UNIVERSITY OF LEICESTER

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Development of a digital teaching aid that could be used to teach consultation skills to medical students

Problems that needed solving

To develop a digital teaching aid that could be used by medical students to help them study for the Objective Structured Clinical Examination (OSCE)

Currently, medical students can practice their skills during teaching hours, but that limits the amount of practice that students can do. Additionally, many students write practice scenarios for each other to practice, but these maybe inaccurate as they are not endorsed by the medical school. A text-based simulation computer program may allow students to practice clinical procedures and test medical knowledge with 24/7 availability, whilst also allowing the medical school to maintain accuracy.

About Visual Novels

An interactive game in which the player is shown a story, from the perspective of a protagonist, through a combination of static images, videos, text or voiceovers, through which the player can make choices. Games can be simple 2 or 3 branch stories, or highly complex productions with many endings, points systems and smaller games inside.

The program used for this project was based on visual novels – it was adapted to include a scoring system, and a minigame where points are given if the player makes correct choices in diagnosing the patient. In the future, timing could be taken into consideration, and a treatment plan could be implemented that involved different endings for the patient's outcome.

Aim of the project

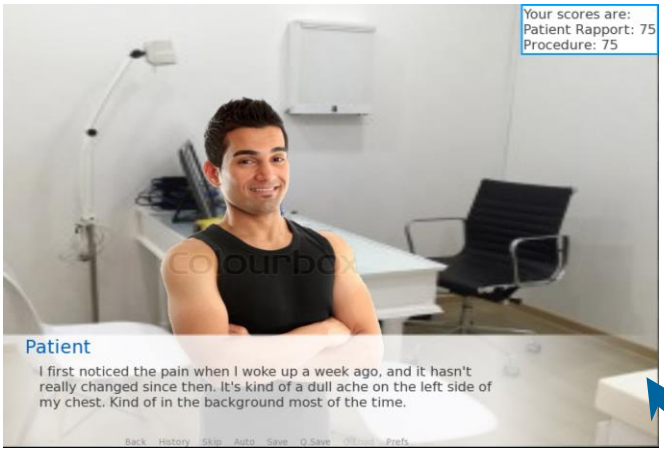
The program will allow students to run through clinical consultations and revise their knowledge on differential diagnoses, patient communication and other medical knowledge. It was built using a video game engine called Ren'Py, and the clinical situations were derived from practice OSCE scenarios provided by the Medical School.

The project so far

Work on the program started in late March with the development of a clinical scenario for the project, and the adaptation of the game engine to the specific requirements of the project. A number of game engine options were explored, but Ren'Py was chosen due to its ability to work on multiple platforms, and it's open source license which allowed us to steer clear from any potential copyright issues.

However, there was an unexpected steep learning curve in the development of the game as well as the understanding of the clinical situations. The clinical situations were also more complicated than previously anticipated. This resulted in a longer development time for the program and made the original idea of creating many scenarios and making them available online less feasible.

There were also time constraints due to the commitments of the innovator and associate.



A scene from the game, which depicts the patient presenting his symptoms to the player

About Ren'Py Engine

Ren'Py is a visual novel engine – used by thousands of creators from around the world – that helps you use words, images, and sounds to tell interactive stories that run on computers and mobile devices. These can be both visual novels and life simulation games. The easy to learn script language allows anyone to efficiently write large visual novels, while its Python scripting is enough for complex simulation games.

Ren'Py is open source and free for commercial use.

Taken from Ren'Py website: www.renpy.org

Moving forward

We aim to continue work on the project after the presentation of this technological demonstration. There are many areas to work on, especially to refine the visuals and develop more scenarios.

On top of that, we are keen to work with the medical school to see if there is any interest from the teaching staff or other students with regards to this project, and to see if the project will be feasible in the long run.