Progress Report

7th February 2020

Overview

Over the last two weeks, we have implemented additional game functionality such as stars being achieved for completing levels within certain time limits, an explicit data privacy pop up and user adjustable dwell times. We have also developed the ability to generate game levels from external XML files, which will enable cleaner data sharing within the game in addition to, allowing for the quick creation and modification of levels. We have also successfully exported the game into an MSIX package which will allow it to be published in the Windows Store.

In addition, we have been working on improving the graphics of the game for example, creating our own water particles as well as creating a theme and storyline for the user playing the game.

Completed Tasks

ID	Task
36	Multiple, varied levels for users to play.
37	Button on the main menu to open the level grid and select the level to play.
38	Investigate the creation of sound effects for the game.
41	Enable users to adjust the dwell time within the game.
42	Delete, rotation and cancel selection buttons are greyed out when a pipe is not selected but, are available for selection if a pipe on the grid is selected.
43	Timer for time taken to complete a level. Stars are earned for completing the level in certain time frames.
44	Longer dwell times for destructive actions for example, exiting the game.
45	Add a lifetime to the water particles so that they are destroyed when they are no longer needed.
49	Create water particles for fluid simulation.
50	Eye Tracking consent notification.
51	XML backend for level generation.
52	Created new graphics for the game.
53	Created a theme and storyline for the game.
54	Investigated MSIX package generation.

Project Status

The project is progressing well, and we are continuing to add further functionality to the game and refine the current functionality. We are also improving the game aesthetic and user experience via new graphics, game mechanics and storylines.

Possible Problems

ID	Risk	Mitigation
2	Potential lack of flexibility in Unity.	Continue implementing the game in Unity. If further features are required investigate the possible

		integration of Unity with external libraries.

Two Week Plan

ID	Task
39	Obstacles that prevent the water flow from passing through them.
40	Visual indicators of when a user selects a game object using gaze-input for all objects.
46	Addition of further game animations.
47	Hint button that can provide the user with hints on where to place a pipe.
48	Unit tests to test expected functionality.
55	Continue improving the graphics and the sounds of the game.
56	Multiple target pipes in a level.
57	Level grid locks levels higher than the current level of the user.
58	Level grid highlights current level of the player.
59	Game completed screen displays total stars achieved in the game.
60	User testing of the game.
61	Game tutorial produced.
62	Begin writing documentation of code.
63	Improving efficiency of game.