Blender:
Basic BGE and Flappy

—

By Steffin Rayen :)

What are the main components of a BGE?

Logic Editor:

1. **Sensors** - Mode of input
2. **Controllers** - Your logic (usually a set of code)
3. **Actuators** - What should be affected

Basic BGE with just 3 scripts

1 Bullet Script

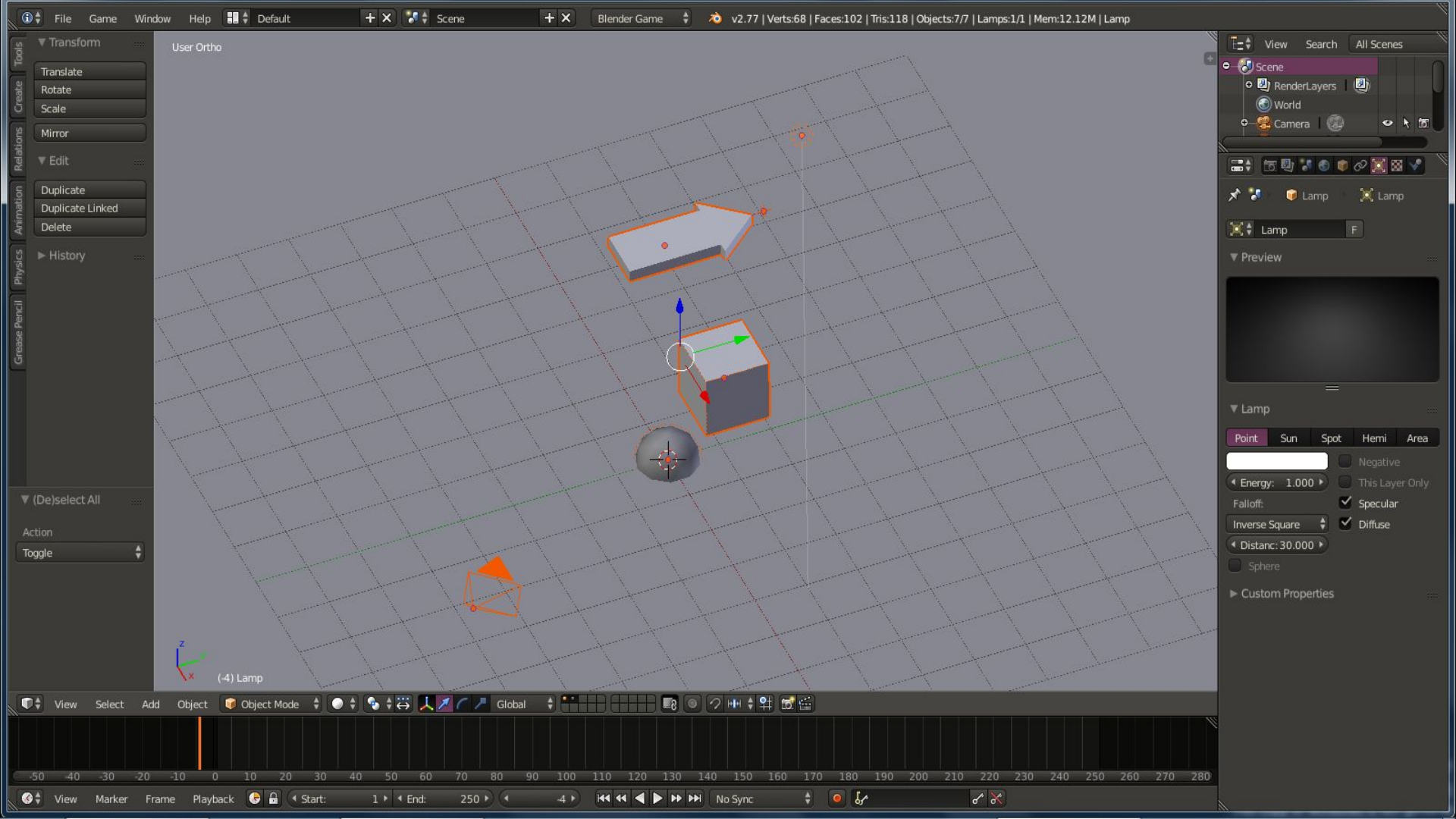
- When should it appear?
- What should the bullet do?
- Any Bullet specific property?

2 Player Script

- How is the motion controlled?
- How is collision manipulated?
- How often can it shoot in what projectile?

3 Obstacle Script

- What is its life expectancy?
- How is collision with the player/bullet manipulated?
- How does it disappear?


