# Media Serious Game - a serious game as an introduction to HES studies

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## Abstract

When entering a bachelor's program, students are confronted with a new environment. To help them discover this environment, in the bachelor's degree in "Media Engineering" at HEIG-VD, we have developed the Media Serious Game: an integrated concept that includes virtual and real simulation activities. The Media Serious Game is used during the first year of the curriculum and allows students to discover both an example of their future profession as well as new pedagogical forms. Overall students' evaluation of this course is very good.

## Keywords

Serious game, co-creation, active pedagogy, experiential learning, higher education, HES, media engineering.

## Context

When entering an HES[1] bachelor's degree program, students are confronted with a new environment. Beyond the new teachers and fellow students, the great change lies in a more intense study pace, new pedagogical forms and a greater responsibility in the organization of studies.

Meanwhile it is necessary to build a first vision of what a future job could be to understand its relation to the classes attended. This implies a drastic change from what has been previously experienced, particularly during the apprenticeship.

## Targeted issue

In the bachelor's degree class in "Media Engineering" at HEIG-VD (Engineering and Management School of HES-SO), students starting their training discover a multidisciplinary study plan and a varied professional future. The understanding of the link between the educational curriculum and the future professional activities is gradually developed over the three years of studies. However, in the first part of the studies it may be difficult for many students to make the link between the different subjects taught, as well as the link between these subjects and the future professional activity. This can be a source of demotivation (Howard, 1989; Valle et al., 2003).

## Proposed solution

In order to target these issues it was decided, during the new "Media Engineering" study plan conception, to internally develop a new digital resource: the Media Serious Game (Aldrich, 2003).

The basic idea was that this Media Serious Game would be used during the first couple of weeks of study to allow students discover an example of their future profession, understand its multidisciplinary aspects, and make the connection between their future career and the study plan for the three Bachelor years. A working group of teachers and assistants developed the Media Serious Game. The latter is an integrated simulation concept, including a virtual simulation environment (software simulation accessible online) and a real simulation environment (face-to-face role-playing, teamwork, document production, presentations).

A "teacher interface" has been developed to enable teachers involved in the exercise to monitor the students' work progression.

[1] In Switzerland, an HES (*Haute Ecole Spécialisée*) is a university of applied sciences (UAS).


Fig 1: Concept

## Relevant innovation

Innovation lies both in the development process and its implementation. The development process, from design to implementation, was carried out collaboratively by a multidisciplinary team including computer scientists and teacher and assistant representatives from the various subject fields to be integrated into the Media Serious Game. It is thus an example of a complex co-creation (Westera, Nadolski, Hummel, & Wopereis, 2008). This process began with the definition of pedagogical and general objectives to be reached with the Media Serious Game. These shared objectives then served as a guideline for subsequent developments. The collaborative development was supported by the use of the *Web Game Authoring System* (Wegas), developed by the AlbaSim research team at HEIG-VD.

## Project outcomes & results

Our overall experience shows that the co-creation of serious games benefits from clear common objectives and a collaborative development platform.

The first use of the Media Serious Game took place in September 2018. The simulation was used during 10 half-days over a 2-week period. Five professors and teachers participated in the animation of the different phases of the course and the simulation. The overall student evaluation of this first course of the curriculum is very good.

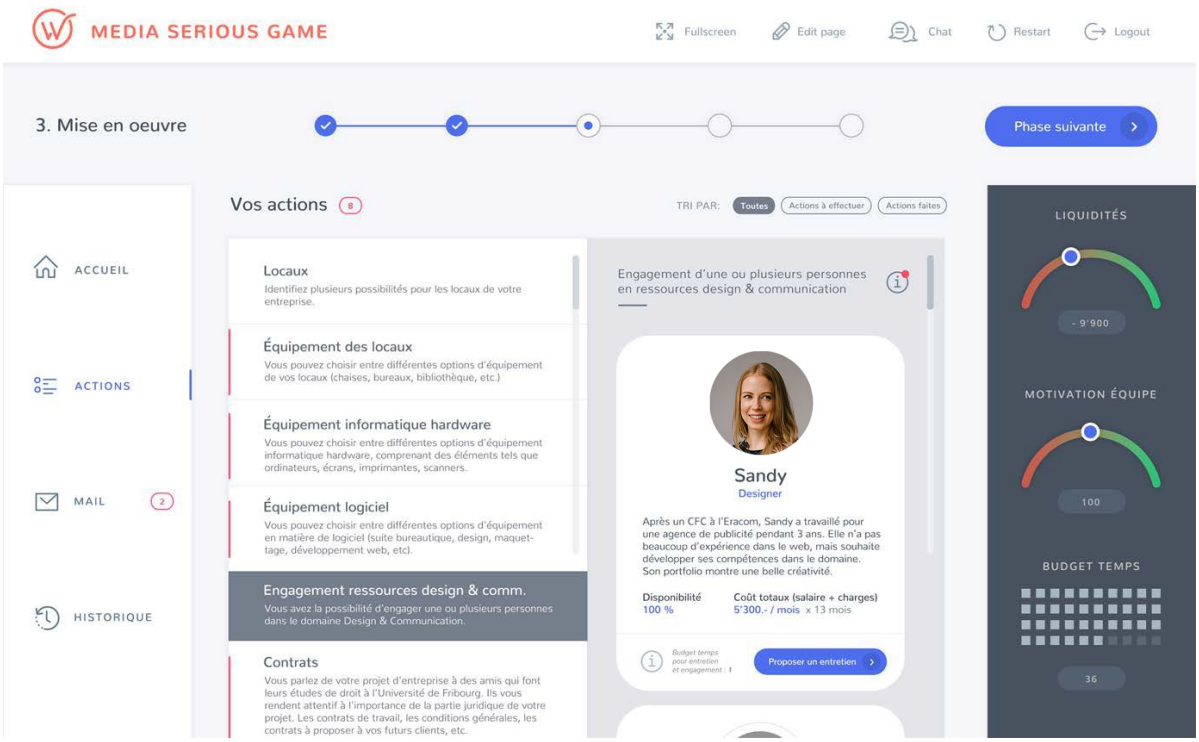


Fig 2: Screenshot of the resulting serious game

## Conclusion

The creation of the Media Serious Game validated both the methodology and the co-creation platform for the development of a multidisciplinary serious game by several professors. This experience also shows that a single serious game enables the achievement of multiple objectives such as the discovery of the study plan, new pedagogical methods and the development of a team spirit in the classroom.

## Perspectives & Needs

On the basis of the first evaluations by students and professors, it will be possible to further improve the developed serious game.

In a more general perspective, this experience shows that it is possible to develop and use an integrating serious game as an introduction to an academic course.

## References

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