EXPOSURE THERAPY USING VIRTUAL REALITY ENVIRONMENTS

Introduction

The aim of this project is to produce a virtual reality environment in which a user can practice an activity such as giving a presentation in a Virtual reality environment in order to overcome issues such as anxiety. The virtual reality will consist of a either a lecture hall or small classroom and will be populated with an audience. The user will then be able to practice their presentation or speech and the audience should be able to respond to things like long pauses between sentences and if the user is speaking monotonously. This will also give the software some use as a practice tool

Technology

The technology used will be Unity and C#

Unity is a game engine, a software development environment designed for users to be able to build video games.

C# is intended to be a simple, modern, general-purpose, object-oriented programming language and is the language used for writing scripts in the Unity Engine

Results

Due to having a set boundary when using the oculus quest 2 limiting how far the user can move the environment is large enough that the player can not exit the room or attempt to clip through the walls. Also the MakeHuman Characters seated at the front of the hall are realistic enough that immersion isn't broken and there isn't an uncanny valley effect.

Oculus Quest 2

The Oculus Quest 2 is a Powerful Virtual reality headset that allows for an immersive standalone experience. The quest is unique among virtual reality headsets in that it offers a similar experience to more powerful headsets that require to be connected to a computer. As a powerful All in one headset the software can be loaded directly to the headset and can be taken anywhere.

Methods

All the models in the audience where created using software called MakeHuman this is to save time as opposed to creating models from scratch and animating them in blender.

These Characters were animated using animations from adobe mixamo as it allows for a wide variety of animations to be used without spending large amounts of time creating them from scratch