**MIDTERM 2016**

PROG 30493: **Game Engine Fundamentals**

DUE: **IN CLASS(IN DROPBOX)-WEEK OF MAR 14/16 2016**

**Rules**: This is individual work. You may be assets from previous assignments, your notes, and the provided package. You may also use the internet for information and art (but not for code/scripts), you may use [www.mixamo.com](http://www.mixamo.com) for models and animations.

**Description**: You are asked to prepare a proof-of-concept/prototype for an infinite-running game.

Example of 3D endless runner/sideview game

<http://www.youtube.com/watch?v=55spelAzOfs>

**Design Requirements:**

– Project will be done in Unity3D

– Gameplay will be a side view and use a side scrolling camera.

-Game camera will scroll left to right at a constant speed

-Player will jump or duck to avoid obstacles

-player will pickup tokens by walking over them. These tokens will increase the score

-Score will be displayed on screen

-Duration (time playing until death) will be displayed (in seconds s.mm)

**Core Systems:**

Hero: controls the animations of the main player. Player can run, slide/crouch-walk or jump. Script provides an interface for other systems to tell it which anims/states to play

HeroControls:

reads the input from the keyboard/joypad and sets anim states.

**10 pts**

**LevelStreamer:**

It’s up to you how you would like this to work. Consider having a series of prefabs for the different world ‘pieces’. Make sure to instantiate enough of them so that the player cannot see them ‘pop’ onto screen.

There should be obstacles that the player MUST jump over to continue. Colliding with them will cause game over

There should be obstacles that the player MUST slide under to continue. Colliding with them will cause gameover

Game should get harder as progress continues… somehow!

**20 pts**

**Audio:**

Via a SoundMgr class, Sound fx for jump, duck and collect token

**10 pts**

**UI:**

-shows score, and duration

**10 pts**

**Collectible Token:**

Red = 5 points, Blue = 3 points

**10 pts**

**Framework:**

Code is correct clean and documented, using component based design

**10 pts**

**TOTAL**

**90/70 pts**

**BONUS**

**Up to 10pts**

-add a warning system to give the player a hint about which move they will need to do imminently.

-add nice visual polish such as background, better textures, vfx etc.

-add new obstacles to jump/duck. Add another type of move to the player. Add moving obstacles?

**BONUS 2**

**Up to 10pts**

-add a kick/punch to the player

-add enemies that the player must attack to pass, or else they block the player