



Lecture 13

Announcements

- Midterm evals coming soon (if they aren't out already)
 - Completing yours will result in extra credit at the end of the semester– thank you for contributing to the future of EECS 494!
- [The NeuroVR Lab is seeking a Unity / VR developer.](#)
- P3 begins when we return from spring break– [register a team before then.](#)
- [Traditional Tech Companies Hiring Game Devs.](#)
- Life lesson: the objectivity and well-specified nature of ULCS assignments is the exception, not the rule. Almost everything you are tasked with from here on out will be fraught with ambiguity.
 - Story : Arbor Interactive's first client project.
 - Light at the end of the tunnel : We try and make EECS 494 as objective / predictable as possible, but fall short as one would expect. In one month, you will escape from EECS 494's subjectivity, only to find yourself dealing with a different entity's subjectivity. A more scalable solution-- become more comfortable at navigating such waters.
- [Marl/O](#) : A 2015 genetic algorithm / machine learning approach to solving Mario.

Juice (Continued : [Download from repo here](#))

- Juicy Game Examples
 - [Juicy Spaghetti](#)
- [Video : Juice it or Lose it](#)
- [Juiciness by way of timing camera movements to music](#) (music and audio are perhaps the most powerful ways to juice a game).
- South Park-Style Movement
 - [South Park Clip](#)
 - Only requires one sprite (one image file) to look good.
 - [Example 1](#)
 - [Example 2](#)

- [Extra example Project 1 : Falling Impact Spheres](#)
- [Hooke's Law](#)
 - Originally used to model the motion of linear springs.
 - Can be used with motion, scale, and any other numeric property to create eye-catching effects (squishiness, springiness, etc).
 - [Surprising Use Case : Character Select](#) (enthusiastic organisms often jolt like a spring).
 - Very impactful ([Take it from World of Goo!](#))
- Technique : Separating Visuals from actual gameobject.
- Easing
 - Simple (`transform.position = Vector3.Lerp(transform.position, dest, 0.1f)`)
 - [Easing / Hooke's Law Example Project \(Bat enemy\)](#)
- Easing (Advanced)
 - Using animation curves, we can get very particular about motion.
- Screen Shake
- Particle Systems / Particle Manager
 - [Particles used in this brief horror-game experiment for blood and sparks.](#)
- Trail Renderer ("Add Component -> LineRenderer")
- Sorting Layer Trick
 - Q: How are the clouds in [this video](#) organically, randomly generated?
 - A: We randomly spawn instances of an "Orb" prefab.
 - A: Each "Orb" is one puff ball gameobject, and a "shell" outline gameobject parented to it.
 - A: If the puff ball is at layer order x, we give the shell a layer order of x-1.
 - A: In this way, the shells intersect, but the intersection is invisible because the puff balls cover it up.
 - A: We do not see the puff ball intersection because the puff balls all have the exact same color.
- [Vlambeer Juiciness Tips](#)