

## 1. Restrictions & Technical Requirements

- a. You will have to create a public GitHub repository
- b. You will have to estimate your research time before starting, build a diagram of your project and class structure
- c. After the research, you will have to estimate the time for the project
- d. Keep the public references count to a minimum
- e. Use as many events/listeners and OOP properly
  - i. Every component must be able to behave on its own
  - ii. Every behaviour must be extendable forever; this project will be a very simple one but organize it as you would have to add features and updates to it
- f. Animations/particles/audio/camera effects are optional
- g. Write instructions for a Game Designer for where/how to tweak values

## 2. Gameplay: 3D Backwards Shooter

### Short description:

The player Controls a character running backwards on a track while shooting continuously at a crowd of angry stick characters following him. The player has to avoid running into walls as these will slow down his character and the crowd may catch up to him. The crowd moves faster than the character by default so the player should aim to shoot at people closer to him. (Ref picture at the end of the doc)

### Mechanics:

- a. Have a counter before the game starts
- b. Using your mouse/finger move the character left and right
- c. The character runs and shoots automatically
- d. The player loses if it is touched by an enemy
- e. The player wins if it shoots all the enemies or if it reaches the end
- f. Expose all the configurable parameters to something easily modifiable by Game Designers (SO, JSON, static class, etc)

## 3. References & Tips

- a. Work your way up from the most basic behaviours and extend accordingly
- b. Don't include too much behaviour in a single class. Extend it further
- c. Don't mix behaviours that shouldn't interfere with one another. Split them and build a proper communication system between the 2 of them
- d. Add documentation if any method/component/etc needs more explanation

