Physics World – Part I

An experimental 2-dimensional, physics-heavy, sandbox-game-thing.

# Submission Guidelines:

In GitHub, create a branch for your project named “PartI\_Completed”.

Make no further changes to this branch. Make no further branches from this branch. This branch is frozen – a monument to the first step on this project. I will clone that branch, and create a new repo, at the time the assignment is due.

Due at 5PM on Friday 1/30.

# Base Requirements (83)

* Setup a repository for the Physics World project in GitHub
  + Create a new repo named *Sp21-EGAM102-PhysicsWorld-yourname*
  + Make sure you use the appropriate .gitignore file
  + Add me to your repo as a collaborator. Username: TimHandleyAC
* Place an annotated version of this rubric in the root directory of your Unity project. Save it in Word .docx format. When I download your Part1\_Completed branch, I should find the rubric.
* Pick a theme for your project. Is it side-scrolling? Top-down? In space? A platformer? Underwater? In one sentence, outline the premise for your world.
  + Premise: Side-scrolling spooky room
* Write an AvatarController script that implements physics-based movement. Then, write a few words to explain the controls. What keys do what?
  + Explanation: Horizontal arrow keys create horizontal movement, space bar to jump
* In the Physics 2D Toolset, there are nine different joint-type components. Use five of them in an interesting manner. Outline the usage below: What joint-component did you use, and what did you build with it?

1. Hinge Joint: I made a small, rotating platform
2. Spring Joint: A flying boulder!!!
3. Distance Joint: Under platform ping pong balls
4. Relative Joint: Another spinning guy
5. Fixed Joint: I put it on top of the Relative joint to make things become beyond ridiculous

* In the Physics 2D Toolset, there are five different effector-type components. Use three of them in an interesting manner. Outline the usage below: What effector-component did you use, and what did you build with it?

1. Buoyancy Effector: I made a small pond
2. Surface Effector: Made a platform that immediately throws the player off-screen
3. Area Effector: Launchpad time!

# Stretch Goals:

* (+2 to +3 pts ea) Interesting usage of different joint-type components. Outline the usage below: What joint-component did you use, and what did you build with it?

1. Slider Joint: Two slider joints on squares with no collider makes for a wonderful curtain

* (+2 to +3 pts ea) Interesting usage of different effector-type components. Outline the usage below: What effector-component did you use, and what did you build with it?

1. Surface Effector: Made the player go “around the world” when they get launched off screen

* (+2 to +3 pts ea) A more elaborate AvatarController. Your script does more than just physics-based movement. It does unexpected and interesting stuff. What does it do?
  + Feature 1:
  + Feature 2:
  + etc.
* (+2 to +3 pts ea) A trigger collider with an interesting effect. When the collider is triggered, something happens. How do you trigger the trigger, and what happens?
  + Trigger 1:
  + Trigger 2:
  + etc.
* (+1 to +10) Other. Something nifty related to physics or the Unity physics engine. Explain: What is your nifty thing? What is the physics connection?
  + Nifty thing: