

10/01/21

Neeraj Appu
Game Programming
Practical - 01

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Aim - (Space Shooter) write each step for performing practical

1) Setting up the project - 01

- 1) Create a new project
- 2) Install package from asset store and import
- 3) Save Scene
- 4) List new build target
- 5) Change resolution to 600 and 900
- 6) Change layout

2) Player game object

- 1) Drag player ship model from asset and renan by double clicking it
- 2) Set position at origin
- 3) Click add component and rigid body and deselect gravity
- 4) Add component physics and capsule (collider) and change direction, height and radius
- 5) Change collider to mesh collider and check simplified mesh
- 6) Add prefab by $ufo \rightarrow engne$.

3) Camera and lighting

- 1) Reset camera transform and adjust position
 $X = 0$ and $Rotation = 90$
- 2) Projection set to orthographic and set value to 10

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- 3) Remove camera transform to position $z = 5$
- 4) Change clear flags to solid color and to black
- 5) Go to edit and render settings and adjust ambient light to black
- 6) Go to the create direction light and set the rotation by $x = 20$, $y = -115$ and intensity $b = 0.75$
- 7) Add fill light and so repeat above steps by y rotation $y = 126.6$ and intensity $= 0.5$ and change color
- 8) Add rim light and repeat above steps by rotation $b = 0.5$, $x = -15$, intensity $= 0.25$
- 9) Add empty game object, grenade lighting, resize transform and drag all lights

ii) Adding a Background

- 1) Create quad and remove background and resel watching to $x = 90$ and remove mesh colliders
- 2) Add textures - go to asset and robust greech
- 3) Grab image and drag in background
- 4) Change Scale to fit in the background with 1:2 ratio
- 5) Change shader - unlit texture - unlit
- 6) Adjust background position $y = -10$

5) Moving the player

- 1) Create new folder in assets and rename scripts
- 2) Add new component and rename player controller and drag into Scripts folder
- 3) Select the script and press open and write code
- 4) Set $xMin = -6, yMin = 6, zMin = -4$
 $xMax = 8$
- 5) Write tilt code and set tilt value to

6) Creating shots

- 1) Create gear object bolt
- 2) Create quad VFX and drag it in bolt and rotate $y=90$
- 3) Open texture, open material, select new material and rename it
- 4) Drag bolt texture and drag in the VFX guard
- 5) Change Shader - particle - additive
- 6) Clicks at add component - rigid body to deselect gravity
- 7) Remove mesh collider on vfx
- 8) Click on Add component - capsule collider
- 9) Adjust capsule collider to bolt
- 10) Add component - move script to bolt
and add speed value of 20

7) Shooting Shots

- 1) Open Script to write code
- 2) Create new object as shot spawn and adjust position $z = 1.25$
- 3) Reference shot spawn and hit rate to 0.25

8) Boundary

- 1) Create a new cube and rename boundary
- 2) adjust value of scale transform $z = 20$
- 3) add new script and write code

9) Creating hazard

- 1) Create a new object asteroid
- 2) open model folder and drag in object asteroid
- 3) Add physics rigid body, capsule collision and select gravity
- 4) Create new script and write code and hit tumble rate to 5
- 5) Add new script for destroying asteroid code
- 6) Select boundary and add tag

10) Explosion

- 1) Write code to destroying asteroid
- 2) Set speed rate for 5

1) Game Controller

- 1) For Game controlling, Create a new game object to hold game controller logic, Rename it game controller and resift it transform
- 2) Select game controller object select add component to create new Script named Game Controller
- 3) Select Assets and file Game Controller Script and open script for editing

12) Spawning waves

- 1) For Spawning the waves select Game controller and change the hazard count to 10.
- 2) Select Script Padder and use create menu in project view and choose #! script, rename its script destroy by fire and open if for editing

13) Audio

- 1) For audio, add audio select any audio clip from the asset folder
- 2) Add weapon audio clip drag it into scene view & drop in player game object
- 3) To play audio, select the player controller script and open it for editing to write code

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14) Counting points and displaying the score

- 1) Four Counting points , use Create menu from the hierarchy view select GUI Text, Rename this object as score Text
- 2) Select game controller and open game controller for editing

15) Ending the game

- 1) Make new GUI text and name that restart text and game over text
- 2) Updated the code, Open game controller script for editing

16) Building the game

- 1) To build the web player open build setting, Go to all the scene in main activity in scene window and click on build
- 2) Create a path location where want to build the game and deploy the web and give the name to html and run the game