An EPIC Space Race

Jonathan Rossi
*DeSales University*

Matthew Kastner
*DeSales University, Matthew.Kastner@lvhn.org*

Follow this and additional works at: [https://scholarlyworks.lvhn.org/research-scholars-posters](https://scholarlyworks.lvhn.org/research-scholars-posters)

Published In/Presented At

This Poster is brought to you for free and open access by LVHN Scholarly Works. It has been accepted for inclusion in LVHN Scholarly Works by an authorized administrator. For more information, please contact LibraryServices@lvhn.org.
The purpose of this project was to formulate an instructional, yet traditional game design process to create a game that would assist all Lehigh Valley Health Network employees, and possibly medical professionals nationwide, in the switch to the EPIC systems.

**Background**

A majority of the staff knew the old systems by their names and functions but the EPIC systems were entirely new and reorganized. So the Division of Education wanted to come up with a way to help smooth out the transition by creating an engaging and educational video game. This teaching method has been looked at by various scholars such as Jane McGonigal, a game designer and author of *Reality Is Broken...*, Karl Kapp, a professor and author of *Gamification*, and Katie Salen & Eric Zimmerman who authored the *Rules of Play*, a theoretical guide to programming games.

**Literature Review**

Below is a list of scholarly works that were used by the team:

- **Gamification** - How to structure reward systems, details on motivation (both intrinsic and extrinsic), and four general types of players and how they act in accordance with the game.
- **Rules of Play** - Meaningful play, the idea of a system, the ‘Magic Circle’ and ‘lusory attitude’, the flow, emergence, and how the overarching attributes of rules, play, and culture and how they influence games.
- **TED Talks** - Measuring progress, rewards for effort, elements of uncertainty, rapid, clear and frequent feedback, and blissful productivity.
- **100 Principles of Game Design** - discussed how to go about giving a player a sense of accomplishment, how to get a player into ‘the flow’, Krug’s First Law, and Actions > Outcome

**Development Timeline**

- **Early developmental stages of the Core Interface, Version 1.0**
- **Early Gameplay, Version 2.0**
- **Gameplay, Version 2.5**
- **Finish Screen, Version 2.5**

**Objective**

**Design Methodology**

- **Version 1.0:** Design of the basic core interface that would be most beneficial for the target audience and also provide relevant feedback.
- **Version 2.0:** Fun and classic gameplay was designed around the learning interface.
- **Version 2.5:** More efficient and easy to play design as well as the addition of more features.

**Results**

- **Number of Volunteers:**
  - 8 Control & 10 Experimental
- **Average Pre-Scores:**
  - Control - 39.3%
  - Experimental - 34%
- **Average Post-Scores:**
  - Control - 78.2%
  - Experimental - 52.3%

**Conclusion**

Additions since testing:
- Changed the color of the text to be a neutral color so on evaluation it would become apparent which was correct and which was incorrect.
- A dynamic ranking system in the top left corner that would display what rank all of the players are at every moment during the race, to add to the intensity of the gameplay.
- Hints were also added underneath the system description to add an extra feedback system.
- Changed the correct to incorrect ratio at which the computers answer to make it more realistic.

**Results:**
- 18.3% knowledge increase in the experimental group and 38.9% increase in the control group.

**Conjecture:**
- Norm of memorization for short term success in favor of control group.
- The retention of the knowledge would be significantly greater for the experimental group.
- Process of elimination combined with initial knowledge difference, in favor of control group.

**Conclusion:**

The EPIC Space Race is entertaining, it gets employees to manipulate the information and make mental connections between the departmental functions and the systems that they will use, and has an expected higher retention rate which means that this program can be a viable tool for the Lehigh Valley Health Network.