File
Game
Window
Help
Default
Scene
Blender Game
v2.77 | Verts:68 | Faces:102 | Tris:118 | Objects:7/7 | Lamps:1/1 | Mem:12.12M | Lamp
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Relations
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Physics
Grease Pencil
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Translate
Rotate
Scale
Mirror
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Duplicate
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(-4) Lamp
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All Scenes
Scene
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Camera
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Point
Sun
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Negative
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Specular
Diffuse
Custom Properties
View
Select
Add
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Object Mode
Global
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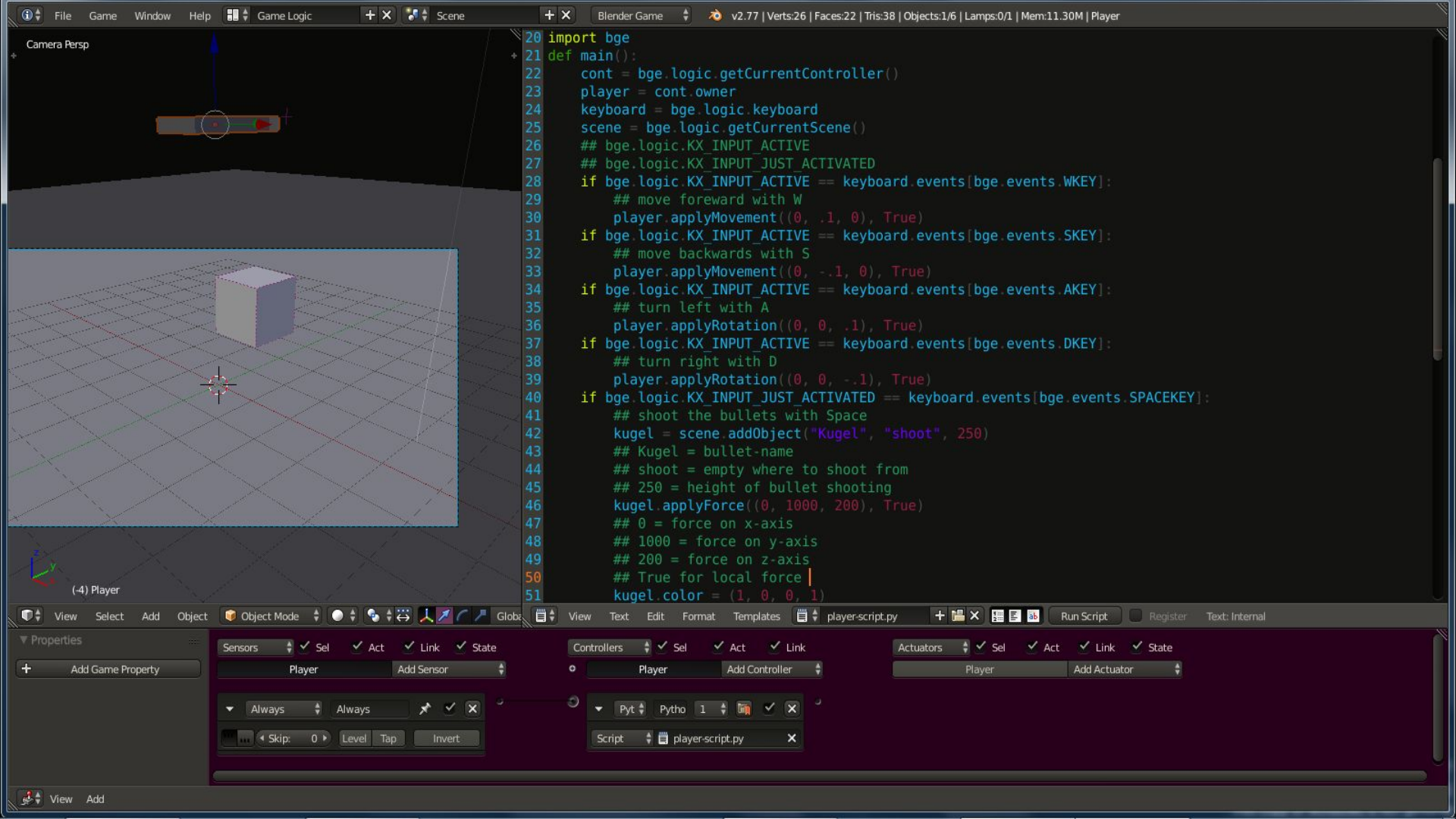
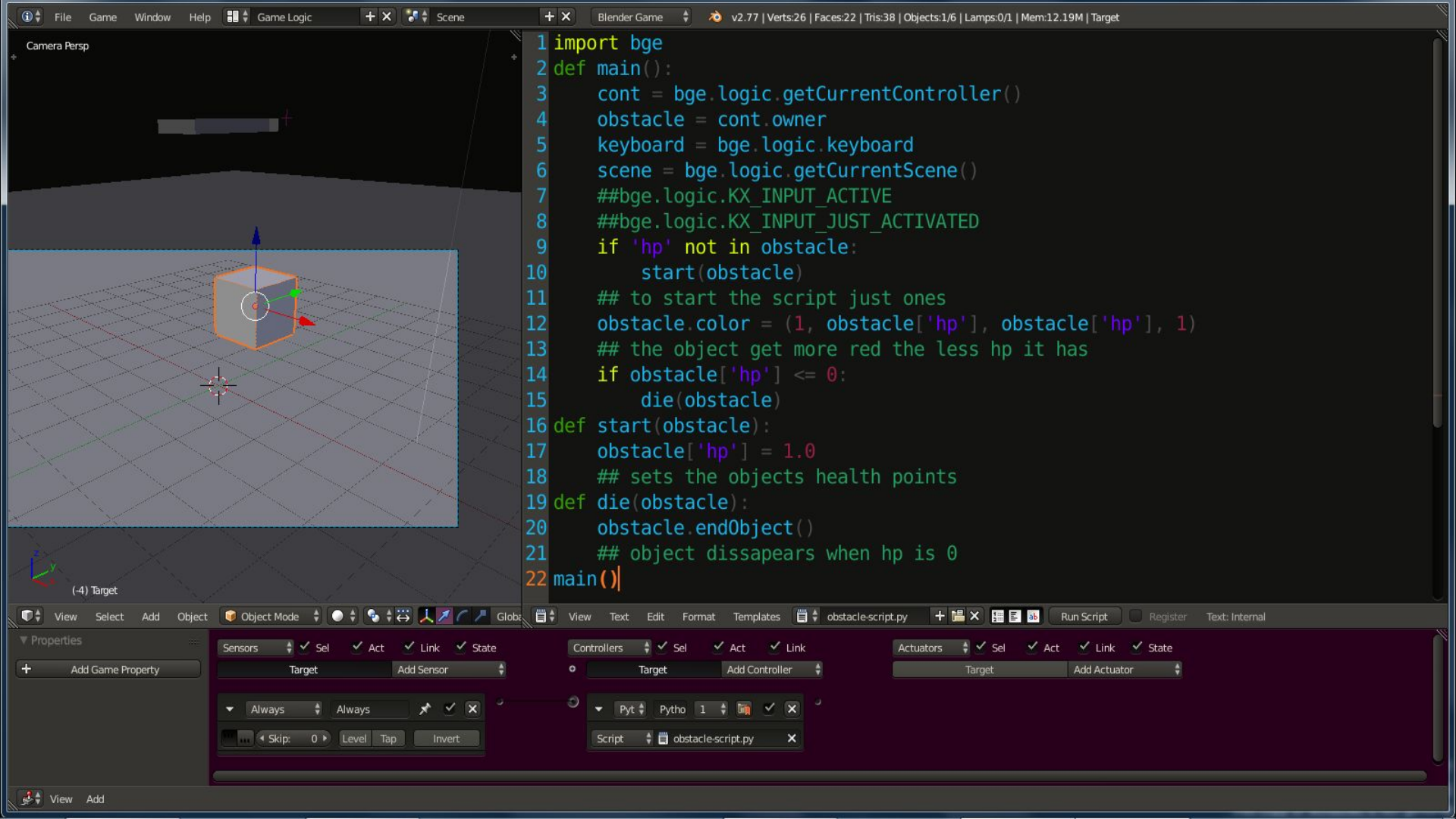
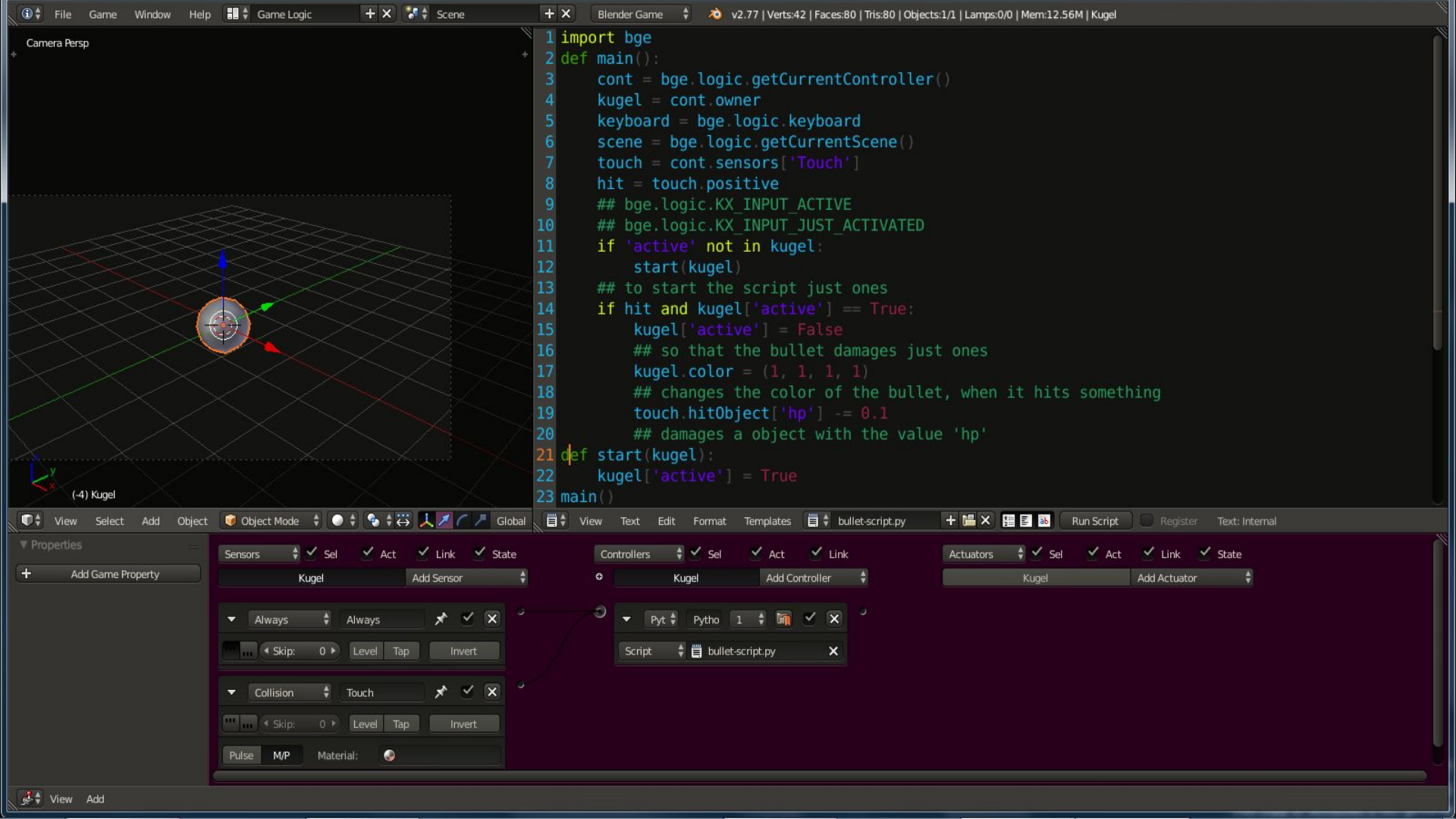


