**Technical Design Document**

Escapism

**Engine/3rd Party Libraries**

Escapism is being developed in Unity 2017.3.0f3 with the SteamVR Plugin obtained from the asset store and the VRTK Plugin obtained from its Github Repository.

**Platform**

Escapism is available to play on Windows 7 or higher with a HTC Vive Setup.

**System Requirements**

System requirements match those required to run HTC Vive and can be found at the link below:

<https://www.vive.com/au/support/vive/category_howto/what-are-the-system-requirements.html>

**Game Development**

Unity is the game engine being used to develop the game, with code written using the C# Programming language. To enable multiple people to work on the project at different locations we are using a Github Repository to manage the project.

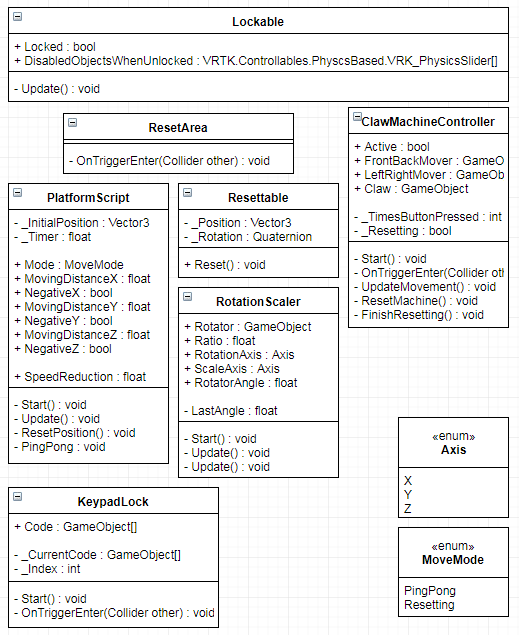
**Gameplay**

Escapism, being a VR game, is played from a first-person perspective. The camera moves automatically with your head and body in real life, and can be moved to areas further away with an in-game teleporter.

Gameplay involves manipulating objects in the virtual environment to complete puzzles.

This includes but is not limited to opening drawers/doors, pressing buttons, and inserting objects into specific trigger areas.

**UML Diagram**



RotationScaler is used to scale an object based on the rotation of another. It is placed on the object you want to scale and the object you rotate is dragged into the Rotator GameObject in the inspector. RotationAxis and ScaleAxis are set to determine which axis is scaled based on the axis that is rotated.

KeypadLock is a specialised script used for puzzles that involve KeypadLocks, such as a safe. The script is placed on an object with a trigger, and when buttons hit the trigger the \_CurrentCode array is updated, when it is equal to the public Code array the puzzle can be completed.

ResetArea is placed on an object with a trigger. When an object with a Resettable monobehaviour enters the trigger, it is reset to its original position in the inspector.

Resettable is attached to an object that you want to be reset if it falls out of bounds. Used for objects that are required to complete puzzles, though can be placed on any object. When the scene is loaded the script records the objects Position and Rotation.

Lockable is a script attached to a rigidbody. When the Lockable object is locked it’s rigidbodies Position and Rotation becomes locked until it is unlocked.

PlatformScript is attached to an object and allows it to move between 2 points when set to PingPong mode, or return to and stay at its InitialPosition when set to Resetting mode.

ClawMachineController is a specialised script used to control the inner workings of the ClawMachine mini-game. The script is placed on an object with a trigger and the objects that move are dragged into the various GameObject slots in the inspector. These objects have PlatformScripts and are set to PingPong mode, Resetting mode, or disabled based on the current state of the ClawMachine.

**Art Technical Requirements**

3D Models used within the game are of the FBX format.