# Gunfire Simulation

## Model:

1. Tree
2. Grass
3. Stone and Rocks
4. Gun
5. Bullet
6. Distant mountain
7. Animals
8. Targets
9. Bushes or Shrubs
10. Campfire or something

## Environment (Model 1, 2, 3, 6, 7, 9, 10):

Set up a detailed 3D environment with a ground plane, trees, rocks, and others model. The detail of the model will be based on the view of sight to decrease.

## Gun (Model 4):

Import a detailed gun model with animation. (Trigger can move)

## Bullet (Model 5):

Import detailed bullet model.

## Target (Model 8):

Import a detailed target model (animals, wall, target)

## Effect:

* Muzzle Flash
* Emit a bright light from the gun’s barrel.
* Use a particle system for the flash effect.
* Smoke
* Emit smoke particles from the gun.
* Add dynamic movement to the smoke.

## Gunshot

“Bang” sound

## Hit

* Small explosion or impact effect
* Emit sparks particles
* Emit debris particles
* “Ding”, “Dong”, … sound, whatever

## Animation:

* Bullet movement (use position movement)
* Bullet rotation (use rotation movement)
* Gun trigger rotation (use rotation movement)
* Animals’ movement (use position movement)(download a animated model)

## Function:

* **User Interaction:**
  + Mouse click, trigger gun fire
  + WASD, move around
  + Keyboard key, focus on something
  + Button, change gun
  + Button, time speed

## Style:

* **Cartoon Style:**
  + Use flat shading with bold edge.
  + Bright, vibrant colors.
  + Simplified textures.
* **Pixel Art Style:**
  + Pixelated textures with low resolution.
  + Limited color.
  + Blocky shapes for objects.