Touching Triton

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Short Game Description: *Touching Triton* is a serious game focused on building understanding of common complex disease risk. Players are faced with real world scientific data for crewmembers about to embark on a mission to Triton and must make informed packing decisions to help keep the crew healthy while away from Earth. Wrestling with large datasets of realistic medical and genetic data and interactions with filmed personas provides the foundation for a challenging critical thinking experience all set in the engaging storyline of long term space flight.

Game Description

Touching Triton is a serious game focused on building understanding of common complex disease risk. Students take on the role of a member of the human resources team for the fictitious Chiron Avionics. The goal of the game is to assess a spaceflight crew's risk for common complex diseases (e.g. type 2 diabetes and coronary artery disease) and pack a spacecraft for a 20-year round trip mission to Neptune's moon Triton in order to keep the crew healthy and alive. Players are faced with real world scientific data for each crew member including medical records, genomic testing results and family history. Interactions with filmed actors instead of animated characters add to the real world immersion experience. Wrestling with large datasets of realistic data and interactions with filmed personas provides the foundation for a challenging critical thinking experience all set in the engaging storyline of long term space flight.

Game Development

Teachers and students have been involved in the development of *Touching Triton* from its earliest stage. The first iteration of the game (see Figure 1) was tested with over 70 students from three different classes and three different schools. These pilot schools continued to provide valuable feedback through in-class testing and observations throughout the design and development of the game. Through feedback from those students and educators, *Touching Triton* was refined in both graphics and interaction (see Figure 2) to make the experience as intuitive and engaging as possible while retaining the educational capacity of the game.

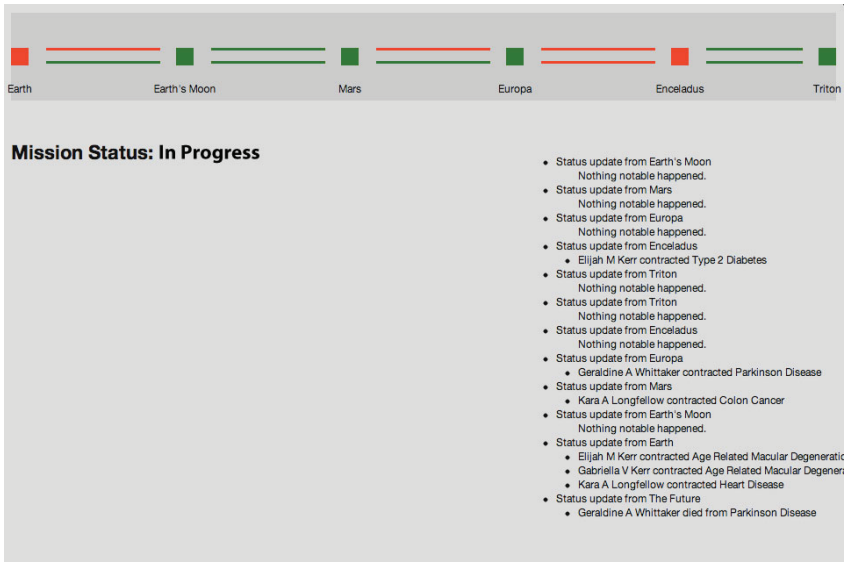

Figure 1: 1st iteration of launch portion of gameplay

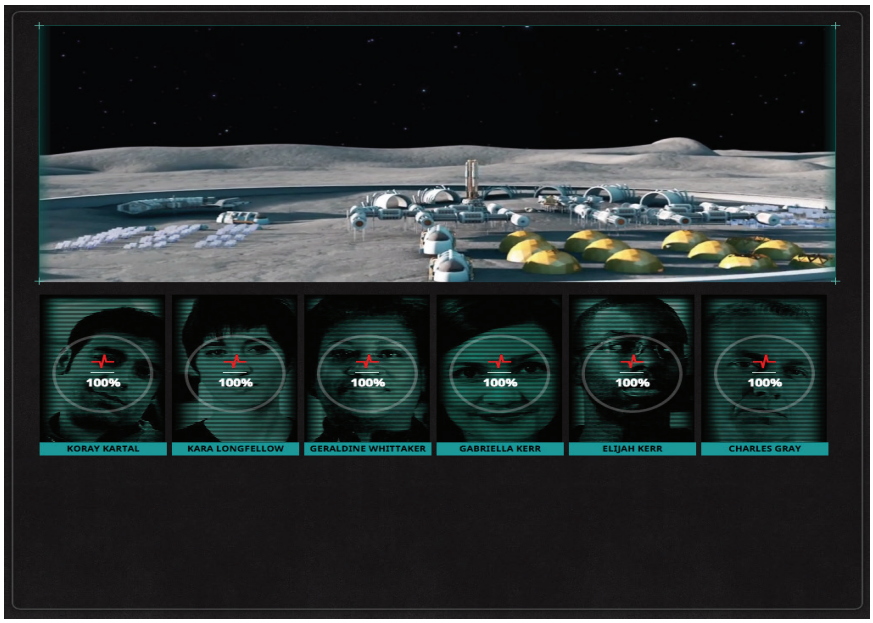

Figure 2: Final iteration of launch portion of gameplay based on student and educator feedback

Learning Objectives

1. Many genetic and environmental factors interact together in a complex manner to influence health and disease risk.
2. Genomic data can be used to determine a quantitative disease risk for an individual.
3. Current knowledge about genomics and risk factors for disease is ever changing.
4. Personalized disease risk can inform decisions regarding lifestyle and medical interventions.

Target Population

Touching Triton has been designed for and tested with high school students of various levels including introductory biology courses, honors biology courses and IB biology courses. Although the design was initially focused on creating a serious game for high school life science courses, *Touching Triton* has become a key component in a clinical rotation of undergraduate nursing students and has been used in undergraduate introductory biology curriculums.

Trailer and Other Videos

https://vimeo.com/adamhott/touchingtritontrailer

https://vimeo.com/adamhott/karainterview

https://vimeo.com/adamhott/korayinterview

https://vimeo.com/adamhott/gabriellainterview

https://vimeo.com/adamhott/launch