

Development of change management skills and Serious Games

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Abstract

In the current context of increasingly frequent transformations, it is necessary to study the resources of professionals which are available to them to manage these transformations. New technologies are a modern « fun » way to help professionals by developing resources and skills, and training them in this situation.

SIM2B (SIMulate To Be) is a research project financed by the French Unique Inter-ministerial Funds in which four partners are working together (GRePS and LIRIS, research laboratories ; SBT Human(s) Matter, a serious game company ; and Artefacts Studio, a video game company) to create an innovative serious game focused on change management in professional environments, which includes artificial intelligence (AI). In order to favour professional skill development in a transformation context, the design of this serious game needs to address an important difficulty : to find the right balance between the realism of the game, its fun aspect and the educational objectives (Liai, Bobillier Chaumon, & Cuvillier, 2018).

In the game, the professional plays the role of a consultant. In the context of a business merger, the player has to ensure that it will be accepted. Depending on various pre-established scenarios, the player will meet non-player characters (NPCs) such as colleagues, employees, managers, directors, etc, and interact, cooperate with them and take decisions which will impact NPCs and the situation. The game is a way for professionals to experiment with different strategies in a transformation context and to observe and examine the impact on the situation and on NPCs. To produce a retrospective analysis on the player, the NPCs need to have credible emotional and social behaviours in their interaction with the player. This general process involves an innovative design of realistic behaviours, emotions and profiles of NPCs.

We used retrospective simulation of social-emotional activity to access and model real situations of change involving emotions and social behaviours and to guide the creation of the script of the game. The principal objective of this retrospective simulation was to associate different experienced changes at work with emotional and social behaviours (Bobillier Chaumon, Rouat, Laneyrie, & Cuvillier, 2018) which were then used as a basis for designing NPCs and the script of the serious game as most realistic as possible. It is the basis of the artificial intelligence constructed for the serious game.

Moreover, we conducted an experiment on the first version of the serious game in order to measure the quality of the scenarios and the user experience. The methodology deployed was based on a filmed playing of the serious game. During the game, all fifteen participants were simultaneously verbalising their thoughts : problems, difficulties, positive aspects concerning comprehension, vocabulary, NPC behaviours, etc. Forty-eight hours after the experiment, we conducted semi-interviews with every participant to discuss their experience with the serious game. We asked about their feelings, their comprehension and their expectations during

the game. We also discussed about what they retained and what they learned thanks to the serious game.

The results of this first experiment highlight problems which allows us to improve the scenarios and the serious game in general. The results also showed that the serious game induced retrospective analysis in the participants around their « real-world » skills and behaviours both personally and professionally.

Based on this experiment, we are currently working on the last two experiments based on the final version of this serious game. We have added to our methodology a specific questionnaire about the usability of the serious game and we have also added questions in our semi-directive interviews about retrospective analysis and skill transferability.

Finally, we consider that an immersive virtual environment, based on the most realistic environment possible, is essential to favour retrospective analysis of the impact of a strategy on the transformation situation. This process will allow players to develop and learn new professional skills in change management which will be transferred more simply to a real context (Bobillier Chaumon, Rouat, Laneyrie, & Cuvillier, 2018). The serious game could increased perspective and re-evaluation of their own behaviour and their actions in a transformation context (Liai, Bobillier Chaumon, & Cuvillier, 2018).

Our research project contributes to the debate of developing skills in a context of digitalisation and regular transformations. Serious games are a playful way to develop change management skills and, to a lesser degree, digital skills.

Bibliography

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Keywords

simulation ; change ; development of skills