

18 | EPILEPSIM: UNDERSTANDING THE LIFESTYLE OF AN EPILEPTIC ADOLESCENT THANKS TO A SERIOUS GAME

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ABSTRACT

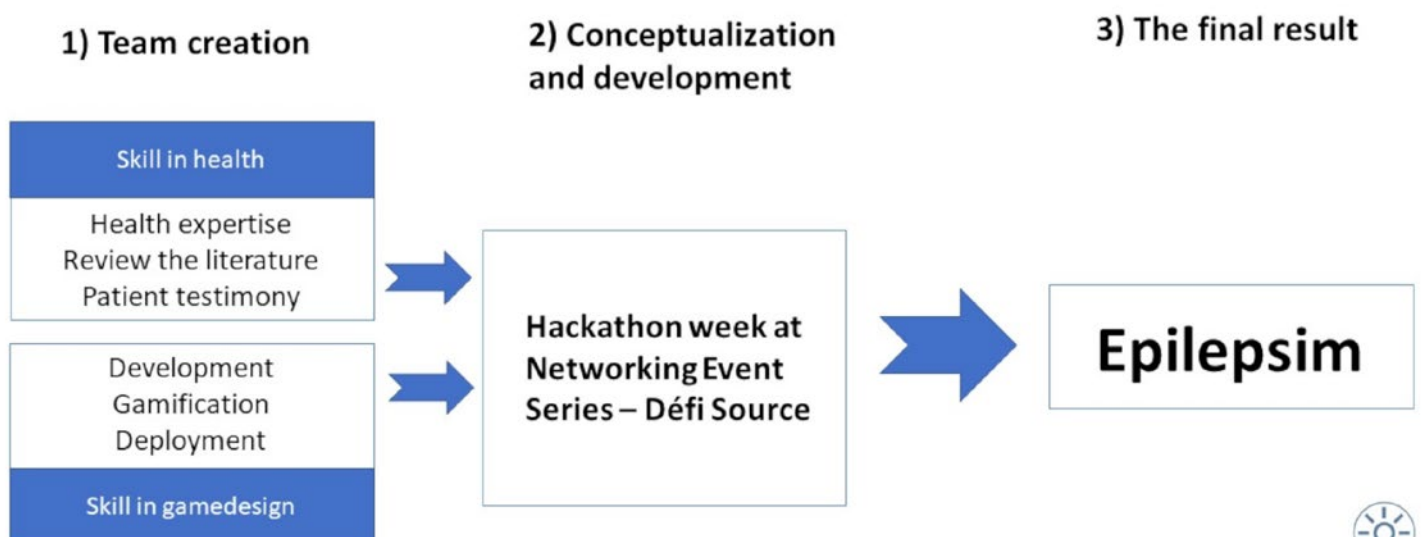
Beliefs about treatment or disease interact to create both adhesion and behavioral change, especially in the context of a life crisis and especially when symptoms can be visualized [1]. In 2021, one percent of the Swiss population has epilepsy, and despite the effectiveness of treatments for 80% of them, acceptance of the disease remains a complicated step [2]. Using a well-designed serious game can be as effective as traditional teaching in improving knowledge, skills, and beliefs about therapy [3].

KEYWORDS

Epilepsy; Serious game; Visualization; Health; Gamification.

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The different phases of the project





CONTEXT

Epilepsy can occur at any age of life. When it occurs at the age when a person builds his personality partly by interacting with his surroundings, the social consequences are inevitable. Seizures can be impressive for those who witness them, even becoming an unpleasant experience. It is not surprising that in the Middle Ages, this pathology and the seizures that resulted from it could be seen as cases of demonic possession, especially convulsive epilepsy. Biomedical progress has not erased the clichés of the past. Today, people with the disease pay a heavy inheritance, as can be seen from those who suffer from it. Our project “Epilepsim” is born from this reflection. A mobile application, where the player embodies his avatar similar to his epileptic and personal profile, allows him to understand, via the game, how to live pleasantly despite the diagnosis.

The goal is to show the experience of a young epileptic to any Epilepsim player who will then learn how to manage by virtually transcribing skills and knowledge in real life



TARGET ISSUE

The goal is to show the experience of a young epileptic to any Epilepsim player who will then learn how to manage by virtually transcribing skills and knowledge in real life. The player will have to avoid his avatar from having a seizure while enjoying life at best. He will have to choose history between actions favoring his crises and worsening his level of amusement and vice versa. The situations the character will encounter are inspired by daily activities adapted to the triggering factors of the crises. The skills mobilized by the player during the character’s evolution enable him to use his achievements during his activities.

PROPOSED SOLUTION

Epilepsim is a mobile RPG game. The player embodies a character that looks like him personally and epileptically; he configures his character look. He has the same sensitivities on the epileptic level as him, such as stress, lack of sleep, photosensitivity, etc.

Two gauges punctuate their parts: a fun one and an energy gauge. When the second reaches zero, it is the epileptic seizure. Activities available in the game, such as sleeping, playing video games, watching TV, going out, etc., will impact fun and/or energy positively or negatively. A “Tips” section is available to help him manage his virtual and real epilepsy. The advice is for educational purposes. Indeed, if the player masters them through the game, he will be able to apply them in his life more easily and share them with his loved ones.

The game’s storyline relies on the fact that the player must interact between the character and his world to have fun and be as happy as possible while having the minimum of epileptic seizures. Epilepsim’s goal is to teach the young player how to manage his epilepsy without feeling that she is just constrained and afraid. Relatives of sick people can also find a resource to understand this pathology.

RELEVANT INNOVATION

Epilepsim’s main innovation is using a serious game as a support for the adolescent diagnosed with epilepsy in the most playful way while having the most positive vision. The competition analysis we conducted shows that Epilepsim is positioning itself as a response to the lack in the current epilepsy ecosystem. The use of gamification proposed in this game allows this complex step in the life of a teenager diagnosed with epilepsy and offer him a means at your disposal to understand a different approach.



PROJECT OUTCOMES & RESULTS

The goal is not to treat, and in no way replace the work of a health professional. Epilepsim is a support for the user in her learning of the disease. It is intended to be educational and strengthen the patient's knowledge. The simulation offers the opportunity to recognize the everyday life actions that increase the risk of a crisis and the ones that protect against it. It also considers actions that improve her quality of life. This being a subjective aspect, the player can choose (in the game) the activities that really make her happy. Then, she can simply observe whether they are derogatory to her health. This double focal length is perfect for anticipating risky behaviors. To another extent, it allows to adapt activities that improve her quality of life by respecting the patient's health. This learning via the app is transposable into the user's life.

CONCLUSION

For now, the game was reserved for people with illnesses and develop their knowledge on their pathology. In addition, the project could be intended for the patient's entourage to understand, feel, or at least imagine what the person is going through. Family, classmates, or co-workers are very good examples. To go even further, the application could become a powerful educational tool.

PERSPECTIVES & NEEDS

The minimum viable product of Epilepsim was designed and developed by a multidisciplinary Valais team from collaborators and alumni of the HES-SO Valais/Wallis and students from the Nursing Team Academy. An award supported the project at the Source 2021 Challenge to support this drive for innovation in helping adolescents diagnosed with epilepsy. The Epilepsim project team has the vision to continue the project by finding the necessary investments.

ACKNOWLEDGEMENTS

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