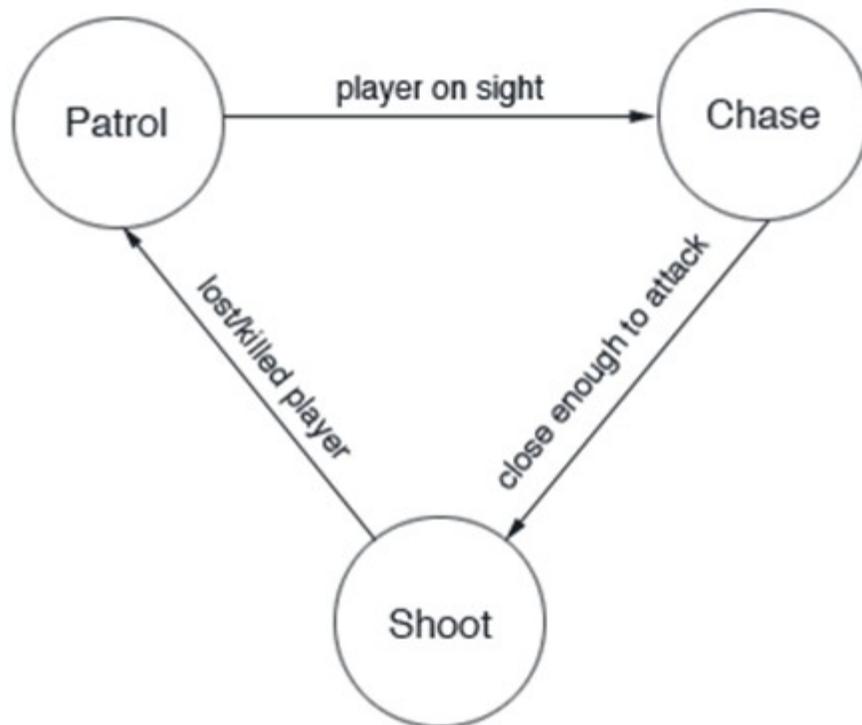
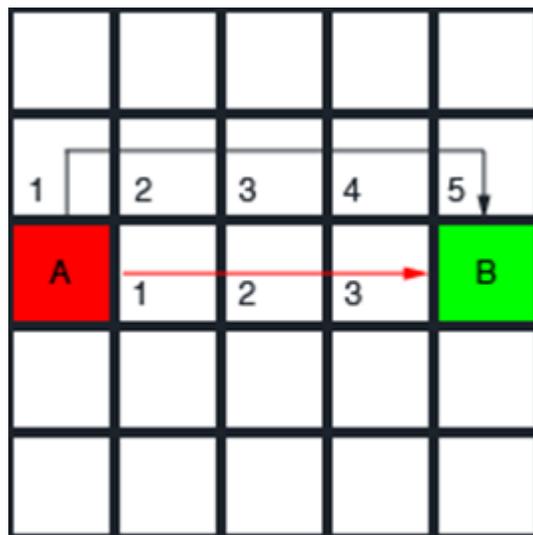
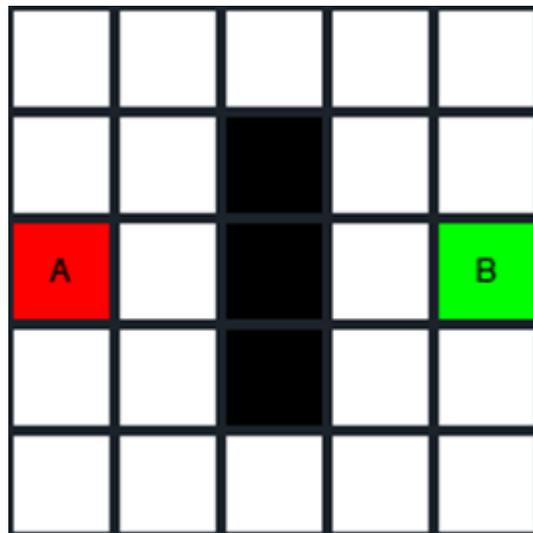
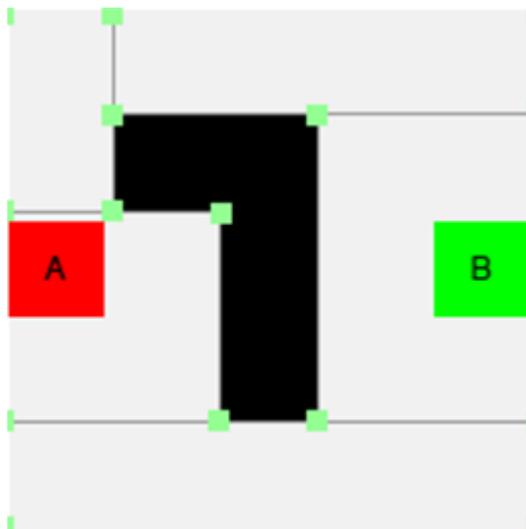
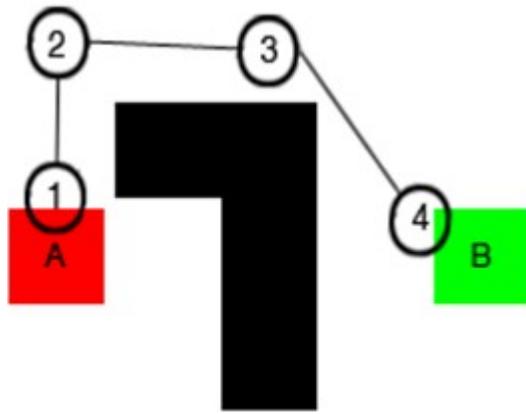
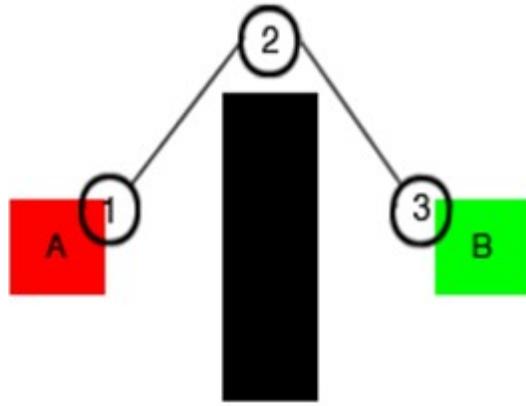
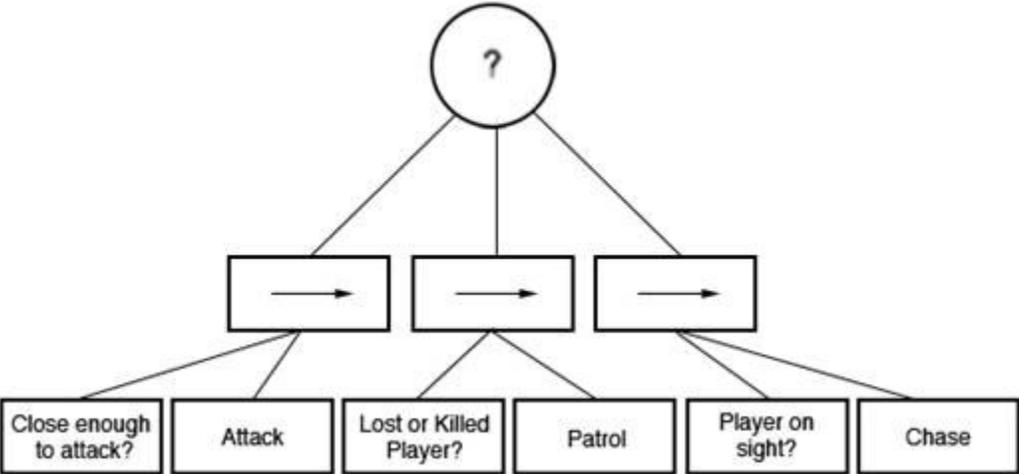
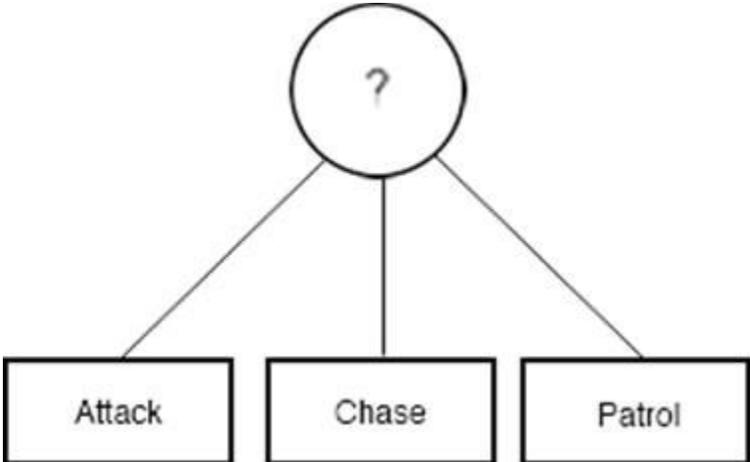
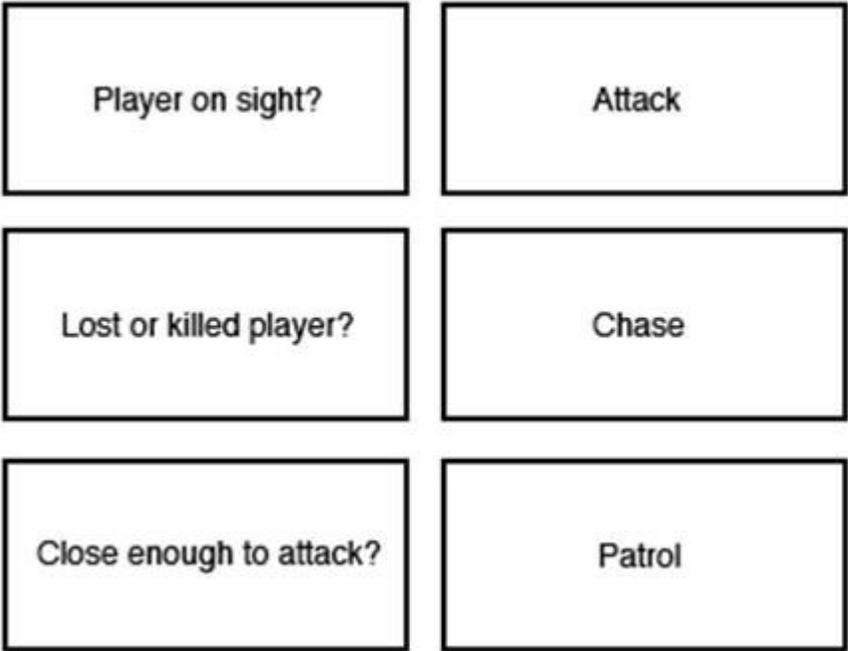


