Weight: A Prototype

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Hypothesis/Aim:

To see the effect that the mechanic of changing the size and mass of an object has on how players interact with various physics based puzzles.

Reflection:

The goal of this prototype is to test the mechanic of changing the mass of a ball and using this mechanic to build puzzles around. This prototype is focused on using the unity physics engine to create intuitive feeling systems. The prototype was used as an experimental testing ground for three physics-based systems: a pulley system, a projectile cannon, and springs.

The development of the modular puzzles was challenging due to the added time need for planning and understanding the physics of the of the puzzles. We as real humans know how things should feel and when the physics in a game is off, even by a small bit, it gives us an uncanny feeling. To recreate the feeling of real world physic, real world rules must be studied first, such as the spring formula used to replicate a spring.

When I think of weight, it is intuitive that a bigger object has more weight. This is communicated in the prototype by the size of the ball being directly proportional to its mass. As the mass of the ball changes, the components of the puzzles dynamically compensate for the change in mass. The feeling of the puzzles mimic how one would expect the components to act in real life, thus making the physics seem tangible.

From the player’s perspective, the physical properties of the ball were easily identified through the size of the ball. The players understand that the small ball is light, and the big ball is heavy. The players also intuitively knew the effect the weight on the ball had on the environment. For example, if a small ball is launched from the cannon it will travel further that a bigger ball. This mirrors the what the player expects the happen in real life.

In conclusion the prototype successfully used the weight changing mechanics in physics systems and a intuitive physics system was created