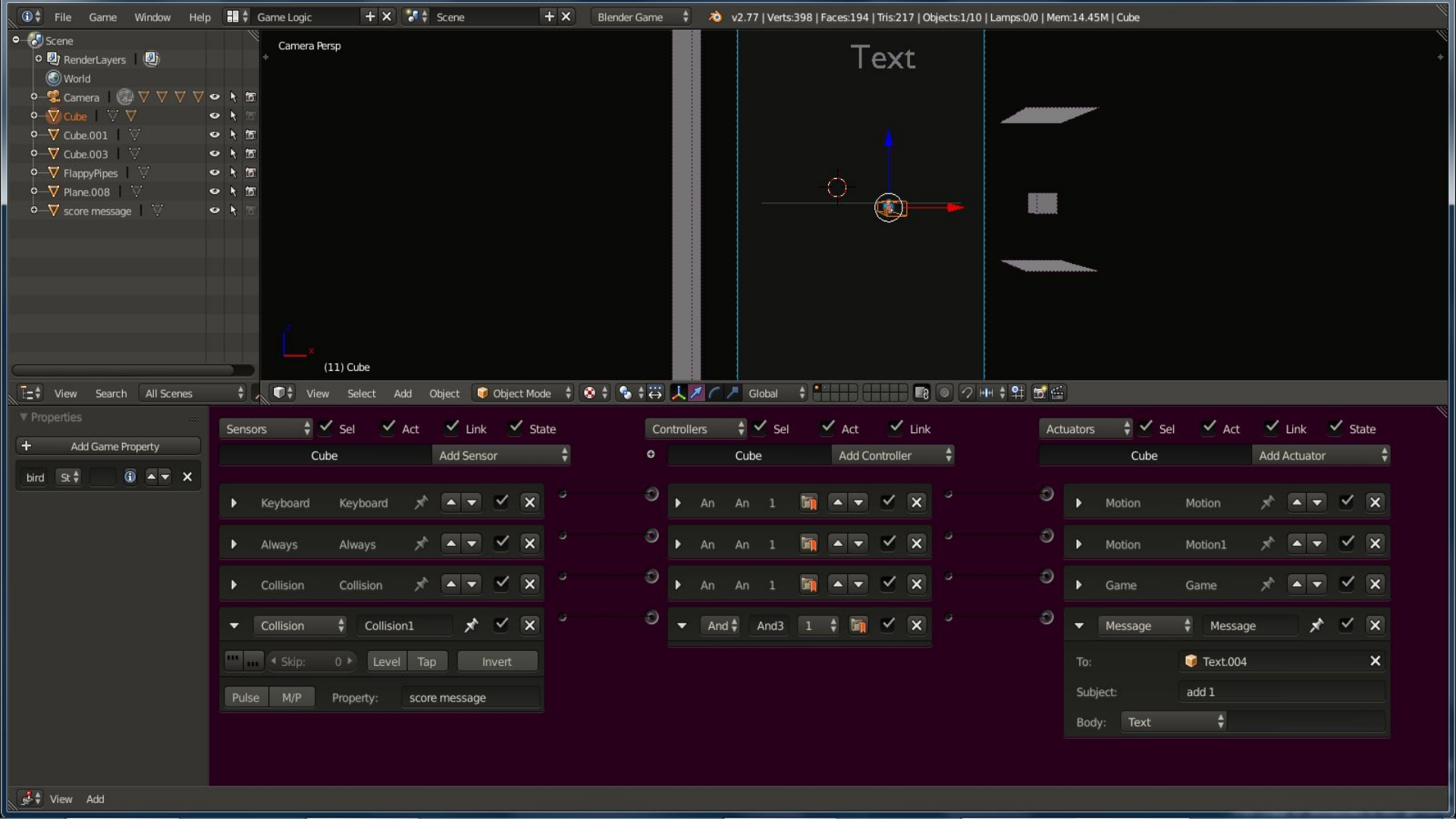

```
import bge
def main():
    cont = bge.logic.getCurrentController()
    player = cont.owner
    keyboard = bge.logic.keyboard
    scene = bge.logic.getCurrentScene()
    ## bge.logic.KX_INPUT_ACTIVE
    ## bge.logic.KX_INPUT_JUST_ACTIVATED
    if bge.logic.KX_INPUT_ACTIVE == keyboard.events[bge.events.WKEY]:
        ## move foreward with W
        player.applyMovement((0, .1, 0), True)
    if bge.logic.KX_INPUT_ACTIVE == keyboard.events[bge.events.SKEY]:
        ## move backwards with S
        player.applyMovement((0, -.1, 0), True)
    if bge.logic.KX_INPUT_ACTIVE == keyboard.events[bge.events.AKEY]:
        ## turn left with A
        player.applyRotation((0, 0, .1), True)
    if bge.logic.KX_INPUT_ACTIVE == keyboard.events[bge.events.DKEY]:
        ## turn right with D
        player.applyRotation((0, 0, -.1), True)
    if bge.logic.KX_INPUT_JUST_ACTIVATED == keyboard.events[bge.events.SPACEKEY]:
        ## shoot the bullets with Space
        kugel = scene.addObject("Kugel", "shoot", 250)
        ## Kugel = bullet-name
        ## shoot = empty where to shoot from
        ## 250 = height of bullet shooting
        kugel.applyForce((0, 1000, 200), True)
        ## 0 = force on x-axis
        ## 1000 = force on y-axis
        ## 200 = force on z-axis
        ## True for local force
        kugel.color = (1, 0, 0, 1)
```


File Game Window Help Game Logic Scene Blender Game v2.77 | Verts:26 | Faces:22 | Tris:38 | Objects:1/6 | Lamps:0/1 | Mem:12.19M | Target
Camera Persp
(-4) Target
import bge
def main():
cont = bge.logic.getCurrentController()
obstacle = cont.owner
keyboard = bge.logic.keyboard
scene = bge.logic.getCurrentScene()
##bge.logic.KX_INPUT_ACTIVE
##bge.logic.KX_INPUT_JUST_ACTIVATED
if 'hp' not in obstacle:
start(obstacle)
to start the script just ones
obstacle.color = (1, obstacle['hp'], obstacle['hp'], 1)
the object get more red the less hp it has
if obstacle['hp'] <= 0:
die(obstacle)
def start(obstacle):
obstacle['hp'] = 1.0
sets the objects health points
def die(obstacle):
obstacle.endObject()
object dissapears when hp is 0
main()
View Select Add Object Object Mode
View Text Edit Format Templates obstacle-script.py Run Script Register Text: Internal
Properties
Add Game Property
Sensors Sel Act Link State
Target Add Sensor
Always Always
Skip: 0 Level Tap Invert
Controllers Sel Act Link
Target Add Controller
Pyt Pytho 1
Script obstacle-script.py
Actuators Sel Act Link State
Target Add Actuator
View Add


File Game Window Help Game Logic Scene Blender Game v2.77 | Verts:42 | Faces:80 | Tris:80 | Objects:1/1 | Lamps:0/0 | Mem:12.56M | Kugel
Camera Persp
(-4) Kugel
1 import bge
2 def main():
3 cont = bge.logic.getCurrentController()
4 kugel = cont.owner
5 keyboard = bge.logic.keyboard
6 scene = bge.logic.getCurrentScene()
7 touch = cont.sensors['Touch']
8 hit = touch.positive
9 ## bge.logic.KX_INPUT_ACTIVE
10 ## bge.logic.KX_INPUT_JUST_ACTIVATED
11 if 'active' not in kugel:
12 start(kugel)
13 ## to start the script just ones
14 if hit and kugel['active'] == True:
15 kugel['active'] = False
16 ## so that the bullet damages just ones
17 kugel.color = (1, 1, 1, 1)
18 ## changes the color of the bullet, when it hits something
19 touch.hitObject['hp'] -= 0.1
20 ## damages a object with the value 'hp'
21 def start(kugel):
22 kugel['active'] = True
23 main()
View Select Add Object Object Mode Global
View Text Edit Format Templates bullet-script.py Run Script Register Text: Internal
Properties
Add Game Property
Sensors Sel Act Link State
Kugel Add Sensor
Always Always
Skip: 0 Level Tap Invert
Collision Touch
Skip: 0 Level Tap Invert
Pulse M/P Material:
Controllers Sel Act Link
Kugel Add Controller
Pyt Pytho 1
Script bullet-script.py
Actuators Sel Act Link State
Kugel Add Actuator
View Add

How is Flappy made?

1. This is a scriptless endless randomly generated holed walls, where a textured 3D object (the Flappy bird) is controlled using the keyboard (space bar) to pass through the hole in wall.
2. The logic for the game is applied using the Blender Game Physics through the mainly through Logic Editor (Controller,Actuator and Sensor).
3. Particle Physics is also applied to the **Bird** and **Hole** object.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Game Logic
Scene
Blender Game
v2.77 | Verts:398 | Faces:194 | Tris:217 | Objects:1/10 | Lamps:0/0 | Mem:14.45M | Cube
Scene
RenderLayers
World
Camera
Cube
Cube.001
Cube.003
FlappyPipes
Plane.008
score message
Camera Persp
(11) Cube
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View Search All Scenes
View Select Add Object
Object Mode
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Properties
Add Game Property
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Sensors
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Act
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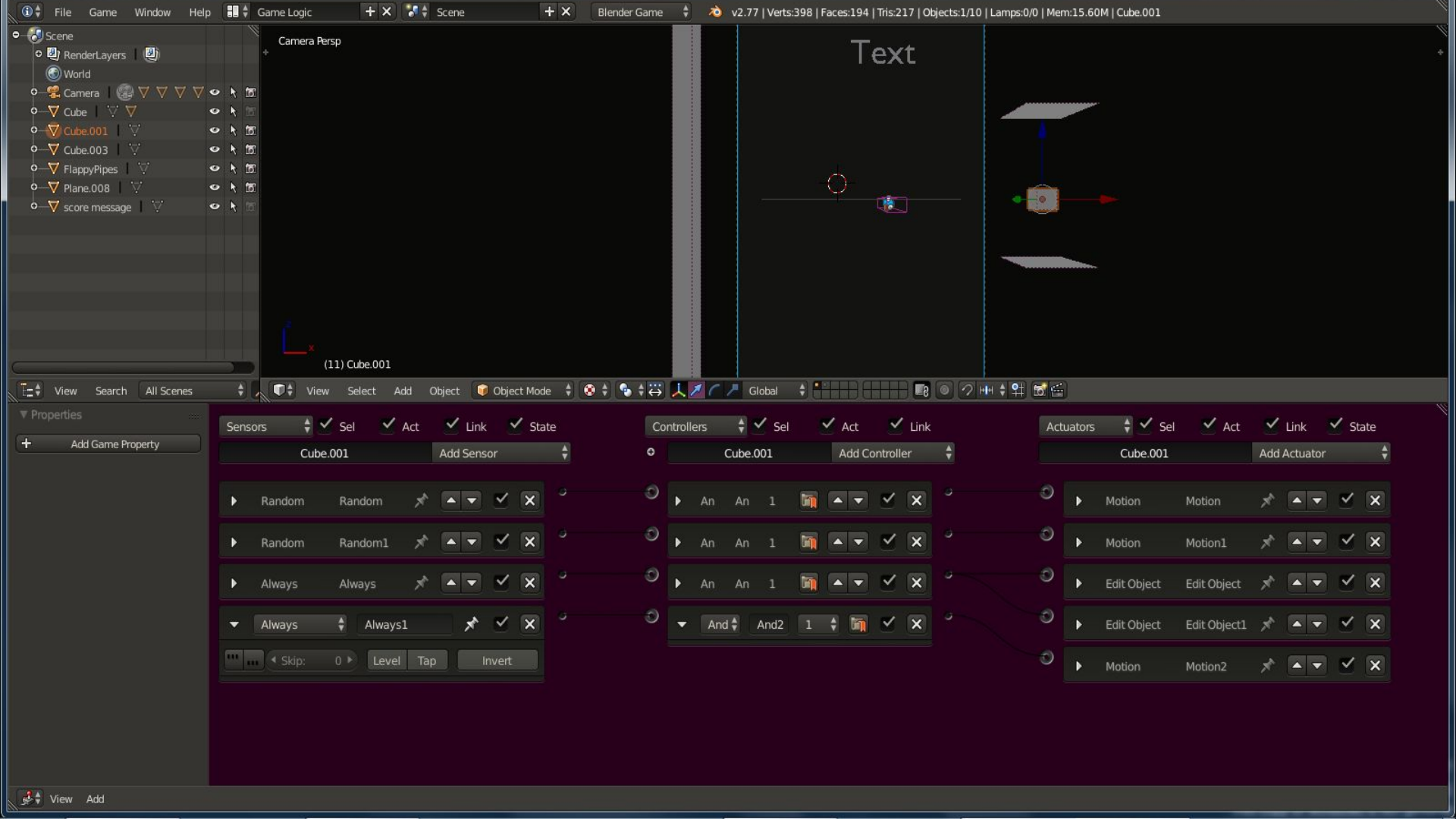
State
Cube
Add Sensor
Keyboard
Always
Collision
Collision1
Skip: 0
Level
Tap
Invert
Pulse
M/P
Property:
score message
Controllers
Add Controller
And
And3
Actuators
Add Actuator
Motion
Motion1
Game
Message
To:
Text.004
Subject:
add 1
Body:
Text
View Add