## Chapter 1: The Basics of AI in Games

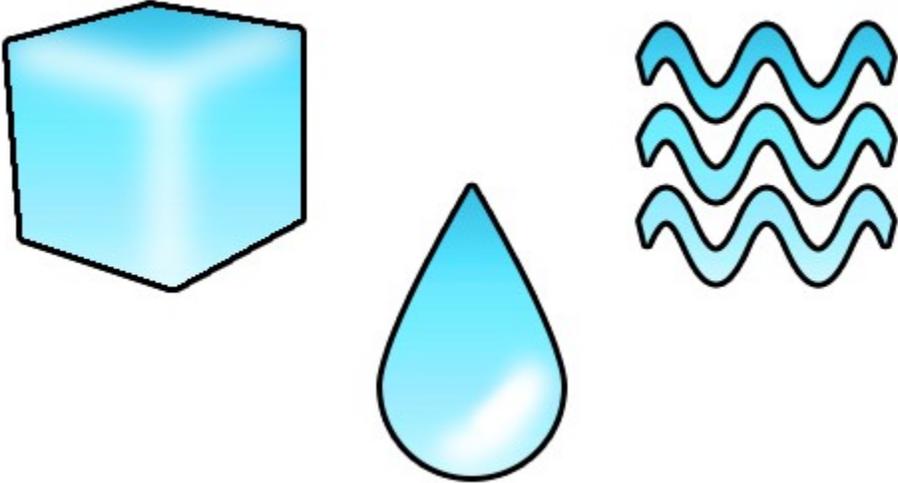


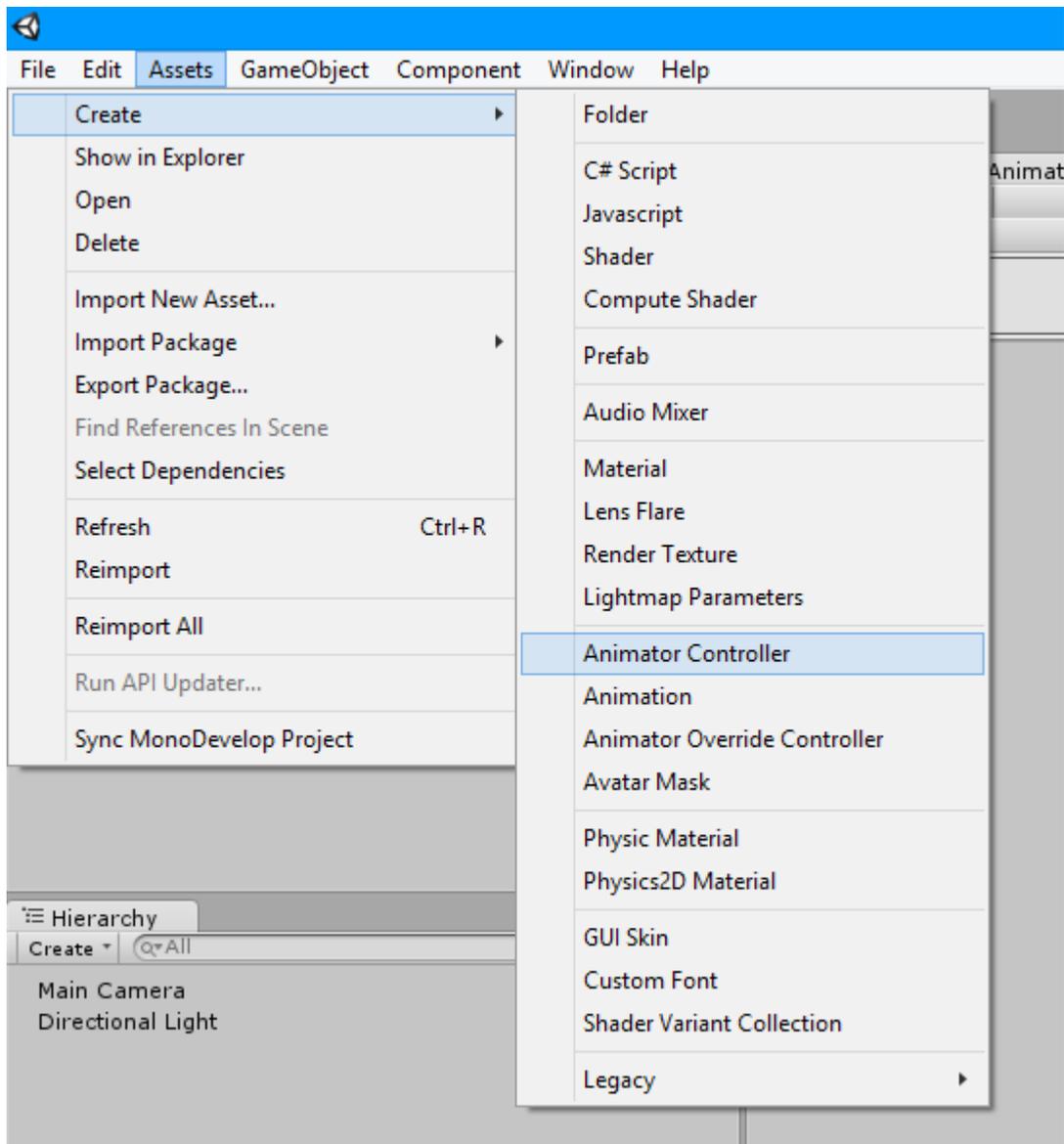


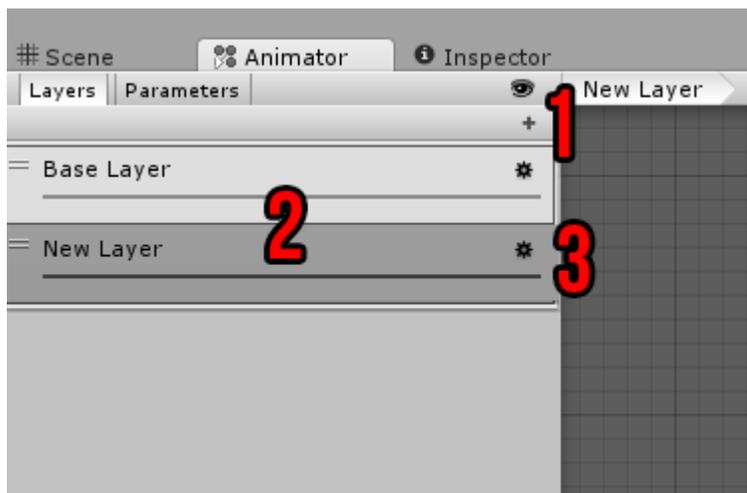
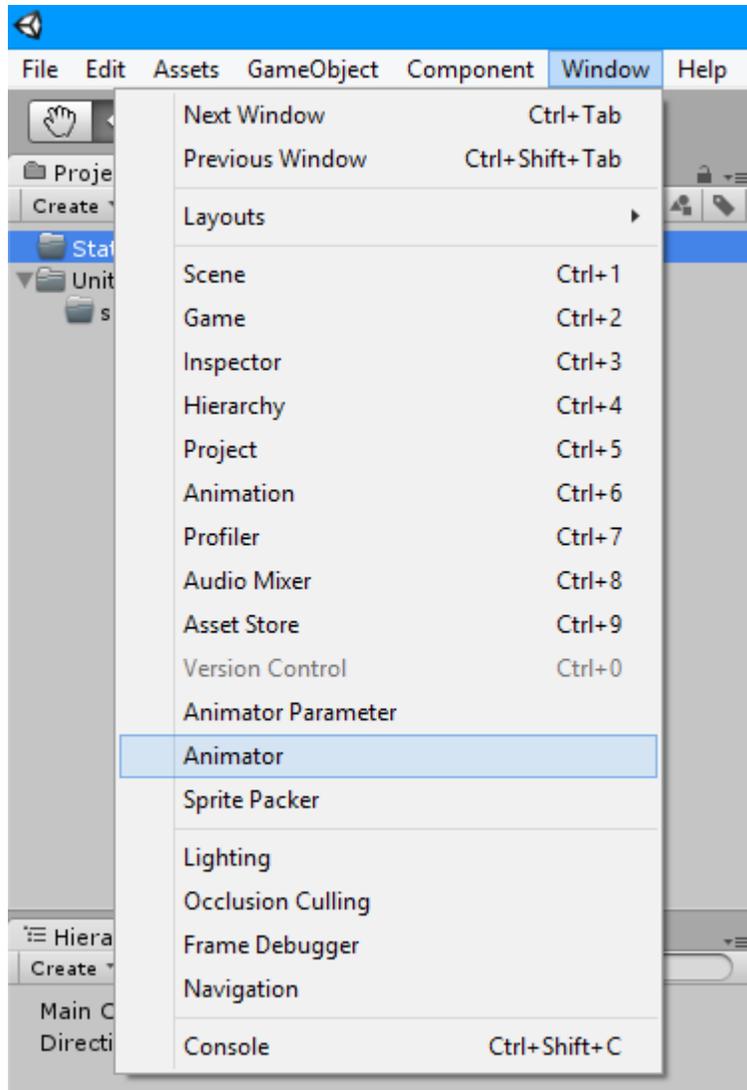


