Production Log

09/08/2019

* Went over the base code to get my bearings
  + Ship
    - Turns left/right when the corresponding key is pressed
    - Accelerates forward when the up key is pressed
    - Moves according to Velocity
    - Generates a shield when z is pressed
      * 3 per life
      * Lasts 3 seconds
      * Allows ship to collide without losing a life
    - Fires a missile
      * Created when player presses [space]
      * Velocity and position determined by location and rotation of the ship
      * Move according to velocity
  + Rocks
    - Random starting velocity and rotation speed
    - Move according to velocity
    - Rotate according to rotation speed
    - Have three different sizes
      * Big
      * Medium
      * Small
  + Collisions
    - Missile with rock
      * Original rock and missile removed
        + If “large” rock

Create 2 “medium” rocks

* + - * + If “medium”

Create 2 “small” rocks

* + - * + If “small

disappears

* + - Ship with rock
      * Rock
        + Same rules as if a missile collided
      * Ship
        + Ship is removes
        + Player has 3 lives
        + If not last life lives is depleted by one and new ship appears

Appears in the center of the screen after 2 seconds pass

* Changes
  + Replaced the booster graphic from a static image to a animation loop
    - Still Having Issues Implementing in game but it runs through the
  + Stopped Ship from wrapping
    - The Shipping being able to wrap can create a confusing setup for the player
      * This way the player has a clearer sense of where the ship is going to be
  + Added Rock Collision allowing rocks to “bounce” off each other
  + Added level function increasing the amount of rocks created when a wave is completed
* Testing
  + Had trouble implementing booster in game due to inexperience with animate (YouTube helped).
  + The Rock to Rock collision uses the physics equation
    - v1 = (u1(m1-m2)+(2\*m2\*u2))/(m1+m2)
    - utilizes values set in the rocks array and a mass value decided by each rock’s radius
    - not sure if asteroids colliding with asteroids should damage both or not
  + the newWave function creates more rocks when all rocks are destroyed
    - when the function is called, it sets the incrementation equal to the game Level + 3
    - generates a rock in a random position each time the loop iterates
      * was fairly easy to implement because all of the existing pieces for the function already existed.
      * I felt that the game didn’t really change in difficulty and this technically turns the game into an endurance match where the game state eventually becomes unwinnable but feels like the difficulty ramps up with each stage cleared