



HES-SO VALAIS-WALLIS USES SCRUM AS A LINK BETWEEN ACADEMIC THEORY AND PRACTICE OF REAL-LIFE IT PROJECTS

May 2022



CASE STUDY



Located in the middle of the Swiss Alps, the University of Applied Sciences and Arts Western Switzerland Valais (HES-SO Valais-Wallis) is made up of nine research institutes and five schools: School of Engineering, School of Management, School of Social Work, School of Health Sciences, School of Arts. The institution currently has 2,800 students to whom it offers eleven bachelor's degree programs. Part of the DNA of the University is to be close to local industries and companies by integrating real practical topics in its study programs. Project-based learning, flipped learning, and coaching sessions are some of the pedagogical methods widely used to prepare students for the professional world.

Among the various Schools, the School of Management provides a Bachelor's degree in Business Information Technology which is delivered to full time and part time students. During their studies, students develop many IT skills (Software Development, Database, IT Security...), but paired also with Economics and Management skills (Economics, IT Law, Ethics, Ideation) and Business IT skills (ERP, Business Intelligence, Applied machine learning). The multidisciplinary nature of the study plan opens up a large range of professional opportunities and roles such as a Business Analyst, IT developer, Scrum Master, Product Owner, SAP Consultant.

Challenge

Based on more than 20 years of experience in project-based teaching, Business IT professors Alexandre Cotting and Nicolas Debons, developed project modules to introduce the Scrum framework to students using a step-by-step approach derived from both academically oriented projects as well as real



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world projects with Product Owners. The two professors wished to further improve the link between their students and the companies with a certification that incorporates up-to date market trends and needs. In addition, this Bachelor's degree brings together German, French and English speaking students, as well as foreign students in intellectual dialogue. The Agile curriculum is delivered in English as a good way to encourage interaction between the students and to foster this intercultural environment.

Solution

The course is delivered from two perspectives: a theoretical perspective, giving access to the basics of Agile with a particular focus on Scrum, as well as a practical perspective with a software development project where Scrum can be put into practice.

The theoretical module prepares students to take the Professional Scrum Master I (PSM I) assessment from Scrum.org to earn their PSM I certification upon passing it demonstrating a fundamental level of Scrum. In addition to the academic material produced by the professors, the students also benefit from the free learning resources provided by the Scrum.org website.

"In addition to the guidance the Scrum Guide provides, the Scrum.org collection of resources, like articles, blogs and videos are very useful for providing Scrum implementation examples for students to learn from," said Alexandre Cotting, Professor in computing science at HES-SO Valais-Wallis

In order to assess the knowledge of the students at the end of the module, an onsite examination is organized. Students can choose between an internally made exam or the official Professional Scrum Master I (PSM I) exam from Scrum.org. For those choosing the Scrum.org exam a conversion table adjusts the score to the university rating system.

In the practical module, groups of 4-5 students work together on a real software development project with an external Product Owner for 8 weeks. In choosing the composition of the teams, the professors ensure to mix Swiss-French, Swiss-German and non-Swiss students in order for them to experience multicultural collaboration. These Scrum Teams organize themselves, nominate a

Scrum Master and put into practice the Scrum Events: Sprint Planning, Sprint Review, the Daily Scrum and Sprint Retrospective. The professors act as Agile Coaches for the students and guide the Product Owners if they are not familiar with Scrum. When needed, research assistants are also integrated as support for the technical aspects (code review, technical support, etc.).

Results

Launched in 2019, this course is offered for part-time and full-time students with an average of 30 students per year. With full integration of Scrum into the academic curriculum students acquire theoretical knowledge and are able to demonstrate their newly acquire competences in a real-world context. Three-quarters of them get an internationally recognized certification through Scrum.org (PSM I) in addition to the official University Degree. Local companies including start-ups have the chance to work closely with students and perhaps find their future talents. In summary, these modules are very popular and receive great feedbacks from both students and companies.

"With Scrum, the contact between the client and the developers is much easier. This allows the project to evolve more quickly and especially to correct errors."

Dr. Alex Gnaegi, responsible for medical equipment at GRIMM, Product Owner for the student project AppRent, a rental management tool for medical equipment.

"HES-SO combines fundamental lessons of Scrum theory with its practical application on real project, so the students can learn in deep all aspects of Scrum framework. I think that this approach, along with tools and knowledge provided by Scrum.org, allows optimal preparation for the PSM I certification."

Ekaterina Aymon, 3rd year student in Business Information Technology



About Scrum.org

Scrum.org, the Home of Scrum, was founded by Scrum co-creator Ken Schwaber as a mission-based organization to help people and teams solve complex problems. We do this by enabling people to apply Professional Scrum through hands-on training courses, globally recognized certifications and ongoing learning all based on a common competency model.

Scrum.org supports people wherever they are on their learning journey from beginner to highly experienced practitioner, helping them to grow over time with ongoing learning opportunities and resources. Community members share knowledge and gain new insights from each other leveraging forums, blogs and more.