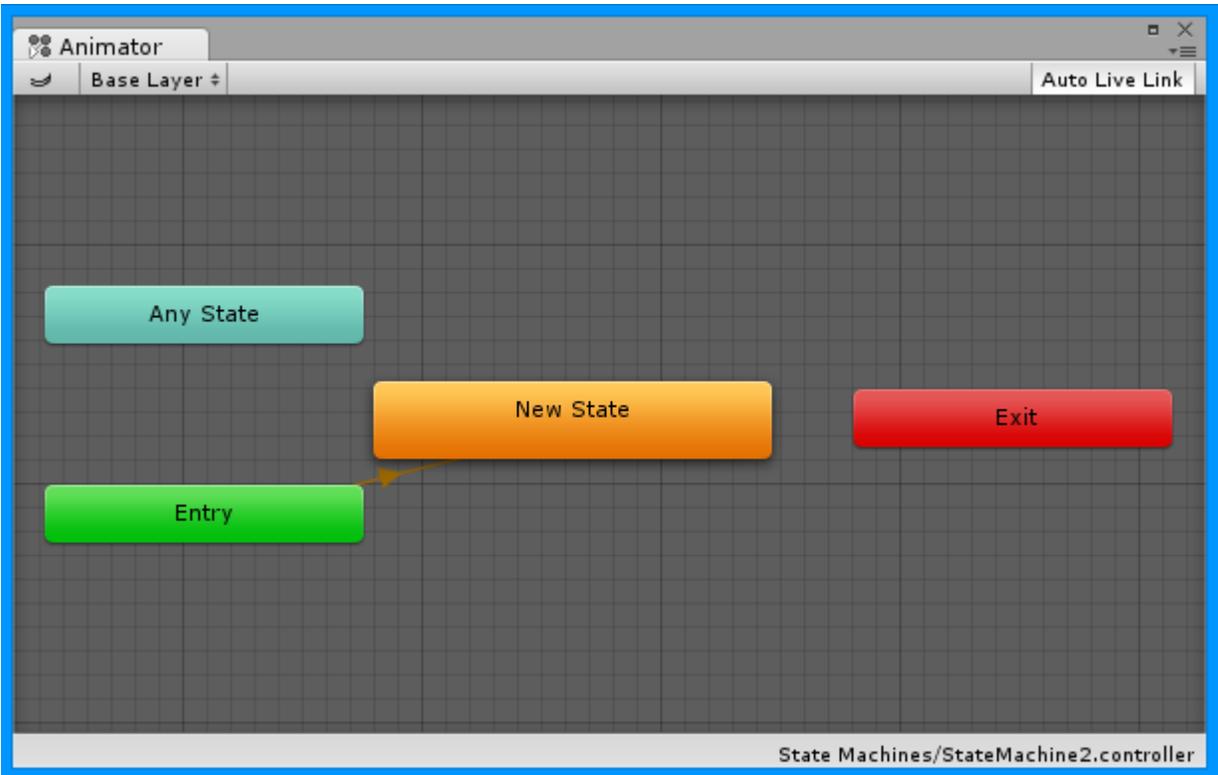
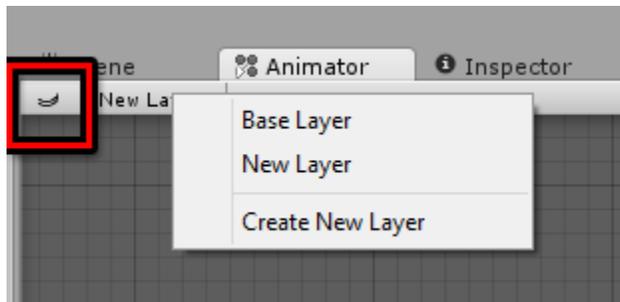


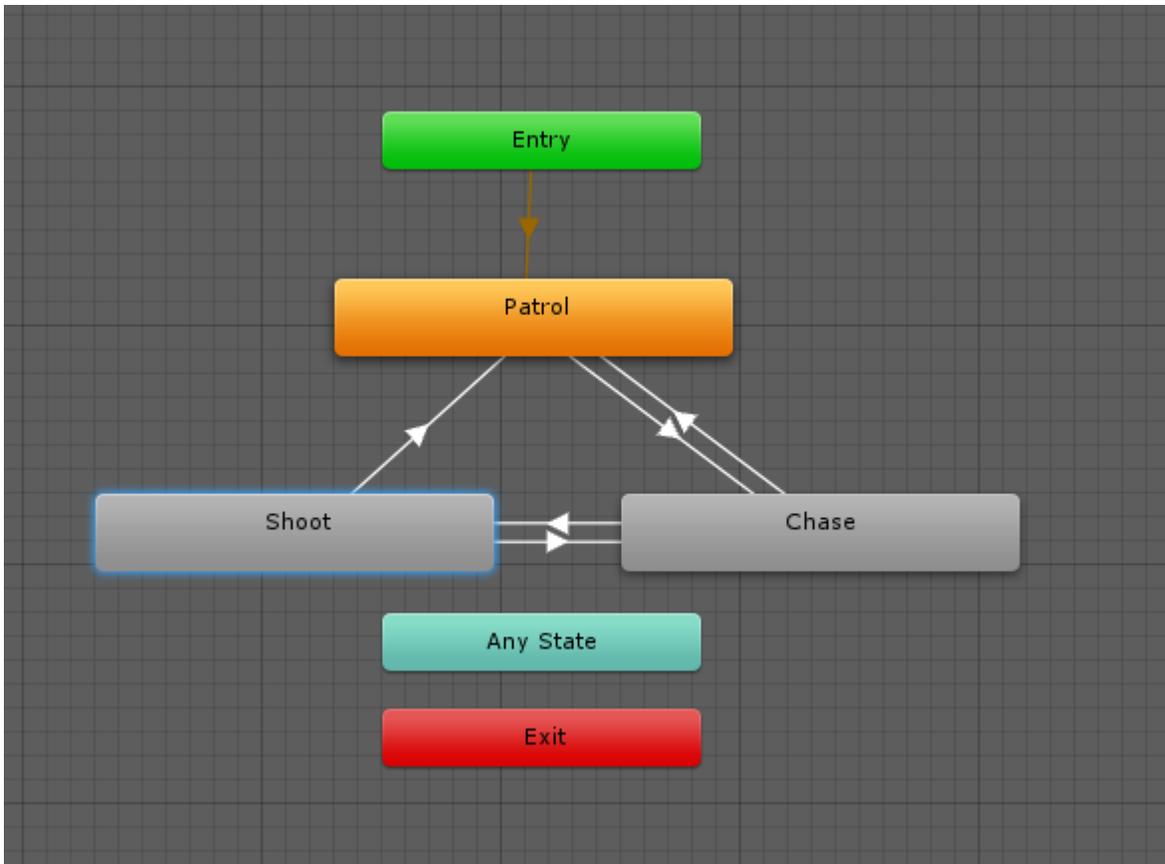
**Chapter 2: Finite State Machines and You**











