



Birth of a Serious Escape Game for Chemical Engineering Labs

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Highlights

- Increasing motivation to prepare labs.
- Promoting exchanges and cooperation between peers.
- Emulation through the game + emotions that promote learning.

1. Introduction

Starting from Japan, the United-States and different places in Europe, the escape rooms have flourished in the last decade, for fun adventure experiences with family or friends or for professional team building activities. Players work together in a team of few people, solve puzzles with the help of clues, in order to escape from a locked room, in a given period (usually about one hour). At the same time, the concept of gamification is developing in pedagogy. Nothing surprising indeed in the appearance of “serious escape games”.

It is often difficult to motivate learners to prepare the practical sessions. This is the starting idea of this project, currently under development: first experiment will take place in April-May 2019.

2. Methods

We first read some literature on the subject (for example [1-2]). Then we experimented card-based games such as Unlock [3] and Exit [4]. The playing team was composed of teachers and pedagogical engineers. During this stage, we tried to understand the “mechanics” of these games and identify types of enigmas that can be applied to a learning topic. The Mécanicartes [5] (under Creative Commons license BY-NC-SA and also provided in English and Dutch) are a relevant tool to understand and “husk” the game process. Then we set up a “scenario” for the game, based on reviews needed to prepare the labs and required preliminary calculations before moving to pilot plants experiments. We also found useful help on a French web site dedicated to pedagogical escape games [6].

3. Results, discussion and conclusions

are of course not currently available and will be presented during the congress.

References

- [1] Alpár István Vita Vörös and Zsuzsa Sárközi, *Physics escape room as an educational tool*, AIP Conference Proceedings (2017) – <https://aip.scitation.org/doi/pdf/10.1063/1.5017455>
- [2] Gaëlle Guigon, Jérémie Humeau and Mathieu Vermeulen, *A Model to Design Learning Escape Games: SEGAM*, Proceedings of the 10th International Conference on Computer Supported Education (2018) – <https://hal.archives-ouvertes.fr/hal-01744860/>



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- [3] <https://www.spacecowboys.fr/unlock-demo>
 - [4] <https://www.iello.fr/fr/fiche/exit-le-jeu-le-laboratoire-secret>
 - [5] <http://www.mecanicartes.com/>
 - [6] <http://scape.enepe.fr/>