File
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Scene
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v2.77 | Verts:398 | Faces:194 | Tris:217 | Objects:1/10 | Lamps:0/0 | Mem:15.60M | Cube.001
Scene
RenderLayers
World
Camera
Cube
Cube.001
Cube.003
FlappyPipes
Plane.008
score message
Camera Persp
(11) Cube.001
Text
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All Scenes
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Object
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Properties
Add Game Property
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Cube.001
Add Sensor
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Controllers
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Actuators
Sel
Act
Link
State
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Add Actuator
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Edit Object
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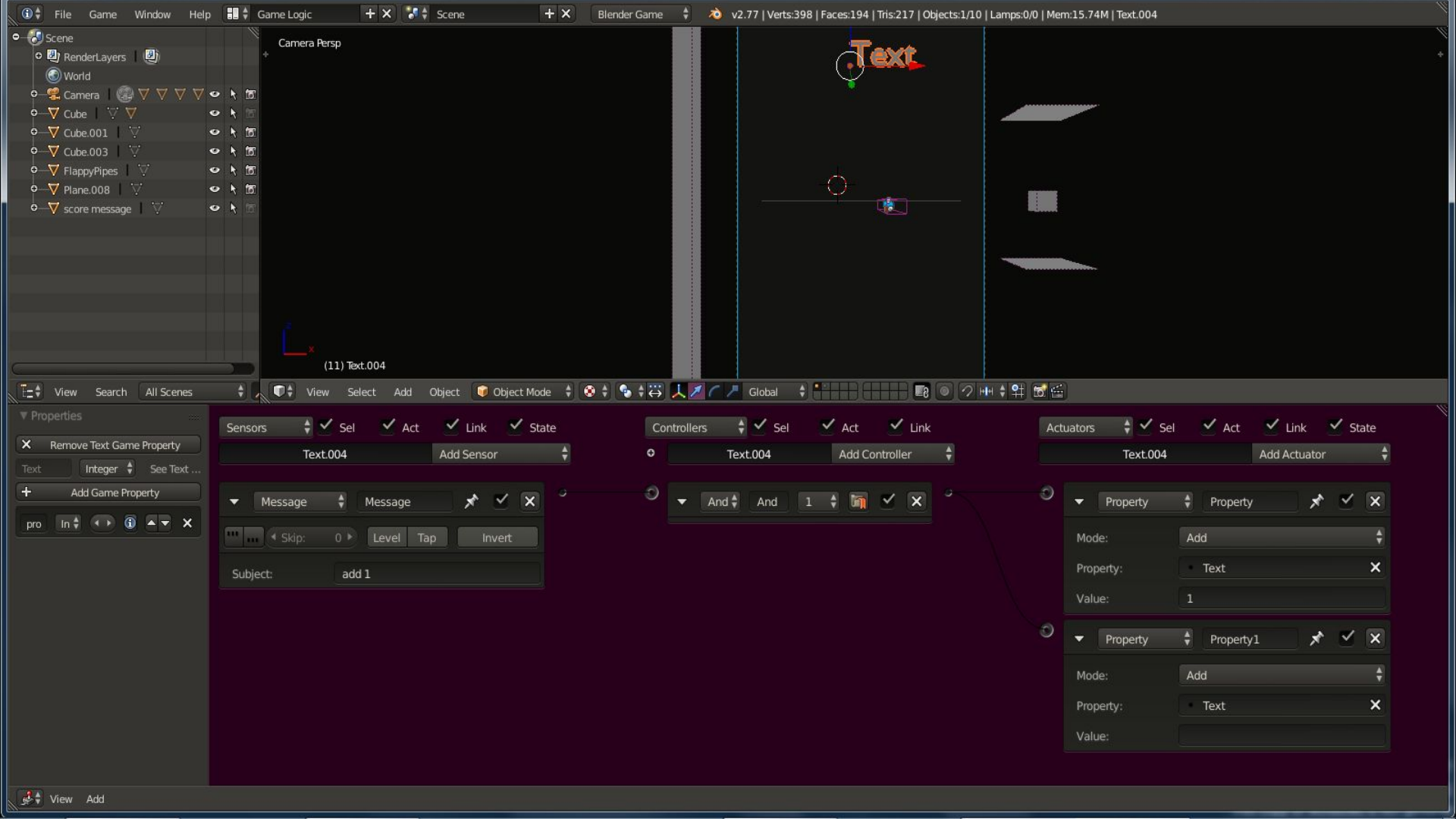
File Game Window Help
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v2.77 | Verts:398 | Faces:194 | Tris:217 | Objects:1/10 | Lamps:0/0 | Mem:15.74M | Text.004
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RenderLayers
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Cube.001
Cube.003
FlappyPipes
Plane.008
score message
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View Search All Scenes
View Select Add Object Object Mode Global
Properties
Remove Text Game Property
Text Integer See Text ...
Add Game Property
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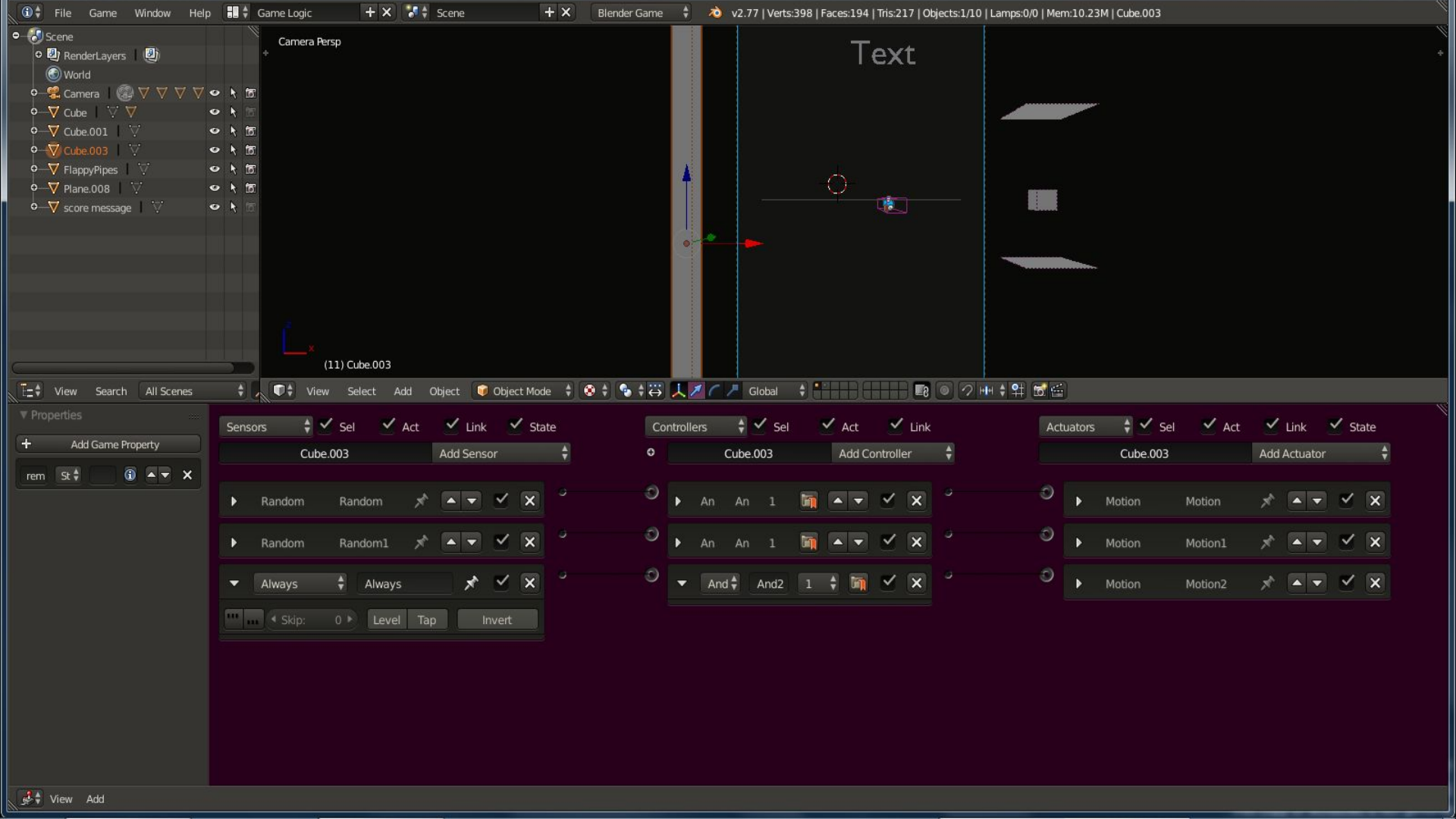
Sensors Sel Act Link State
Text.004 Add Sensor
Message Message
Skip: 0 Level Tap Invert
Subject: add 1
Controllers Sel Act Link
Text.004 Add Controller
And And 1
Actuators Sel Act Link State
Text.004 Add Actuator
Property Property
Mode: Add
Property: Text
Value: 1
Property Property1
Mode: Add
Property: Text
Value:
View Add


