***FX Sandbox Goals***

The goal is to create a scene that is designed to improve the workflow of creating FX while also providing solid visuals that can be recorded and showcased. The plan is to have this all in one scene with different areas that focus on different aspects of the FX. For projectile there needs to be sections for the muzzle flash, the projectile, the impact explosion, and a place for all 3 to be combined together.

**Muzzle Flash:**

The muzzle flash should be in a simple space with an empty gameobject used as the firepoint at the end of a shape that will be represent the barrel. When that scene is run the effect should be able to be activated by pressing a button on the keyboard. This should be captured with single stationary camera.

**Projectile:**

The Projectile should fly constantly in a single direction avoiding any physical objects in the scene. It is important that the effect has a speed that way a trail can properly render. In order to capture the scene a camera should be parented to an empty game object that the projectile FX system sits in.

**Impact:**

The impact explosion should be in a similar scene like the muzzle flash but instead of coming from a physical object it will be floating in empty space. It should follow the same activation use when the scene is active as well as having a stationary camera to capture the FX.

**Full System:**

The full system should start with an area where the muzzle flash, projectile, and impact can be displayed as if they would be used in game. There will be a stationary camera in the scene that will have in its view: An object that will fire the projectile along with the muzzle flash, and a wall or object for the projectile to collide with for the impact explosion. The way the scene should play is when a certain button is pressed, at the firepoint of the firing object, the muzzle flash will activate once as well as the projectile spawning from the same point with a direction moving forward towards the wall. The projectile should have a simulated speed so any trail attached can properly activate. When the projectile collides with the wall it should destroy itself and at the projectiles point of impact the impact FX should activate once and destroy itself when its done with the animation. When the projectile destroys itself a system should be in place so that the projectiles trail does not destroy itself immediately but does so after it has finished its animation.

**Cameras:**

When the scene is active there should also be a button on the keyboard that can be pressed to switch between the cameras in each section as well as a drop down menu outside of the active scene where you can set the starting camera from a list so its easier to test each different FX system.

**Building the FX:**

The goal with building the effects is to have it modularized to fit the active scene. FX should be made into prefabs so that they can be dragged into certain slots that will automatically put them in the correct places when the scene is active IE: A slot to drag and drop the fire projectile prefab so the solo moving projectile and full system projectile can display the same fire projectile that is dropped into the slot. This way different groups of FX can be tested easier because all that would need to be done is to drop say an ice projectile into the same slot replacing the fire projectile with the ice projectile.