Transitions Solo Mute

Patrol -> Shoot

---

Patrol -> Shoot ⚙️

Has Exit Time

Settings

Cannot preview transition: source state does not have motion

Conditions

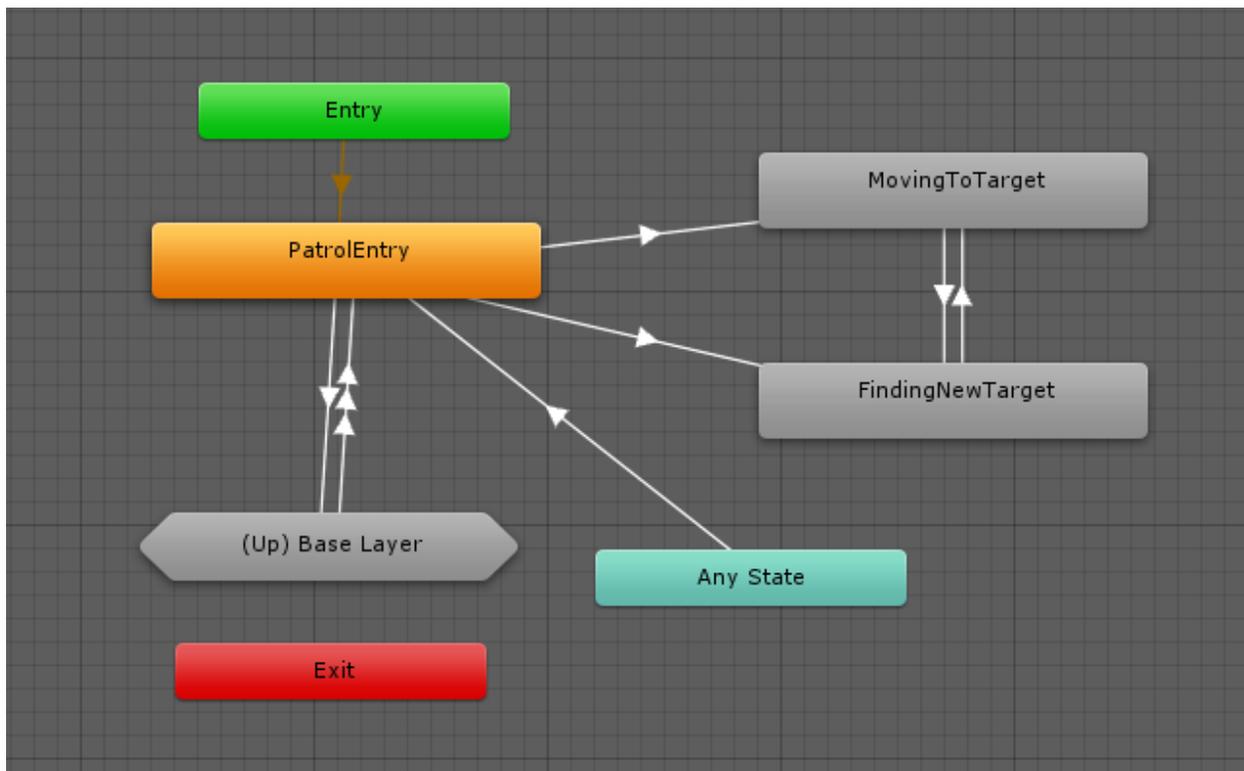
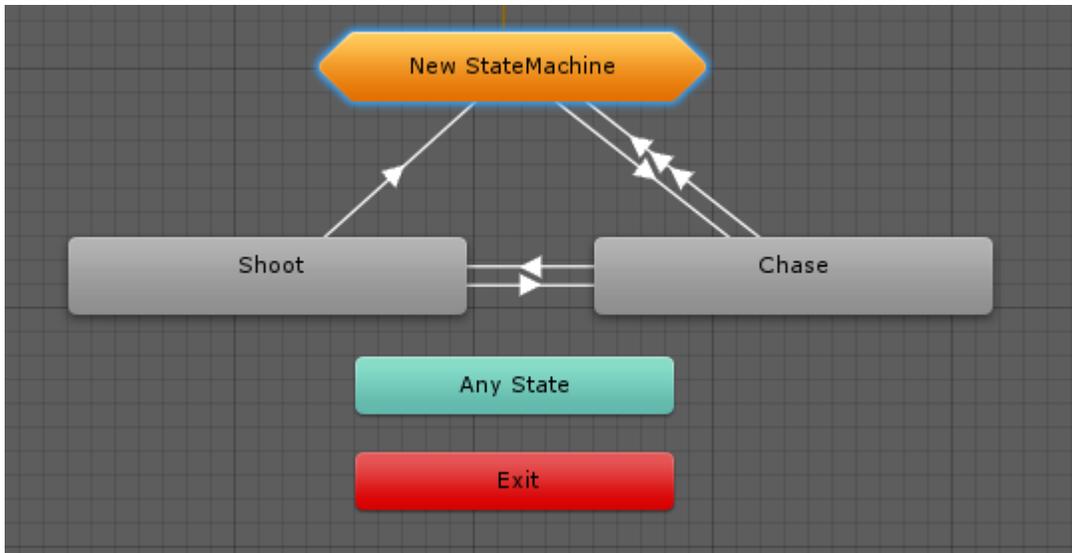
List is Empty +

Conditions

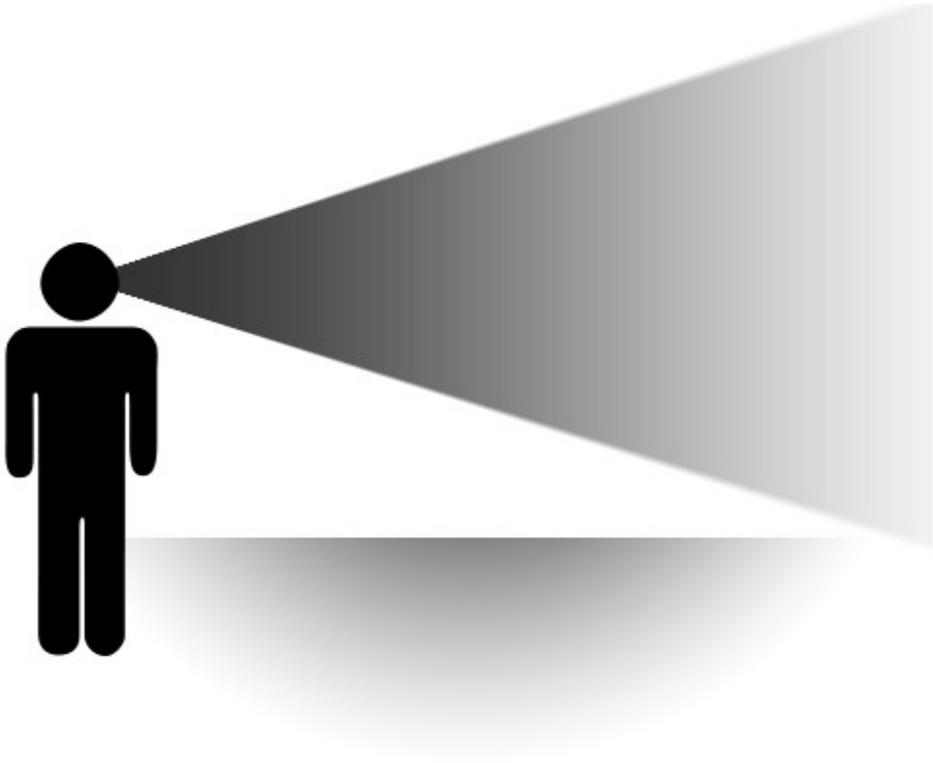
= distanceFromPlayer Less + 5

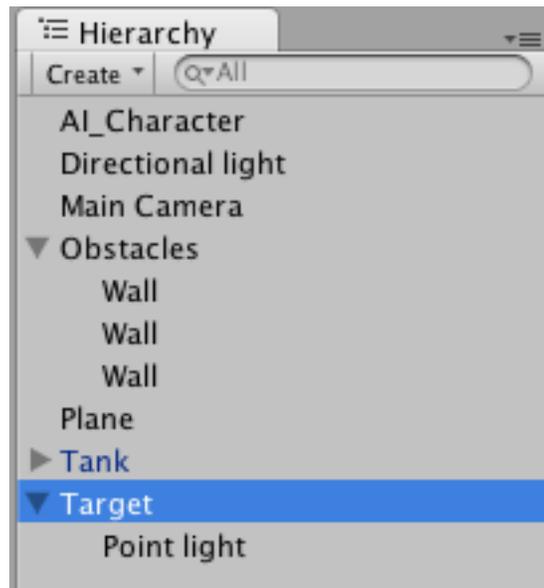
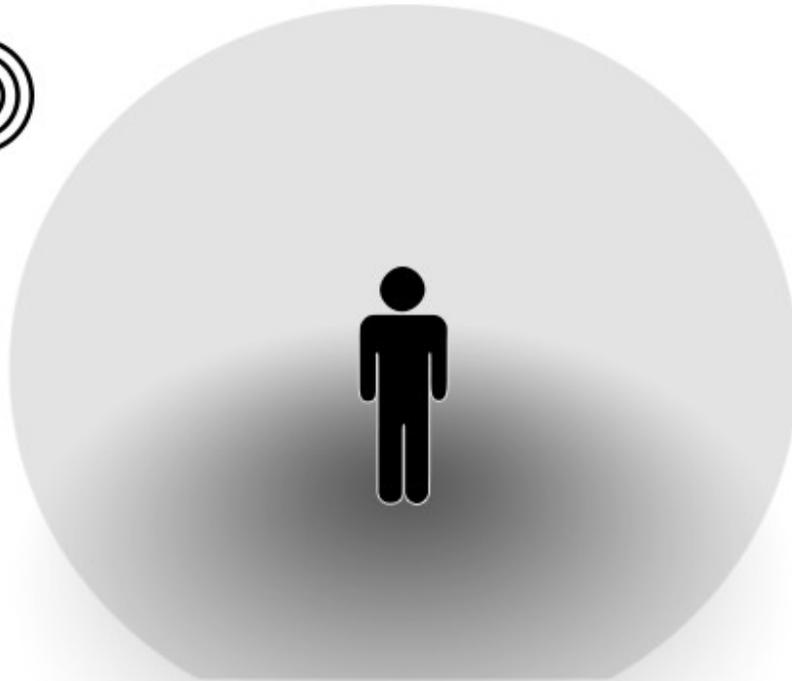
= isPlayerVisible true