File
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Game Logic
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v2.77 | Verts:398 | Faces:194 | Tris:217 | Objects:1/10 | Lamps:0/0 | Mem:10.23M | Cube.003
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Cube.001
Cube.003
FlappyPipes
Plane.008
score message
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All Scenes
View
Select
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Object
Object Mode
Global
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State
Cube.003
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Random
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Skip: 0
Level
Tap
Invert
Controllers
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Act
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Cube.003
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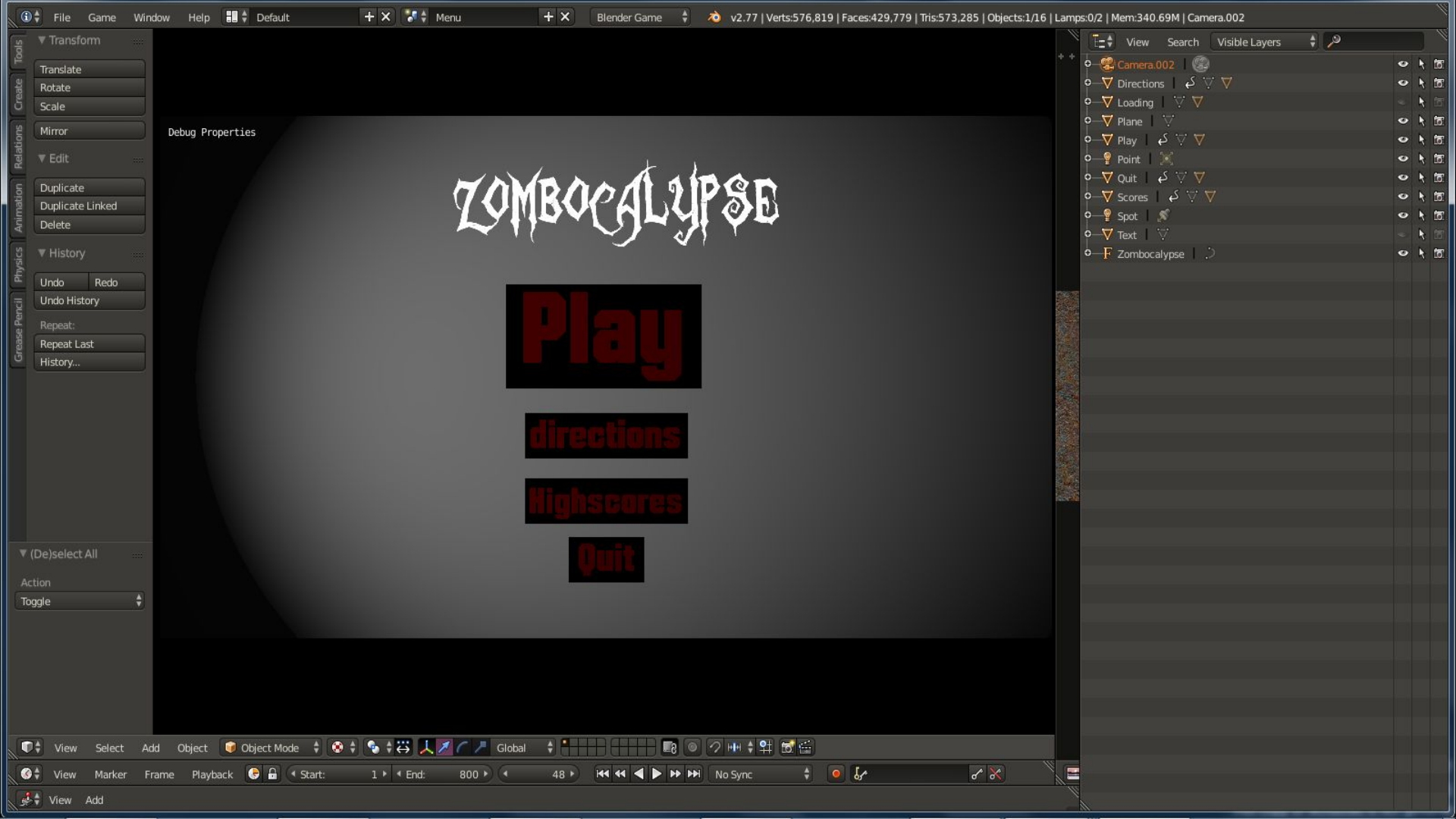
Actuators
Sel
Act
Link
State
Cube.003
Add Actuator
Motion
Motion
Motion
Motion1
Motion
Motion2
View
Add

