Progress Report

6th December 2019

Overview

Over the past two weeks, we have been designing the game concepts and mechanics with a focus on making the game an engaging puzzle. We have also been developing the starting base for our prototype in Unity and C#, specifically the physics of water flow and we have been experimenting with the effect of pressure on the direction and velocity of the water particles.

In addition, we have been developing our knowledge of the current research in eye tracking, particularly on the mechanics of the technology, good design practice and the current limitations for example, the Midas Touch effect and the effect of longer dwell speeds on the speed of the game.

Completed Tasks

ID	Task
7	Continue building up the Pipe Game concept to a fine level of detail.
8	Develop an understanding of Unity.
9	Begin development of the first Pipe Game prototype.
10	Conduct further research on the state of eye-tracking.
11	Conduct detailed research on the limitations of eye tracking technology and good design practices in eye tracking applications and games.
12	Conduct further research on users and possible restrictions they may face whilst using eye tracking technology e.g. difficult to focus on corners.
13	Conduct research on how games can be used to develop eye-tracking abilities.
14	Develop list of use cases that our game must implement.
15	Integrate DevOps within development strategy

Project Status

 The project is currently on track and we are looking to finalize the design of the game and make good progress in developing the prototype.

Possible Problems

ID	Risk	Mitigation
2	Potential lack of flexibility in Unity.	Continue implementing the game in Unity, allowing for small changes to the design. If we experience large problems implementing the functionality in Unity, we will investigate using C# and libraries such as Box2D to develop the game.
3	Potential difficulties in developing eye tracking support using the Unity Tobii SDK.	Early experimentation with the Unity Tobii SDK which will allow us time to change our development strategy if needed.

Two Week Plan

ID	Task
8	Implement mouse-based movement of pipes from menu to dot (click on pipe and click on dot to move pipe to dot).
9	Implement mouse-based control of pressure in each pipe.
10	Design whimsical features such as the target of solving the puzzle.
11	Implement a timer.
12	Implement the ability to lose the game by flooding the screen with leaking water.
13	Design challenges for example, obstacles and stars.