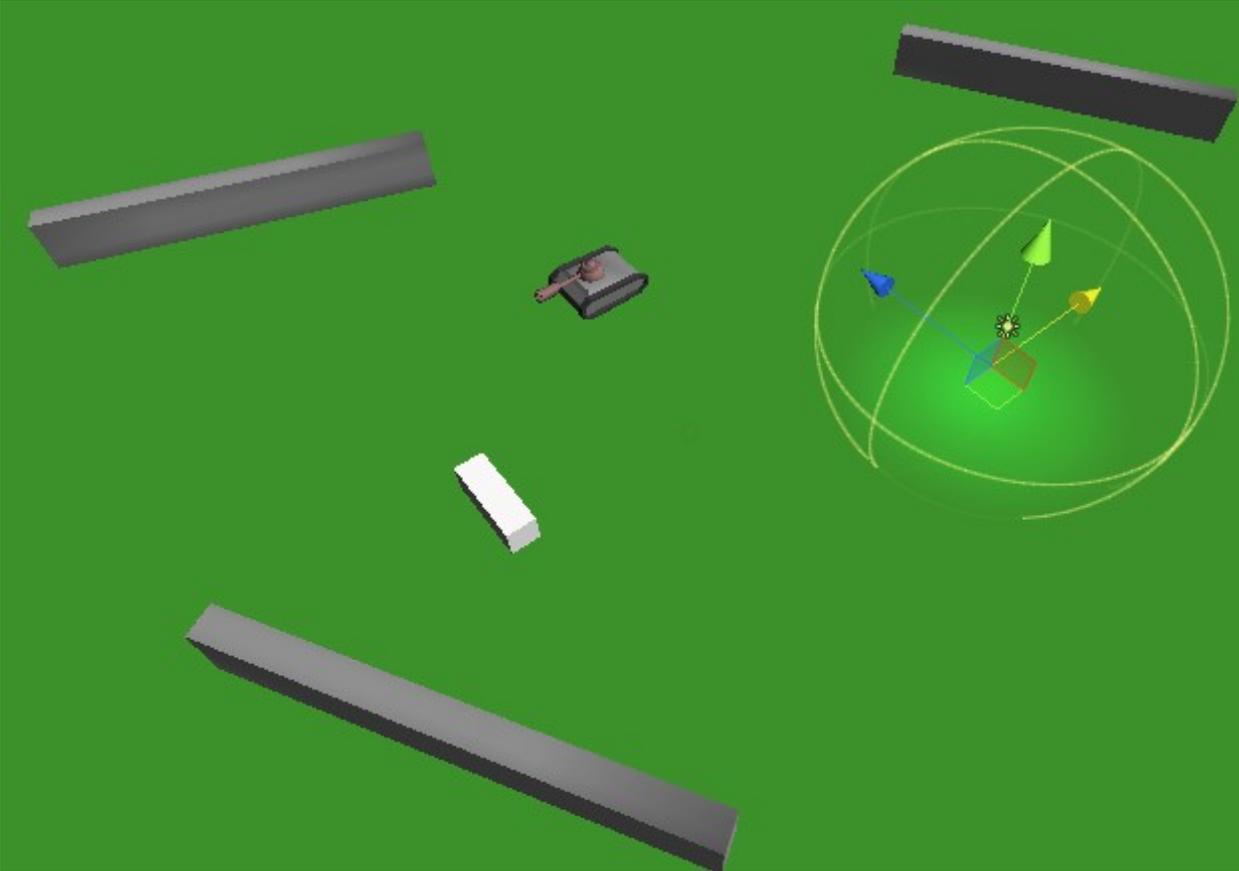
+ -



### Chapter 3: Implementing Sensors







**Inspector**

Tank  Static

Tag: Player Layer: Default

Prefab: Select Revert Apply

**Transform**

**Position**  
X: -7.281717 Y: -0.02629163 Z: 22.54398

**Rotation**  
X: 3.051758e-05 Y: 270 Z: 0

**Scale**  
X: 0.07 Y: 0.07 Z: 0.07

**Tank (Mesh Filter)**

**Mesh Renderer**

**Box Collider**

**Player Tank (Script)**

Script: PlayerTank  
Target Transform: Target (Transform)

**Rigidbody**

Mass: 1  
Drag: 0  
Angular Drag: 0  
Use Gravity:   
Is Kinematic:   
Interpolate: None  
Collision Detection: Discrete

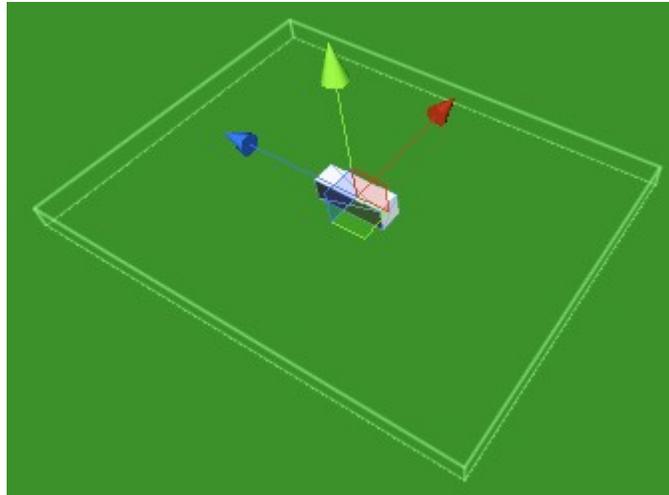
Constraints

**Aspect (Script)**

Script: Aspect  
Aspect Name: Enemy  
Sense Name:

**Aspect (Script)**

Script: Aspect  
Aspect Name: Enemy



**Box Collider**

Is Trigger

Material None (Physic Material)

Center  
X 0 Y 0 Z 0

Size  
X 14 Y 1 Z 6

**Mesh Renderer**

**Perspective (Script)**

Script Perspective

Debug Mode

Aspect Name Enemy

Detection Rate 1

Field Of View 20

View Distance 30

**Wander (Script)**

Script Wander

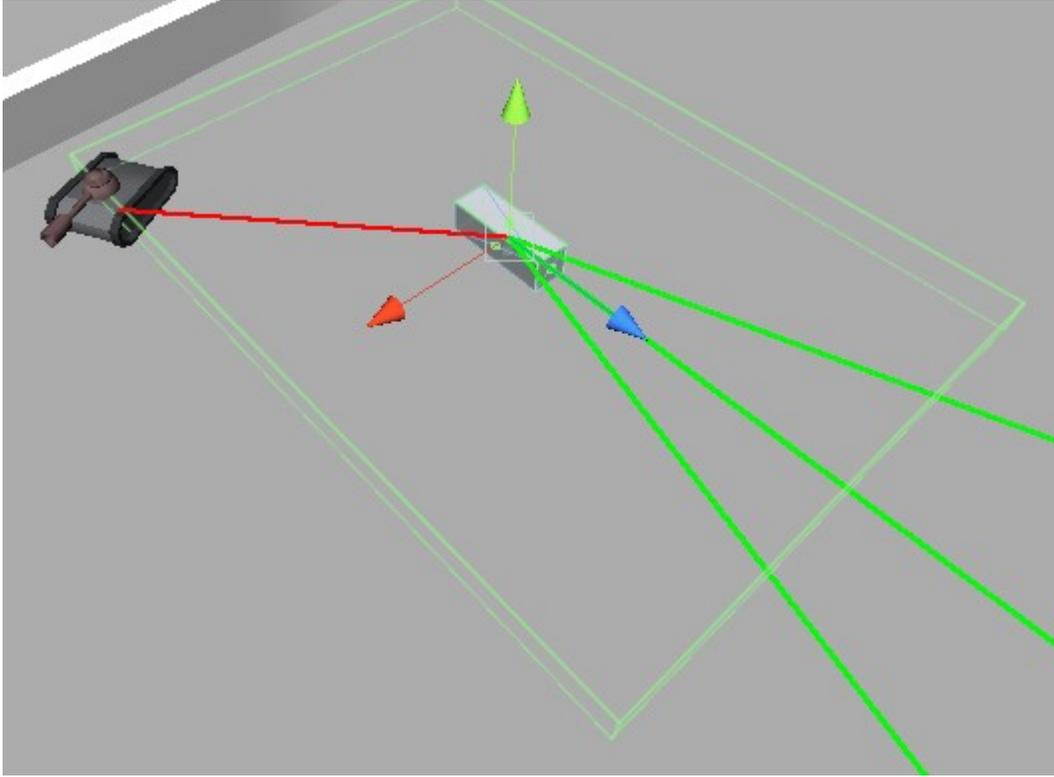
**Touch (Script)**

Script Touch

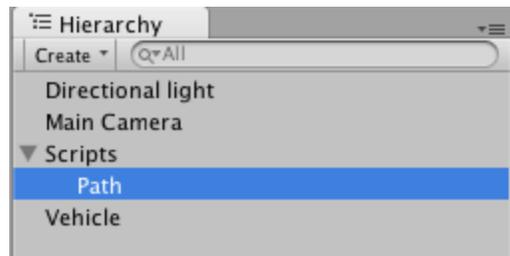
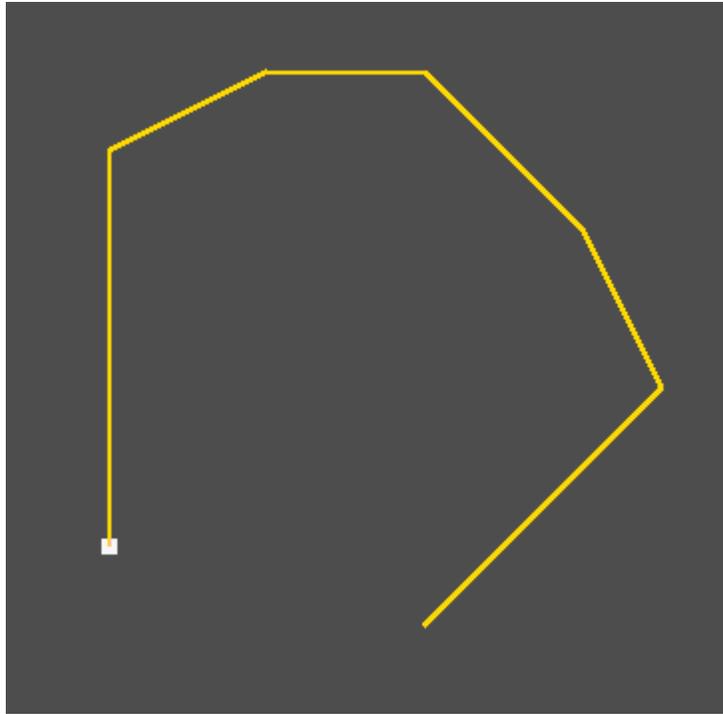
Debug Mode