Zombocalypse

A 3D first person shooting game!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v2.77 | Verts:576,819 | Faces:429,779 | Tris:573,285 | Objects:1/16 | Lamps:0/2 | Mem:340.69M | Camera.002
Transform
Translate
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Repeat:
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Debug Properties
ZOMBOCALYPSE
Play
directions
Highscores
Quit
View Search Visible Layers
Camera.002
Directions
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Quit
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Zombocalypse
View Select Add Object Object Mode Global
View Marker Frame Playback Start: 1 End: 800 48 No Sync
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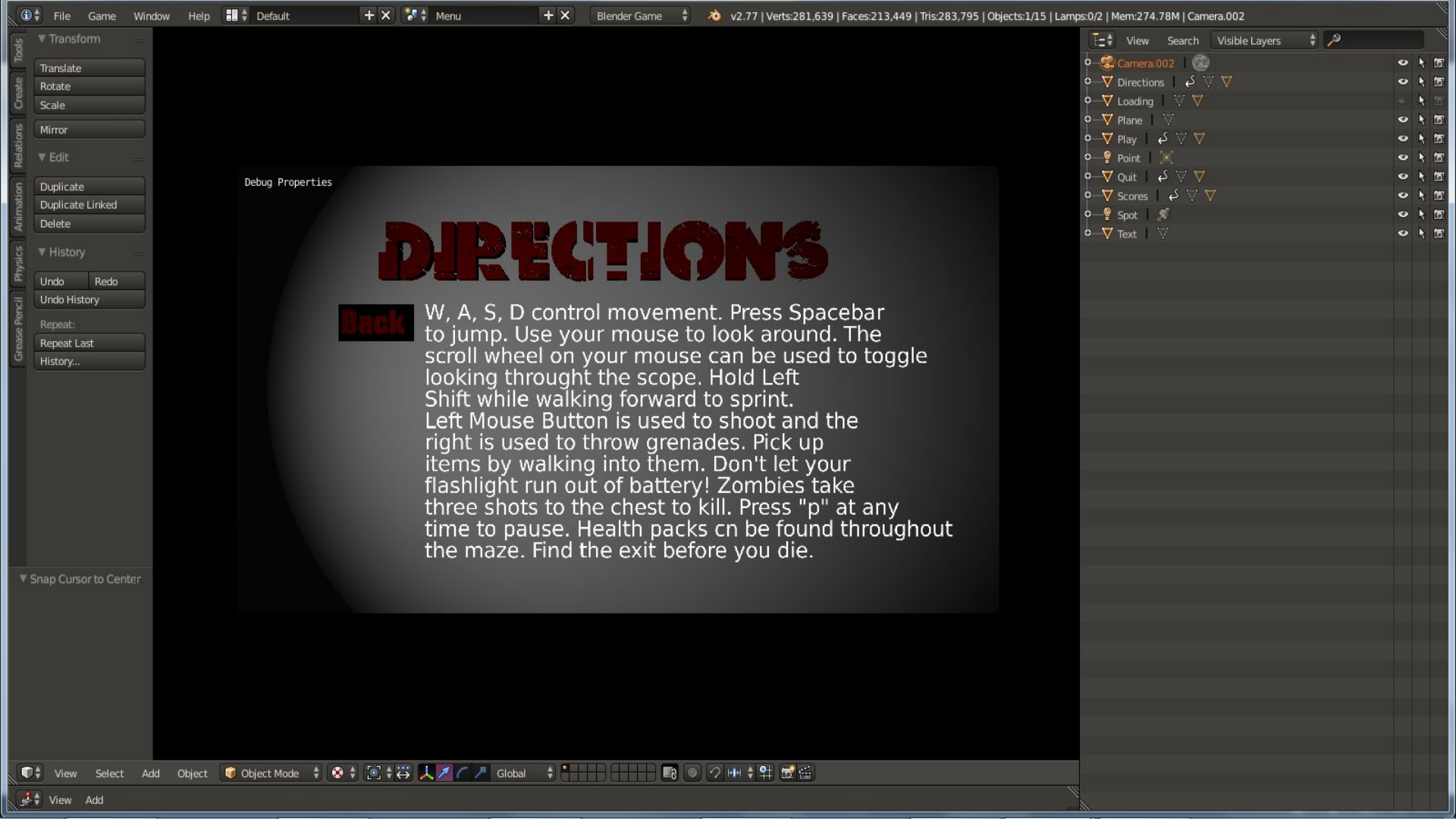
File Game Window Help Default Menu Blender Game
v2.77 | Verts:281,639 | Faces:213,449 | Tris:283,795 | Objects:1/15 | Lamps:0/2 | Mem:274.78M | Camera.002
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Duplicate Linked
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Undo
Redo
Undo History
Repeat:
Repeat Last
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Snap Cursor to Center
Debug Properties
DIRECTIONS
Back
W, A, S, D control movement. Press Spacebar to jump. Use your mouse to look around. The scroll wheel on your mouse can be used to toggle looking throught the scope. Hold Left Shift while walking forward to sprint. Left Mouse Button is used to shoot and the right is used to throw grenades. Pick up items by walking into them. Don't let your flashlight run out of battery! Zombies take three shots to the chest to kill. Press "p" at any time to pause. Health packs cn be found throughout the maze. Find the exit before you die.
View Search Visible Layers
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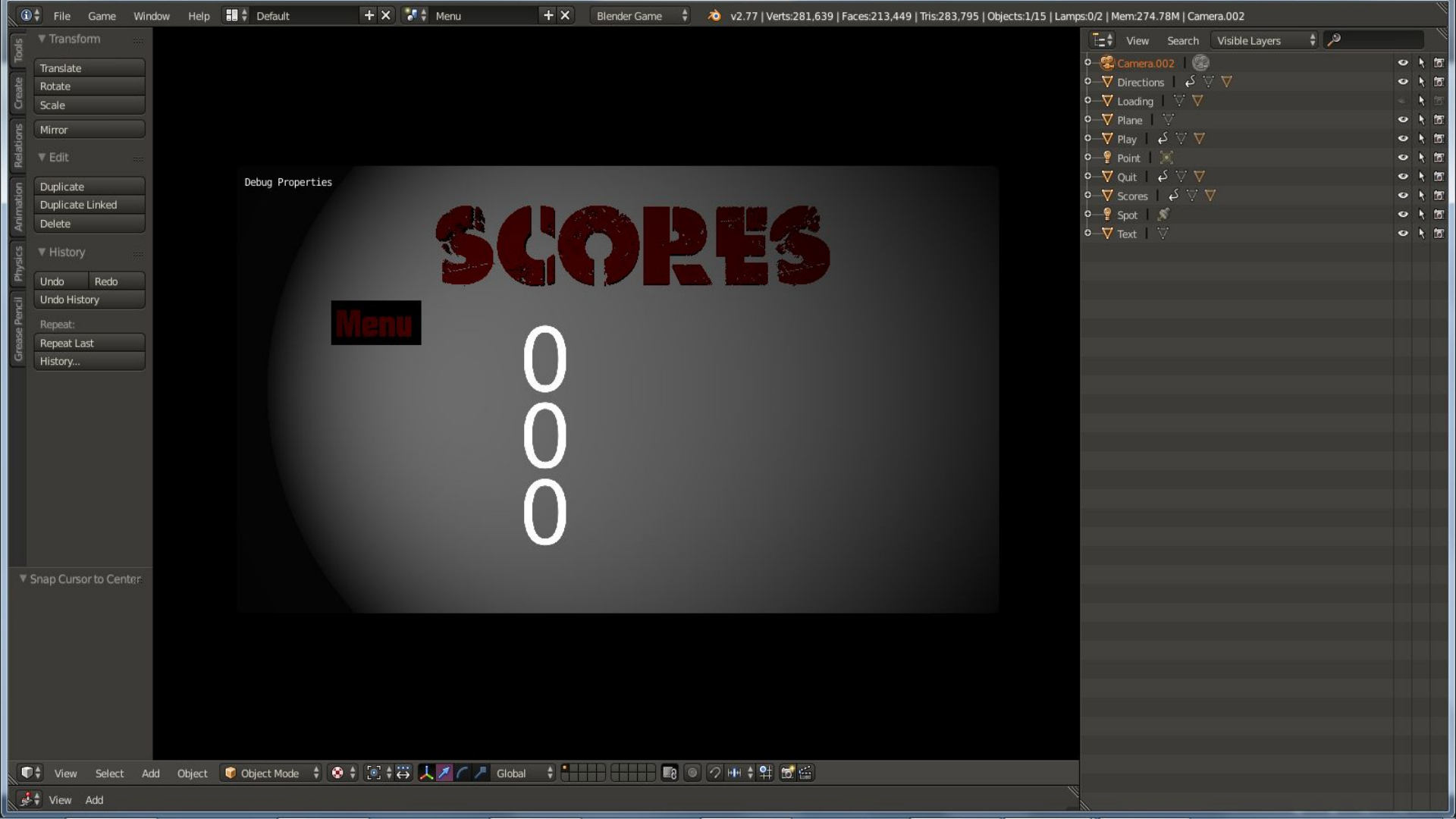
View Select Add Object Object Mode Global
View Add


