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**Assignment 2** **Design Planning Journal**

# Design Characteristics

The following questions are meant to help guide the design and development of your assignment. You should feel satisfied with your answers to all of these.

Total marks: 10

## Launcher (birb.cs) /2

Since we are already given a mechanic that can pull the birb back we just need to add force based on the direction the player pulls the bird back

This could look like

Finding the offset distance by how much the player pulls the birb back to determine the force needed to apply on the birb

Divide the distance with the maximum strength the slingshot can shoot

Multiply the launch force variable with the result of the strength and how far back we pulled

Apply force to the birb based off of the direction the birb was pulled back and the launch force result from the previous line.

## Red Birb (AirSpecialBounce.cs) /2

As the birb is flying when you click the birb is supposed to do a little bounce changing the direction from going downwards to get more air time

This can be achieved by just adding force upward on the birb and reducing the velocity by the slowdown factor

## Blue Birb (AirSpecialSplit.cs) /2

For the blue birb as its flying it will split into three different birbs with the top and bottom birbs flying on an offset while the middle birb retains the same trajectory

To achieve I need to create two copies of the birb using the makbirbcopy function

Then for the top and bottom birb add the same force of the middle birb to each so they fly at the same speed

Then just add force up to the top birb and down for the bottom birb based off of splitangle variable so it looks like it splits into 3 birbs

## Yellow Birb (AirSpecialExplode.cs) /2

For this birb on activation it creates an invisible circle that second destroying any target in the radius

To do this we need to get the origin which is the birbs position

Then create a raycast hit that is a circle cast around the birb and with the radius of blast radius and the direction just being zero so it stays on that area

Finally go through the hit array and check for any that has the target layer

Then just activate the destroy target function

## Destruction (Target.cs) /1

For the destruction functionality when a birb hits a target face first it needs to meet a destruction break speed to do this we have to

On collision enter we have to check if the object colliding with the target has the correct relative velocity to the minimum break speed

If it meets this requirement activate destroy target

## MovingTarget (MovingTarget.cs) /1

To move the target up and down based on the half path distance we have to

Get a reference of the rigidbody2D and the starting y position

You will need to create a variable that will be increased and decreased to change on the position

Use Sin() to make it -1 or 1 with the variable inside being the Time.time multiplied by Movementspeed so it stays consitant then multiply the sin by the halfpath distance so now it goes from -3 to 3

Finally change the moveposition on the rigidbody2D with x being where it is and y being the variable using Sin()

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