

# Co-Creation of a Digital Escape Room

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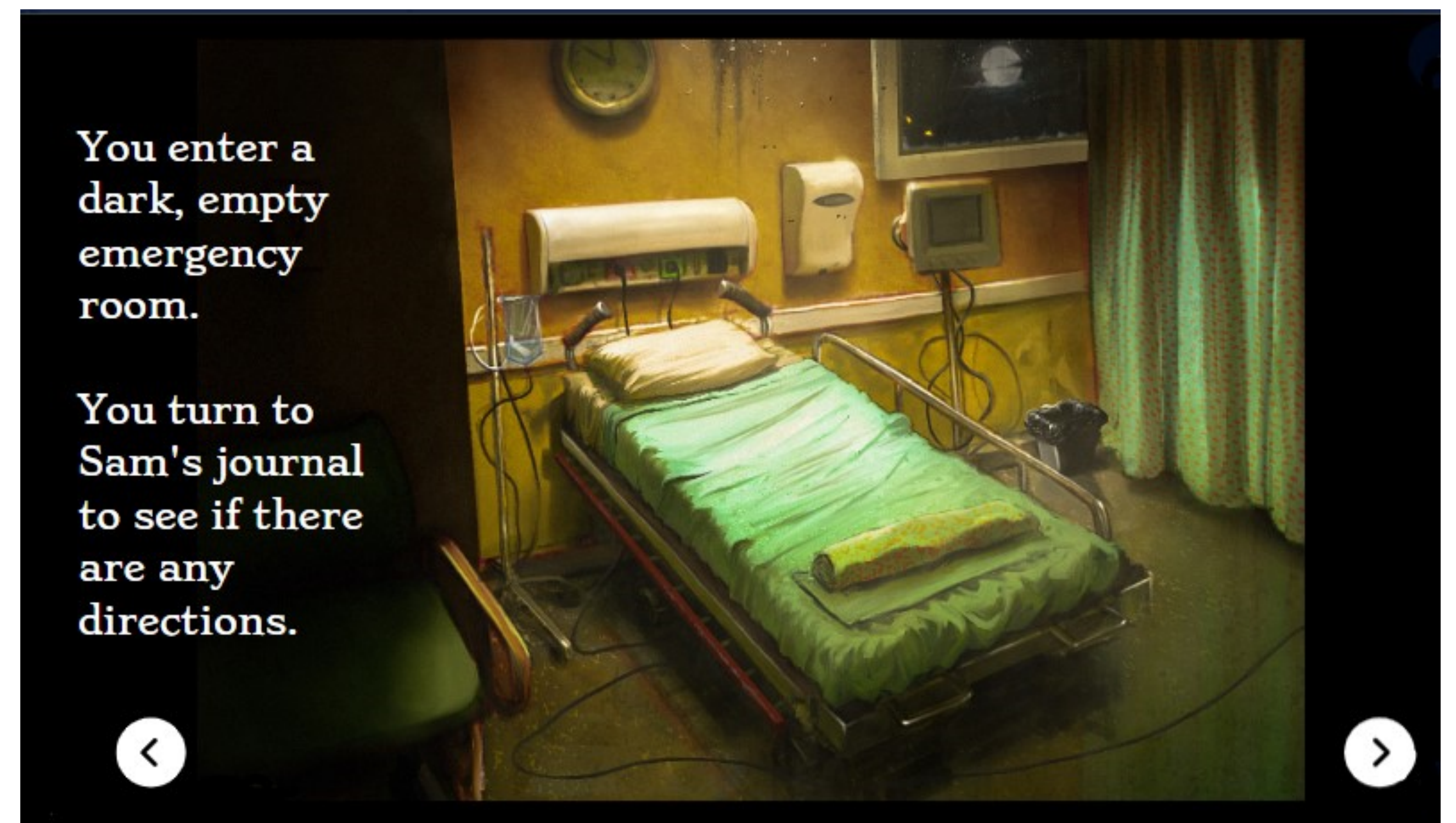
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## Introduction

Research indicates that health professionals meet a wide range of uncertainties in their day-to-day work but receive little to no undergraduate training around how to manage these (Moffett et al., 2021). In an effort to facilitate learning around uncertainty, members of the RCSI HPEC (Health Professions Education Centre) team engaged in a design-based research project that aimed to address this training gap.

## Initiative

The overall aim of the project was to develop an educational intervention that would facilitate medical students' learning around uncertainty management. Ultimately, this led to the development of a digital educational escape room which could introduce medical students to the uncertainties that they may experience in transitioning from classroom- to workplace-based learning environments. Escape rooms are a game-based learning strategy that use puzzle-solving activities to help game-players to achieve learning goals. To develop this escape room, a staff-student design group was established and funding was secured from two main sources: RIME (a medical education research grant supported by INHED/the Medical Council of Ireland) and the RCSI StEP (Student Engagement and Partnership) initiative.



**Figure 1** - Screenshot showing an example of a page from the digital escape room

The core team consisted of ten medical students and an education expert from HPEC, and – across a nine-week period – the expertise of a further 26 medical students, researchers, education professionals, design experts, illustrators, a medical uncertainty researcher, and an audio-visual professional was sought. Using an online design-thinking process, the team developed, tested and iterated several prototype escape rooms. This process resulted in an escape room experience that is fun, engaging and can respond to the learning preferences of diverse cohorts of students, supporting the principles of Universal Design for Learning (UDL). The activity, which can be used in small group or large group settings, allows learners to engage with experiences of uncertainty in a psychologically safe environment and supports group reflection and meaning-making around this domain. Overall, the design-based research project facilitated the advance of existing knowledge, theory and practice, around how novel learning environments such as escape rooms work.



**Figure 2** - Flowchart of the study design for the digital escape room

## Outcomes

The resulting digital educational escape room was piloted with students at RCSI and results from these early evaluations have been fed into a final iteration of this learning environment. This version has been rolled out to over 300 medical students based in Dublin and Bahrain in 2024. The results from the pilot test, which were published in *Perspectives on Medical Education*, indicate that the majority of the students (82%) felt that the escape room had helped them to understand and deal with situations that are uncertain. Furthermore, the data yielded important information for researchers and education practitioners about how online pedagogies such as Community of Inquiry can underpin learning design in these novel settings. The project also highlighted evidence that medical students enjoy and gain transferable skills from engaging in creative processes, i.e. building and playing digital educational escape rooms. These findings were published recently in *Learning Environments Research*. In addition, the project has resulted in a number of practitioner “how to” papers, knowledge exchange articles, and several international conference posters, presentations and workshops. Finally, the project will also contribute to a PhD project which represents a collaboration between researchers based at RCSI and Utrecht University. The project was recently recognised with respect to its contribution to the field of UDL through the 2023 John Kelly Award.