File Game Window Help Default Menu Blender Game v2.77 | Verts:281,639 | Faces:213,449 | Tris:283,795 | Objects:1/15 | Lamps:0/2 | Mem:274.78M | Camera.002
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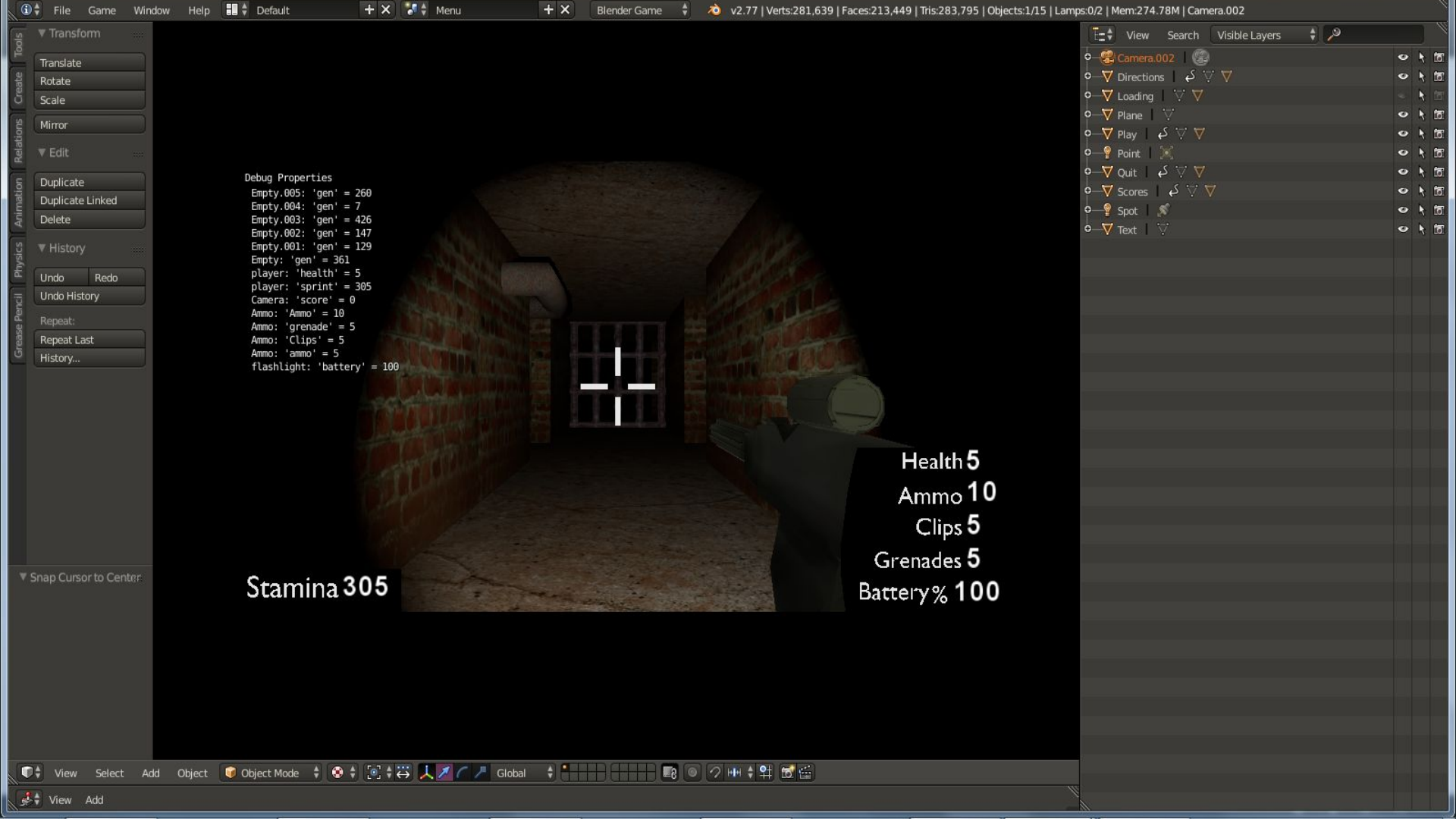
File Game Window Help Default Menu Blender Game v2.77 | Verts:281,639 | Faces:213,449 | Tris:283,795 | Objects:1/15 | Lamps:0/2 | Mem:274.78M | Camera.002
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History...
Snap Cursor to Center
Tools
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Animation
Physics
Grease Pencil
Debug Properties
Empty.005: 'gen' = 260
Empty.004: 'gen' = 7
Empty.003: 'gen' = 426
Empty.002: 'gen' = 147
Empty.001: 'gen' = 129
Empty: 'gen' = 361
player: 'health' = 5
player: 'sprint' = 305
Camera: 'score' = 0
Ammo: 'Ammo' = 10
Ammo: 'grenade' = 5
Ammo: 'Clips' = 5
Ammo: 'ammo' = 5
flashlight: 'battery' = 100
Health 5
Ammo 10
Clips 5
Grenades 5
Battery % 100
Stamina 305
View Search Visible Layers
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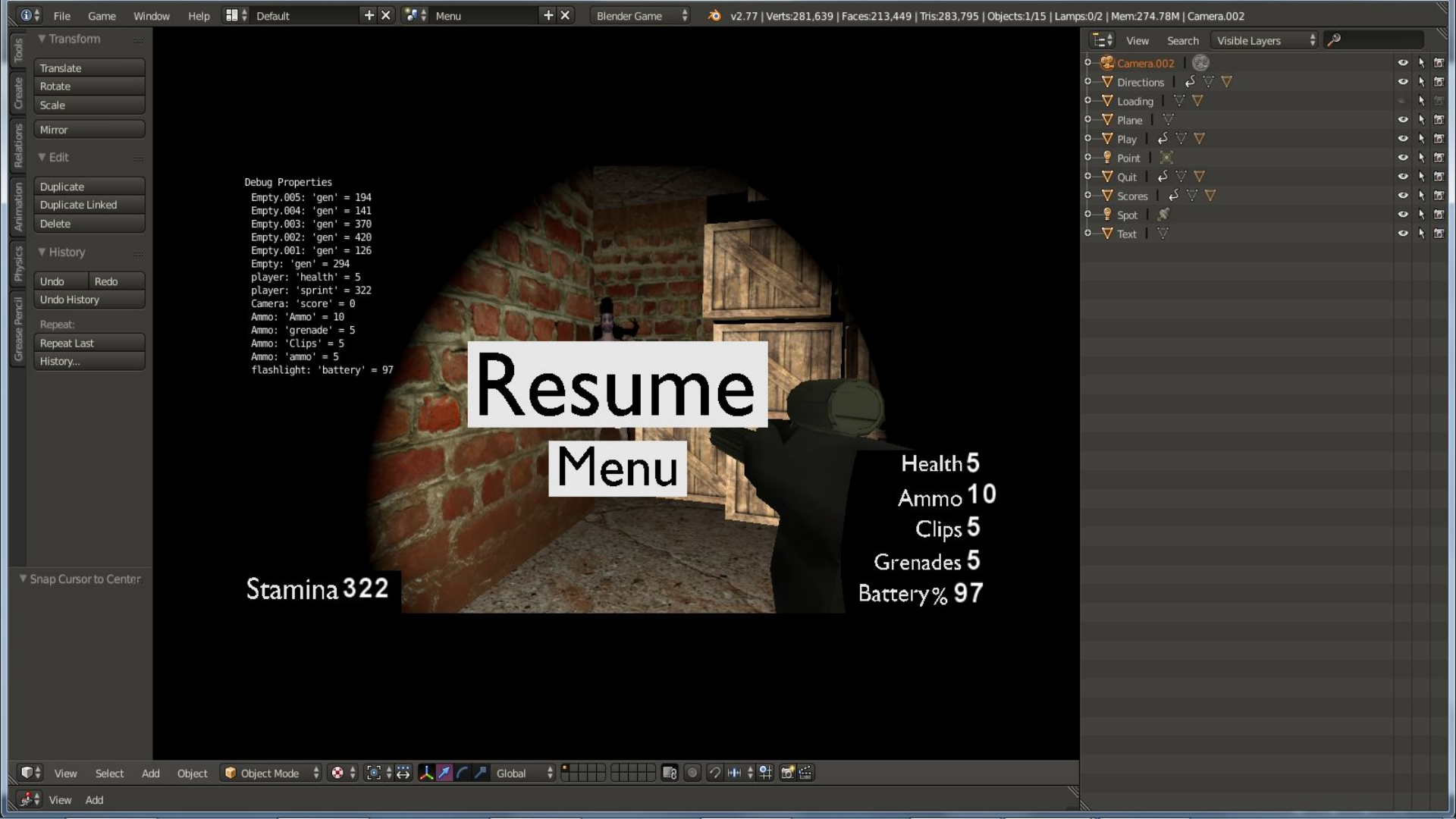
File Game Window Help Default Menu Blender Game v2.77 | Verts:281,639 | Faces:213,449 | Tris:283,795 | Objects:1/15 | Lamps:0/2 | Mem:274.78M | Camera.002
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Snap Cursor to Center
Debug Properties
Empty.005: 'gen' = 194
Empty.004: 'gen' = 141
Empty.003: 'gen' = 370
Empty.002: 'gen' = 420
Empty.001: 'gen' = 126
Empty: 'gen' = 294
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player: 'sprint' = 322
Camera: 'score' = 0
Ammo: 'Ammo' = 10
Ammo: 'grenade' = 5
Ammo: 'Clips' = 5
Ammo: 'ammo' = 5
flashlight: 'battery' = 97
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Health 5
Ammo 10
Clips 5
Grenades 5
Battery % 97
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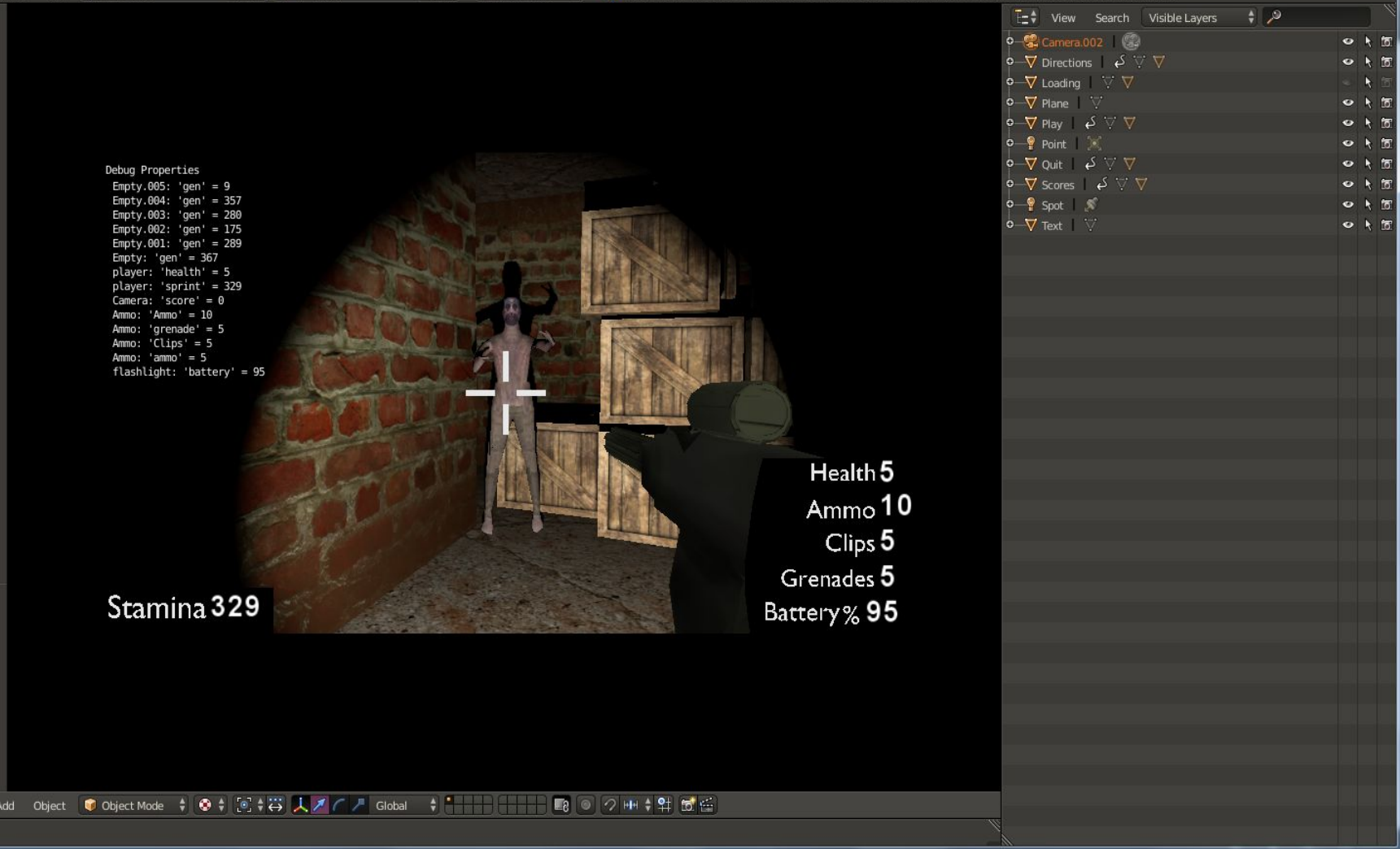
File Game Window Help Default Menu Blender Game v2.77 | Verts:281,639 | Faces:213,449 | Tris:283,795 | Objects:1/15 | Lamps:0/2 | Mem:274.78M | Camera.002
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Repeat:
Repeat Last
History...
Snap Cursor to Center
Debug Properties
Empty.005: 'gen' = 9
Empty.004: 'gen' = 357
Empty.003: 'gen' = 280
Empty.002: 'gen' = 175
Empty.001: 'gen' = 289
Empty: 'gen' = 367
player: 'health' = 5
player: 'sprint' = 329
Camera: 'score' = 0
Ammo: 'Ammo' = 10
Ammo: 'grenade' = 5
Ammo: 'Clips' = 5
Ammo: 'ammo' = 5
flashlight: 'battery' = 95
Health 5
Ammo 10
Clips 5
Grenades 5
Battery % 95
Stamina 329
View Search Visible Layers
Camera.002
Directions
Loading
Plane
Play
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Scores
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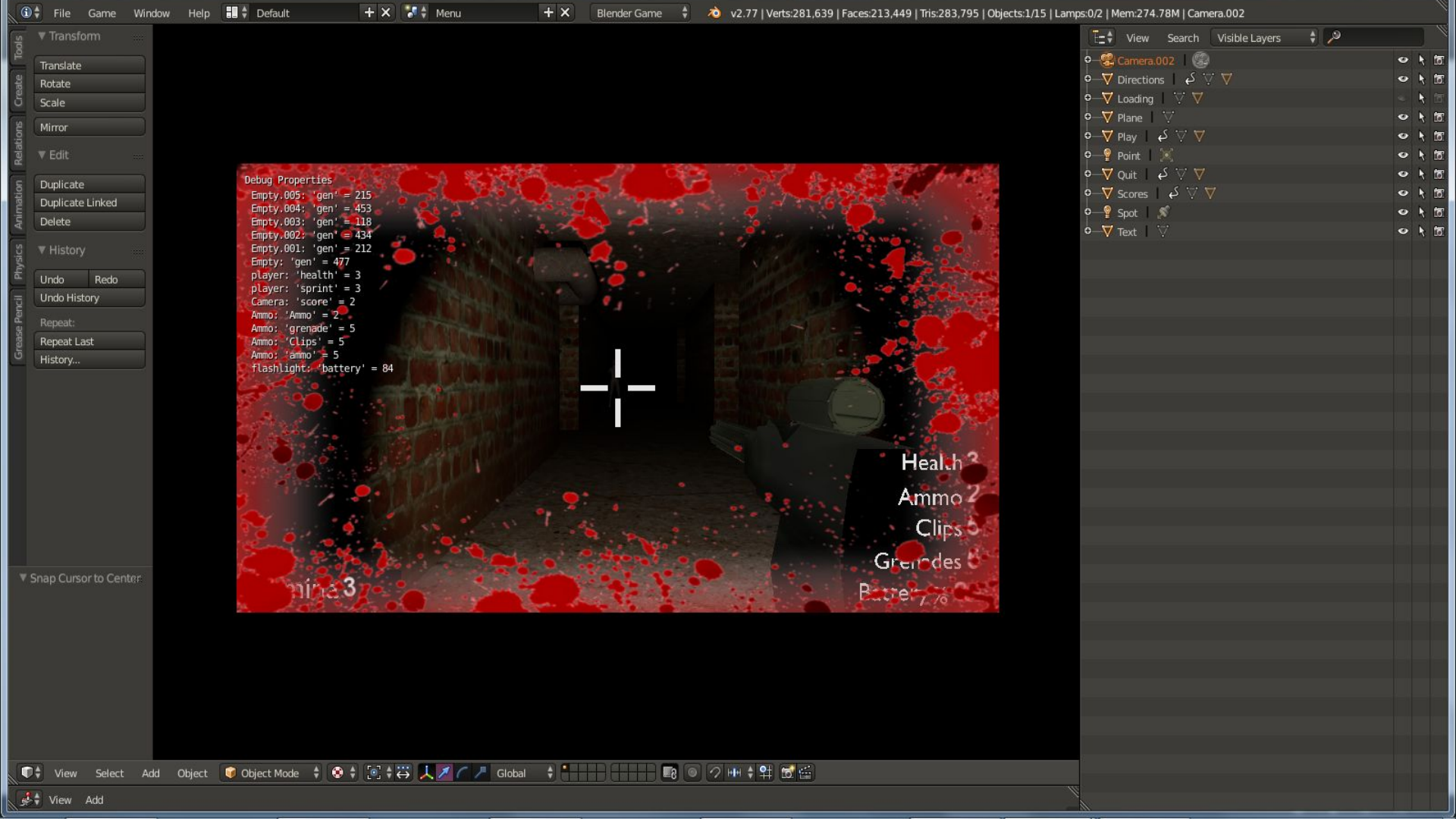
View Select Add Object Object Mode Global
View Add