Aspect Name Enemy

Detection Rate 1



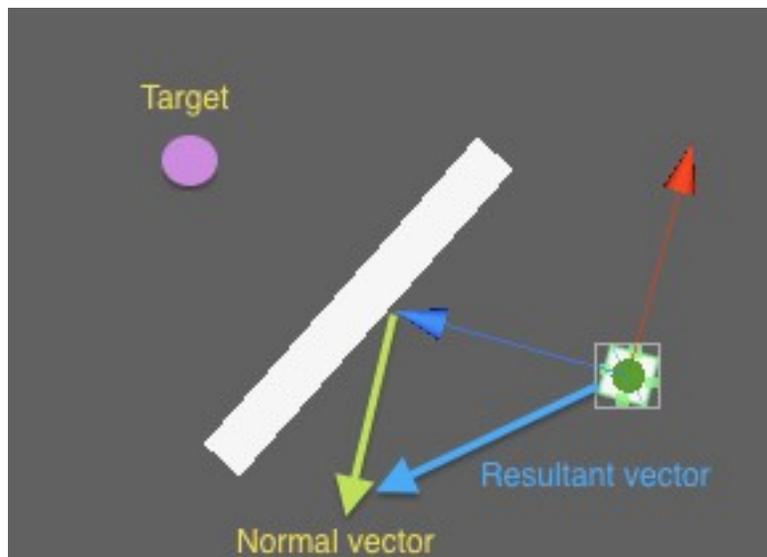
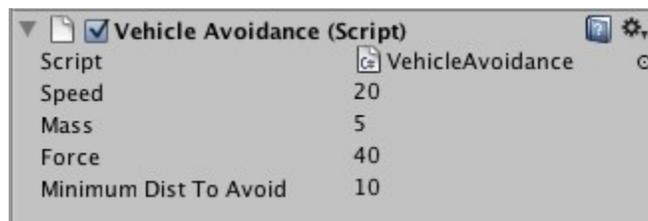
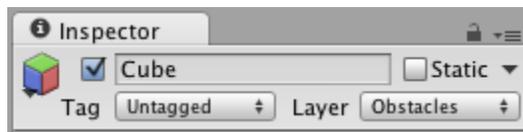
## Chapter 4: Finding Your Way

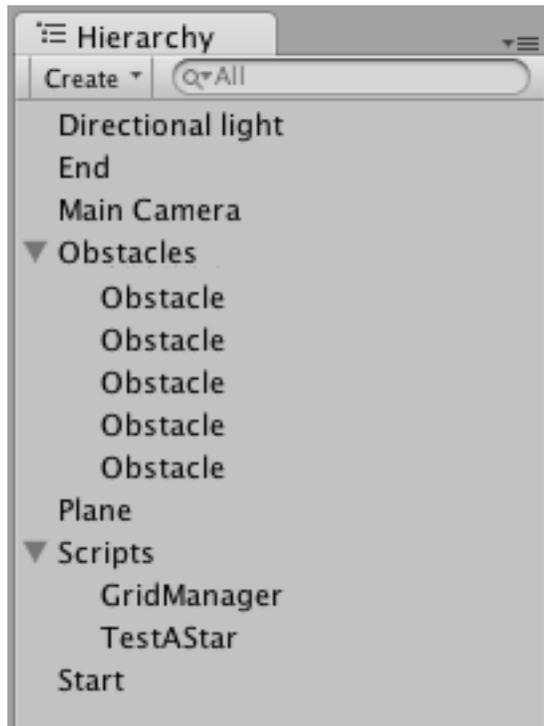
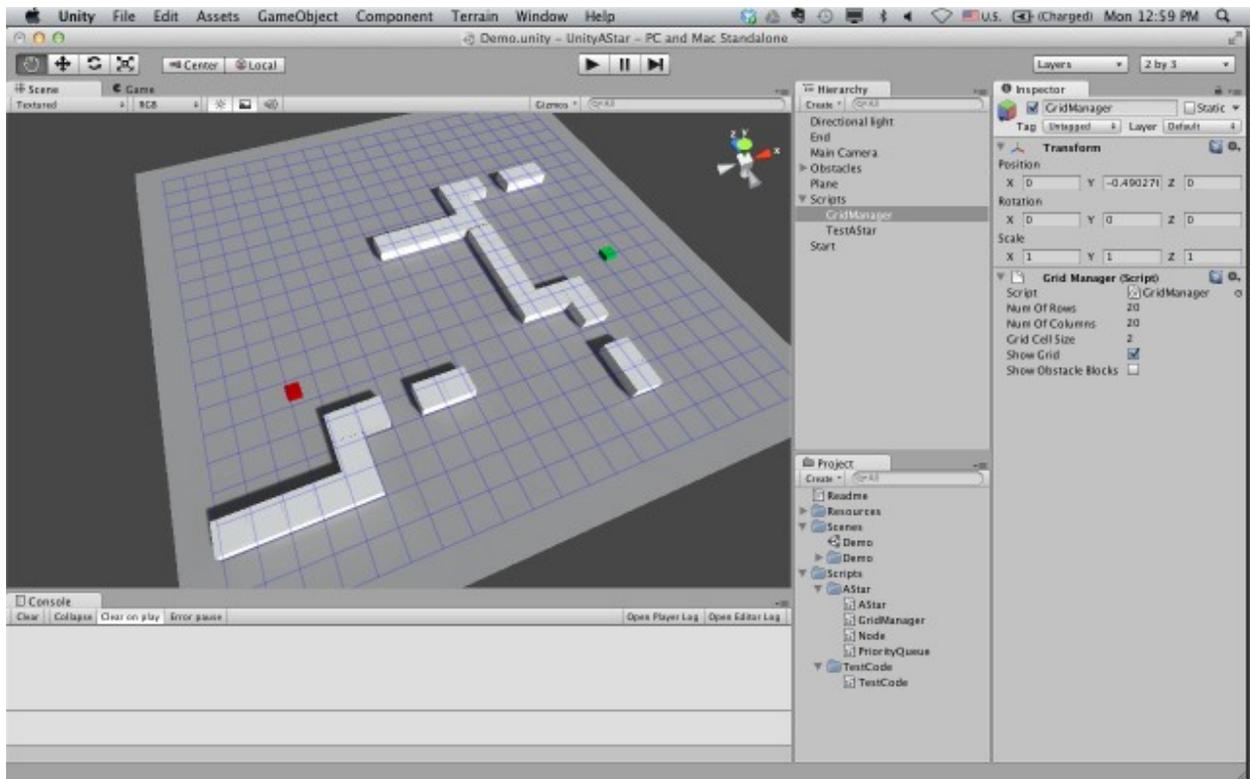


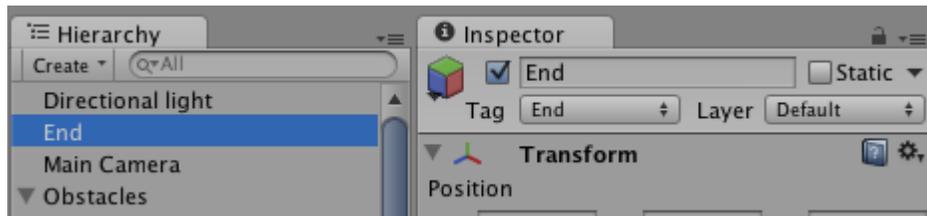
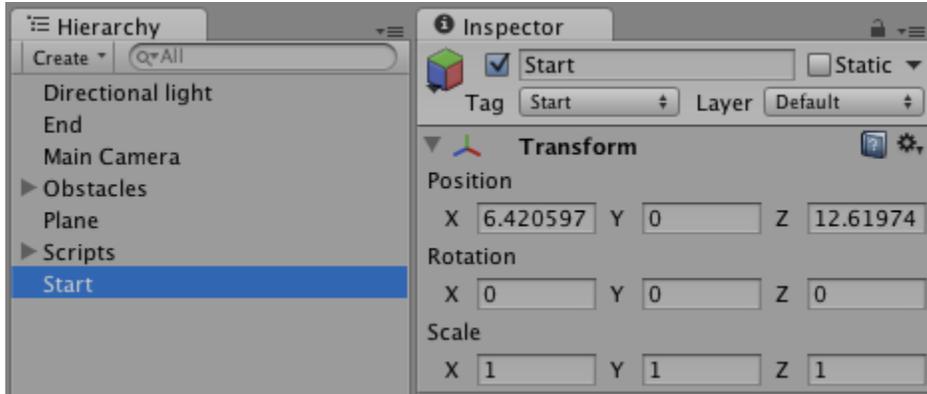
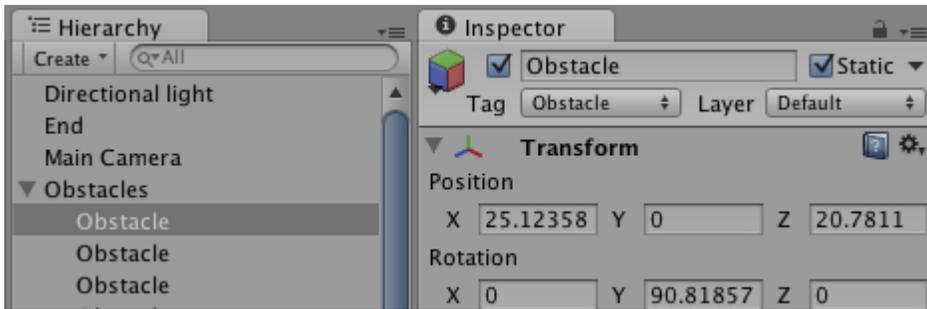
Path (Script)	
Script	Path
BDebug	<input checked="" type="checkbox"/>
Radius	2
Point A	
Size	8
Element 0	
X	0
Y	0
Z	0
Element 1	
X	0
Y	0
Z	25
Element 2	
X	10
Y	0
Z	30
Element 3	
X	20
Y	0
Z	30
Element 4	
X	25
Y	0
Z	25
Element 5	
X	30
Y	0
Z	20
Element 6	
X	35
Y	0
Z	10
Element 7	
X	20
Y	0
Z	-5

