we had during the software engineering course of Fall 2014.

OSS in Software engineering

In the current software industry open source is a huge part of the engineering philosophy. Most of the leading software developers and service providers use, maintain, and contribute to the open-source softwares. This helps the companies to meet their scalablility, reliability, cost effective goals without much overhead of devloping or maintaining these softwares. This change in phylosophy has dramatically changed the way we think or build the software thesedays. For example to create higly scalable web service with some key business goals, the developers can make use open-source databases, web application frameworks or load balacers and concentrate more on the web application logic and business aspects.

In the reconstructed course pan for software engineering, we decided make the open-source development to be the philosophy in focus. The key goals for the whole course reconstruction was these

- To introduce students to the open-source development

REFERENCES

[1] Peng, R., Sun, D., & Tsai, W. (2014). *Understanding Requirements Driven Architecture Evolution in Social Networking SaaS: An Industrial Case Study* (p. 234). IEEE 8th International Symposium on Service Oriented System Engineering.