File Game Window Help Default Menu Blender Game v2.77 | Verts:281,639 | Faces:213,449 | Tris:283,795 | Objects:1/15 | Lamps:0/2 | Mem:274.78M | Camera.002
Transform
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Scale
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History
Undo
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Repeat:
Repeat Last
History...
Snap Cursor to Center
Debug Properties
Empty.005: 'gen' = 215
Empty.004: 'gen' = 453
Empty.003: 'gen' = 118
Empty.002: 'gen' = 434
Empty.001: 'gen' = 212
Empty: 'gen' = 477
player: 'health' = 3
player: 'sprint' = 3
Camera: 'score' = 2
Ammo: 'Ammo' = 2
Ammo: 'grenade' = 5
Ammo: 'Clips' = 5
Ammo: 'ammo' = 5
flashlight: 'battery' = 84
Health 3
Ammo 2
Clips 5
Grenades 5
Battery 7 %
View Search Visible Layers
Camera.002
Directions
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Plane
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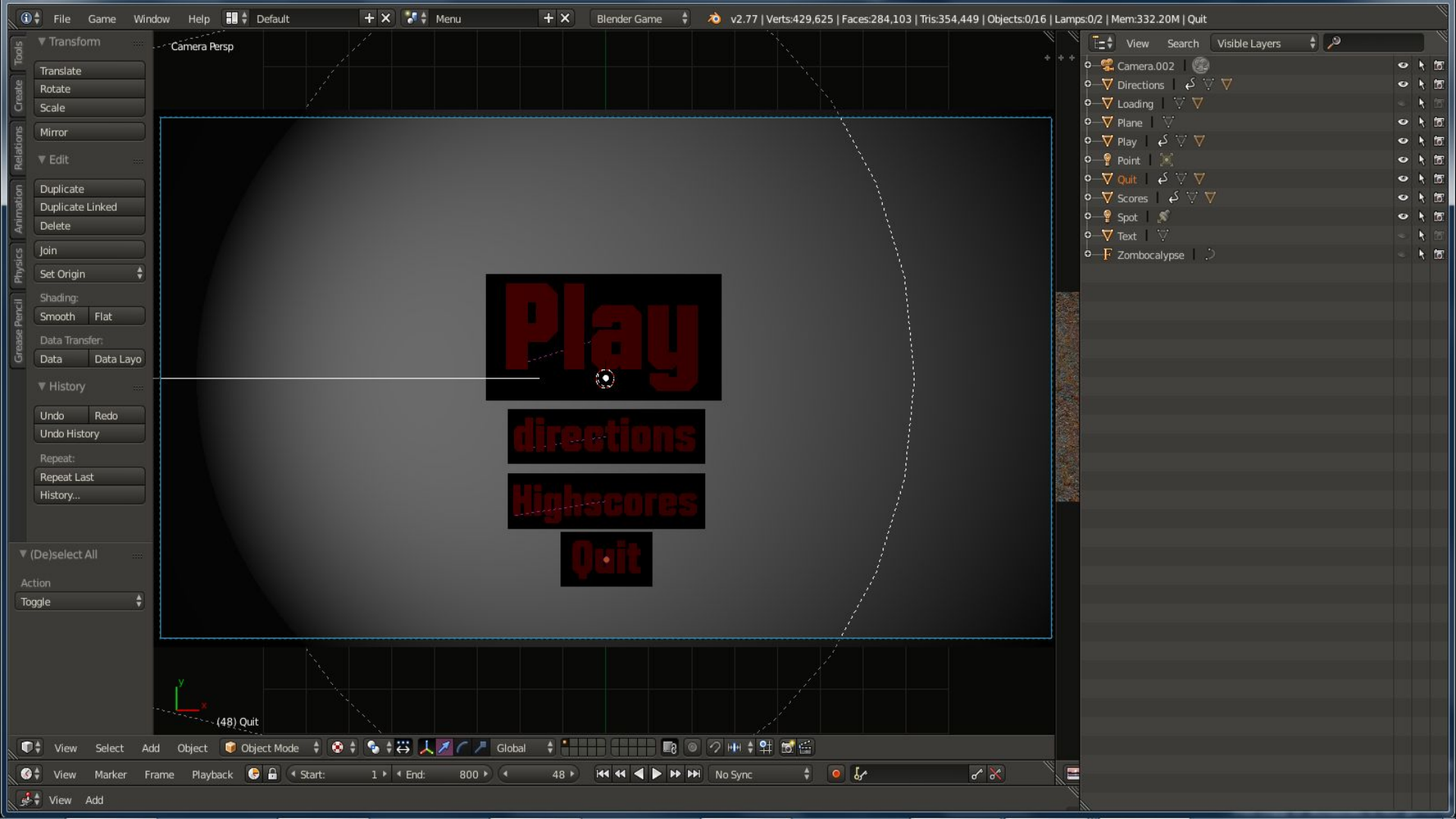
View Select Add Object Object Mode Global
View Add


File Game Window Help Default Menu Blender Game v2.77 | Verts:429,625 | Faces:284,103 | Tris:354,449 | Objects:0/16 | Lamps:0/2 | Mem:332.20M | Quit
Transform
Translate
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Edit
Duplicate
Duplicate Linked
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Join
Set Origin
Shading:
Smooth Flat
Data Transfer:
Data Data Layo
History
Undo Redo
Undo History
Repeat:
Repeat Last
History...
(De)select All
Action
Toggle
Camera Persp
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directions
Highscores
Quit
(48) Quit
View Search Visible Layers
Camera.002
Directions
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Quit
Scores
Spot
Text
Zombocalypse
View Select Add Object Object Mode Global
View Marker Frame Playback Start: 1 End: 800 48 No Sync
View Add

Thank you :)