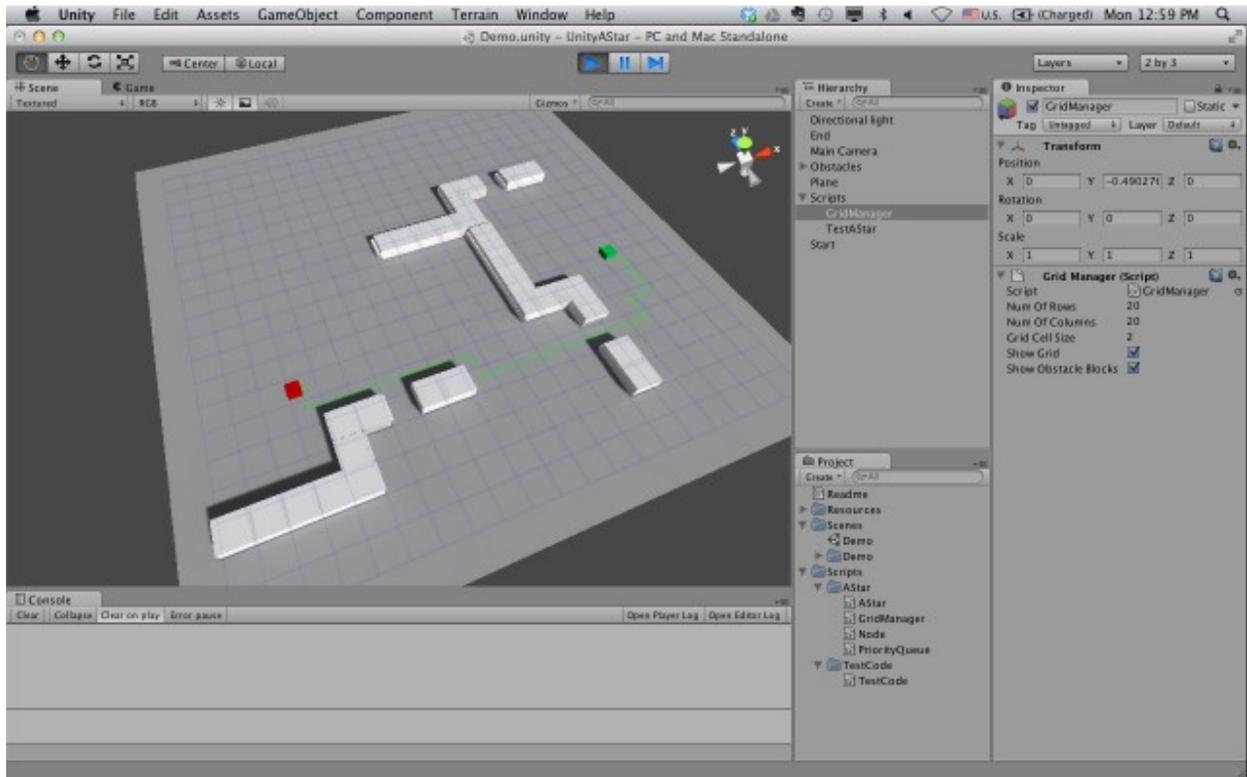
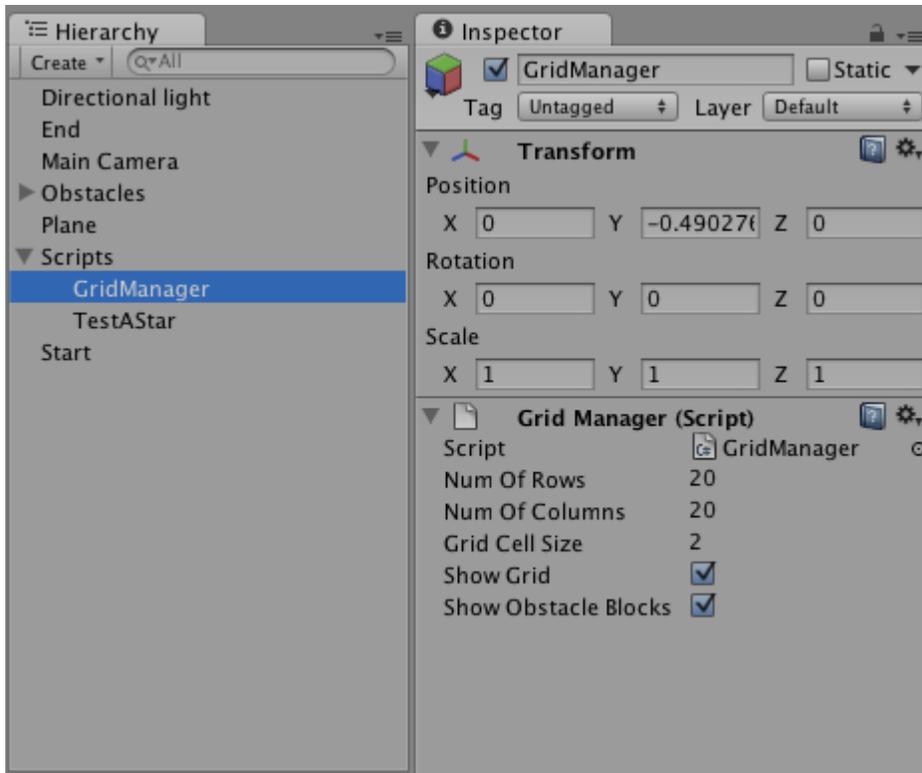
Vehicle Following (Script)	
Script	VehicleFollowing
Path	Path (Path)
Speed	10
Mass	5
Is Looping	<input type="checkbox"/>

