

Involving real-world stakeholders in course group projects: Opportunities and challenges

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Abstract. Enabling the application of theoretical knowledge in a real-world setting can have positive effects on student motivation [6] while also providing industry-relevant practical knowledge and soft skills [2]. Course group projects provide an opportunity for teachers to facilitate such applications in a simulated environment. However, as we have experienced, simulating realistic settings while maintaining student motivation can be a challenge.

We have therefore explored how to improve the level of realism, and thereby the student motivation and learning outcomes, in course group projects by introducing startup companies as real-world stakeholders to the projects in a requirements engineering course (cf. [3]). The course is given to master-students with interdisciplinary engineering backgrounds. We used a design science approach [5] to develop and improve the project assignment through two design-cycles. In each cycle, an evaluation was performed based on student surveys and interviews with the companies. In a project, a company provides a product idea to a student group who then explores how the idea could be realized as a product by identifying and interacting with real customers and stakeholders to the company. Aligning with literature (e.g., [4, 6, 7]), we found that students appreciate working with real projects and to get an opportunity to apply what they learn in the real-world, as well as the contacts and insights they get from the companies. Since each project is unique, the students have to contextualize techniques from the course in order to apply them to the real-world setting [3]. The students are also exposed to commonly occurring industrial challenges such as managing frequent changes, communication issues etc., as the projects may evolve in unforeseen directions.

From the companies' perspective, the students' work contributes new market insights and knowledge about the customers' needs - knowledge which can help the companies as they are still exploring their business model and limited in resources [1].

The involvement of real-world stakeholders also implied a number of challenges in teaching (cf. [4]). Teachers need to work actively to coach stakeholders before and throughout the course in order to set and align expectations with course goals. Projects need to be carefully prepared in regards to their scope and technical depth as well as the availability of data sources, in our case customers and stakeholders to the companies. Teachers must be prepared to intervene as circumstances may change due to the real-world nature of the projects and risks faced by real-world stakeholders.

Keywords: Stakeholder involvement, Requirements Engineering, Teaching, Case studies, Startups

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