eSports – Formative Game

Mr. Frey – Nov 11, 2022

Goal: to demonstrate an understanding of programming concepts to make a simple video game for the MicroBit. You are not expected to make a new game – you may modify code that I have posted, and you may use code that you have already written. You are not expected to implement ALL of the programming concepts covered in class as long as you can meet the following expectations.

Expectations:

Variables have logical names

Objects in the game are appropriately displayed on screen.

An object can be controlled in at least two different directions.

At least one other object moves independently from the player.

Score is kept and indicated at the end

Collision is checked for 3 things

1. Boundaries
2. Prizes/Goals
3. Penalties/Obstacles

Responses to collision are appropriate

1. Bounce/Stop/Relocate
2. Adjust Score
3. End Game

Schedule:

Day 1: Write code that allows you to control movement of an object

Day 2: Write code that checks and responds to collision

Due: Tuesday, Nov 15

Marking Scheme:

	Level 4	Level 3	Level 2	Level 1
Control	Controls adjust vectors, and the objects move by the vector upon a clock tick. Vectors allow the following movements: 8 directions (with diagonals) **OR** Rotate Left & Right plus Forward **OR** Movement in an extended universe. **OR** Gravity vectors	Controls adjust vectors, and the objects move by the vector upon a clock tick. Vectors allow the following movements: Control of 4 directions **OR** 2 players each control objects in 2 directions **OR** 3 buttons control 2 directions and some sort of action (jump, fire, etc)	Controls adjust vectors, and the objects move by the vector upon a clock tick. Vectors allow the following movements: 3 or more appropriate controls but with minor vector errors.	Controls directly move objects instead of setting vectors. **OR** Or the vectors only allow dual control of left/right or up/down.
Collision Check	Accurately checks all boundaries and multiple objects **OR** Accurately checks all objects in an extended universe	Accurately checks: - screen boundaries - a penalty - a reward	Accurately checks either the screen boundaries or penalty/reward but has minor problems with the other	Significant inaccuracies with most of the collision checks
Collision Response	Appropriately changes: - Score - Location - Vector - Visibility - Win/Lose	Appropriately changes: -Score -Vector or coordinate for all boundaries and objects	Appropriately changes: -Score -Vector or coordinate for 3 boundaries and one object	Appropriately changes: -vector for 2 boundaries
Artificial Intelligence	More than 2 other objects move independently and use 8 directions **OR** Random vectors **OR** Gravity vectors **OR** Trackers	Two other moving objects demonstrate up/down/left/right vectors.	Two other objects move independently	One other object moves independently