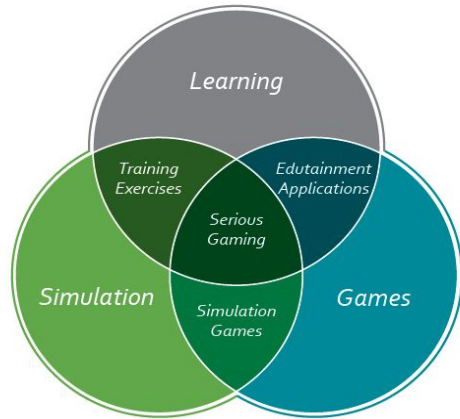# Free Skies

Autism Virtual Reality Project

Team Members: Gavin Smith, Alanah Cottingham, Jiaqi Yang

Background

- What is autism?
- How can Computer Sciences take part in the treatment of autism?
- What is our application?

Faculty Sponsor and Clients

- Faculty Sponsor: Dr. Lucas Stephane
- Client: Dr. Dana Gadaire
- Client: The Scott Center for Autism Treatment

Goal and Motivation

- The goal is to create an training system to assist the training of the scott center therapist. The ultimate goal is to provide a more efficient and comprehensive way in aiding the children with autism.
- Our motivation is to assist with the progression of autistic treatment by using a serious gaming platform. The advancement in technology can now provide training on monitoring and aiding disabilities better.

Features - Trainee

- **Keeping Patients Engaged** - Based on the treatment needed by autistic patients the game levels which will change and provide unique challenges to keep interest
- **Positive Reinforcement** -A grading system will be included for trainee to see improvements and area of improvements
- **Training Plan Access** - The Trainee will be able to access the training plan their Trainer assigned to them in a gamified form.

Features - Trainer

Accessing and analyzing Trainee data is important for caregivers, so it is equally important that they have several options such as:

- Individual Profile
- Comparing Profile, eg: How is Gavin doing compared to Alanah
- Progress assessment
- Feedback from the trainee: How much they are enjoying the process
- Lowest Mean test scores for different categorizes: e.g. why is everyone scoring low in Hand gesture recognition? Is it too hard?
- Highest mean test scores: Is this measurement method too easy
- Have Trainers be able to put notes on trainees account to help future trainers and trainee move forward better

Technical Challenges

- Limited experience in game engine
- Database management
- Difficulty with user-driven system

Milestone 1 (Sep 30)

- Have a sit-down meeting with both our faculty sponsor and the Scott center to create full requirements documents outlining exactly how each aspect of the platform is supposed to work
- Have a development platform be chosen and have a small simple animation environment be setup in Unity where the user can look around
- Have an Entity relationship diagram created to have a physical layout for the database
- Select all the tools needed for animation and ensure that it is compatible with the game development platform
- Create a test plan for testing all aspects of each game level focusing on user interactions
- Create a design document with our faculty sponsor
- Host a test run with the Scott Center therapists and consolidate the requirements document, making changes where necessary

Milestone 2 (Oct 28)

● Create and test writing and retrieval queries to/from a database, and specifying and implementing the caregiver forms for patient assessment linked to the game

● Create and implement customized accounts that adjust user experience for each user, e.g. name display,

● Create and test avatars in the game development environment

● Outline requirements for grading scheme and possibly have a focus group with the Scott Center therapists trainee's

Milestone 3 (Nov 25)

● Create a Functional level and be able to test the data collection aspect and Reward system

● Host a test run with the Scott Center therapists and consolidate the requirements document, making changes where necessary

● Create and test filter options for data on each patient information, as requested by the therapists

● Create a simple individual platform for the therapist that is linked to the patient database

Contact

Project Members:

Gavin Smith, smithg2016@my.fit.edu

Alanah Cottingham, acottingham2016@my.fit.edu

Jiaqi Yang, jyang2016@my.fit.edu

Faculty Sponsor: Dr. Lucas Stephane, lstephane@fit.edu

Client: Dr. Dana Gadaire, dgadaire@fit.edu

Question?

Thank You