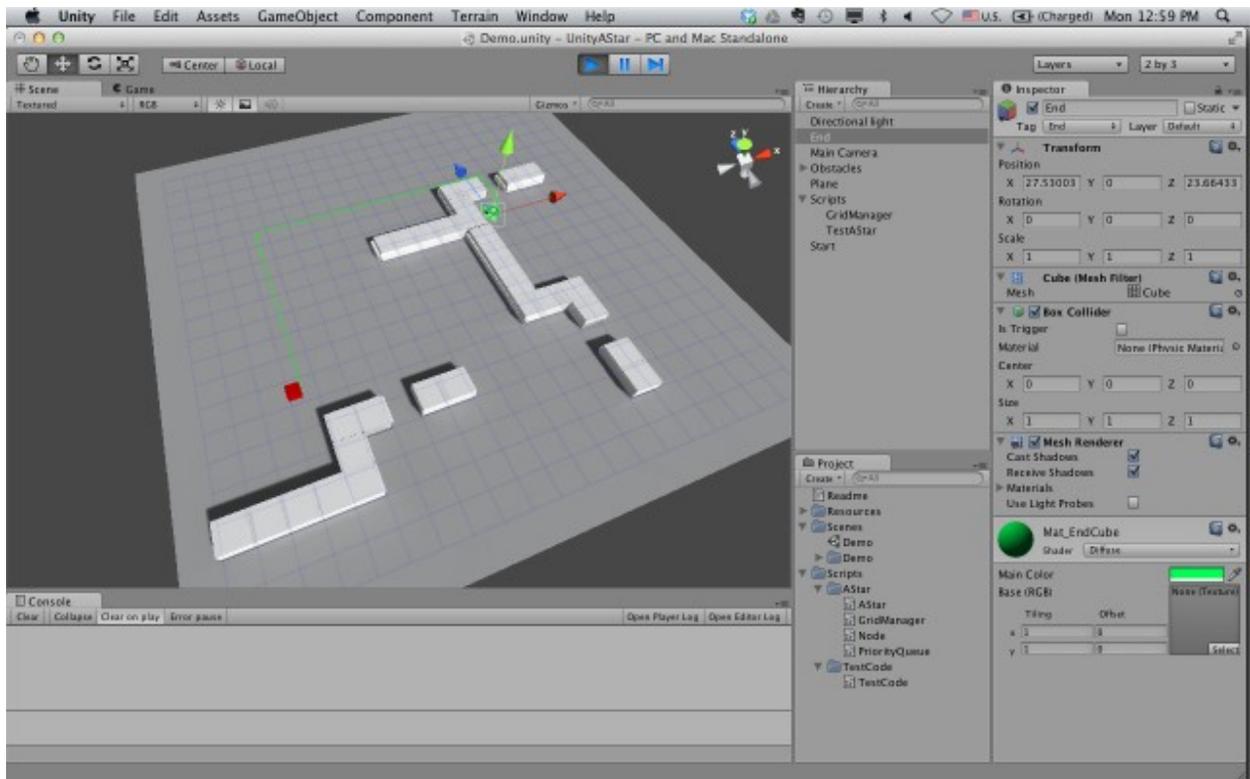


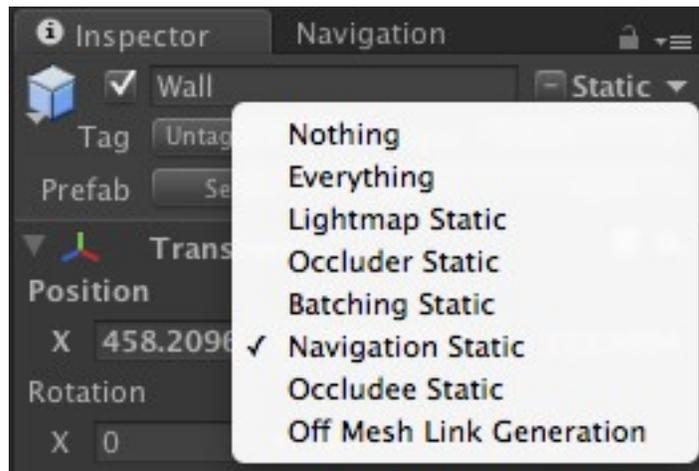
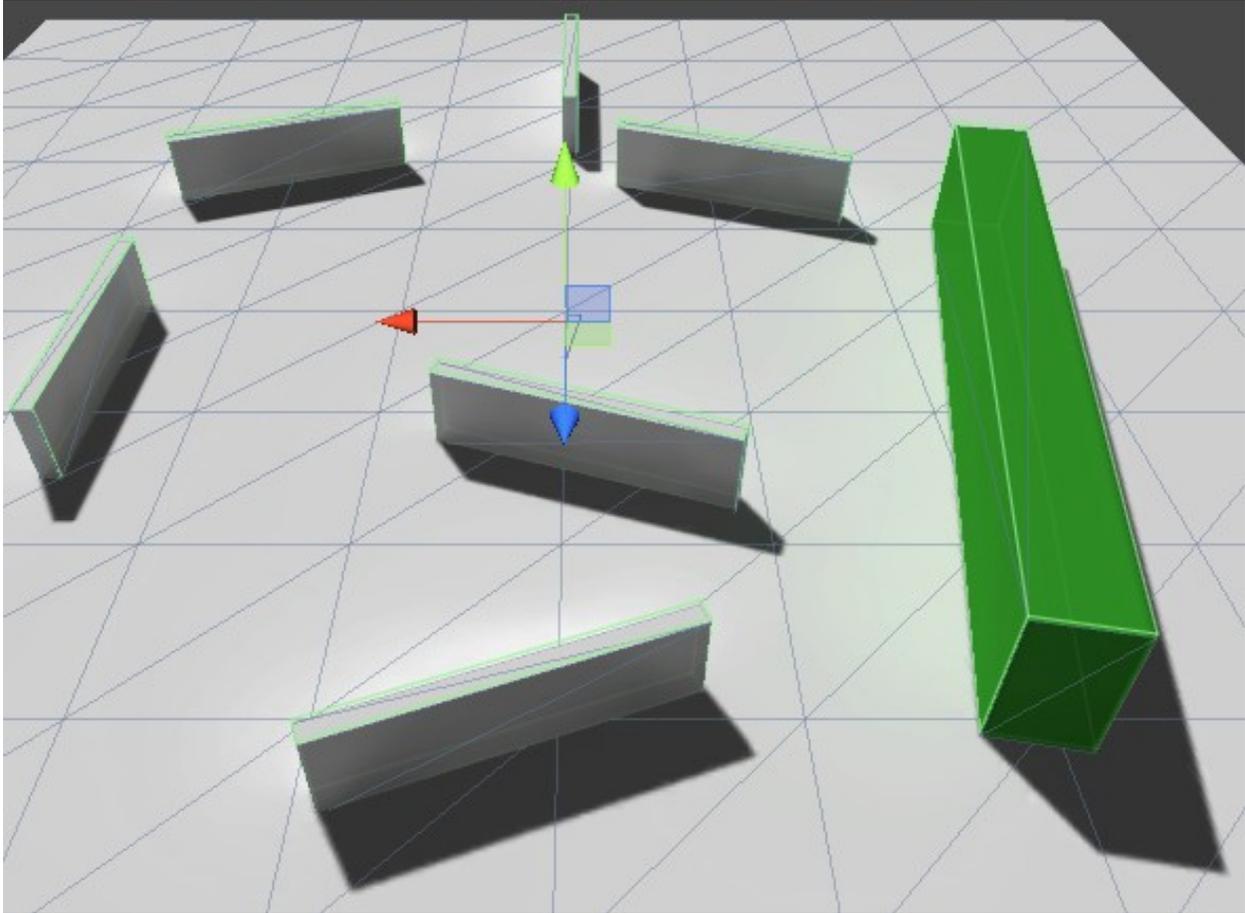












Object Bake Areas

Scene Filter:

All Mesh Renderers Terrains

**Environment (Mesh Renderer)**

Navigation Static

Generate OffMeshLinks

Navigation Area

Object Bake Areas

**Baked Agent Size**

Agent Radius

Agent Height

Max Slope

Step Height

**Generated Off Mesh Links**

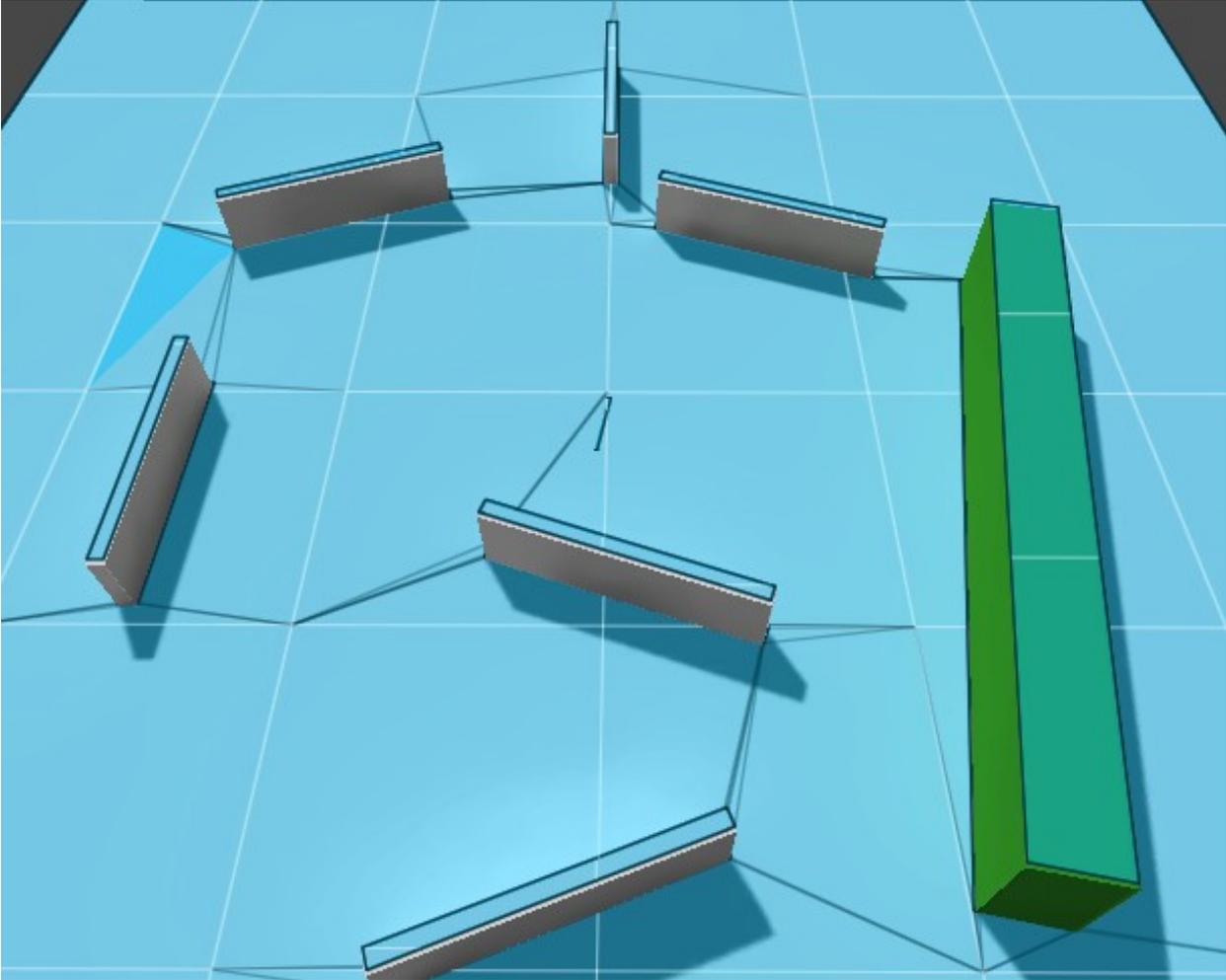
Drop Height

Jump Distance

► Advanced

Object Bake Areas

	Name	Cost
	Built-in 0 Walkable	1
	Built-in 1 Not Walkable	1
	Built-in 2 Jump	2
	User 3 Terrain	50
	User 4	1
	User 5	1
	User 6	1





Nav Mesh Agent

**Agent Size**

Radius: 0.5

Height: 1

Base Offset: 0.5

**Steering**

Speed: 3.5

Angular Speed: 120

Acceleration: 8

Stopping Distance: 0

Auto Braking:

**Obstacle Avoidance**

Quality: High Quality

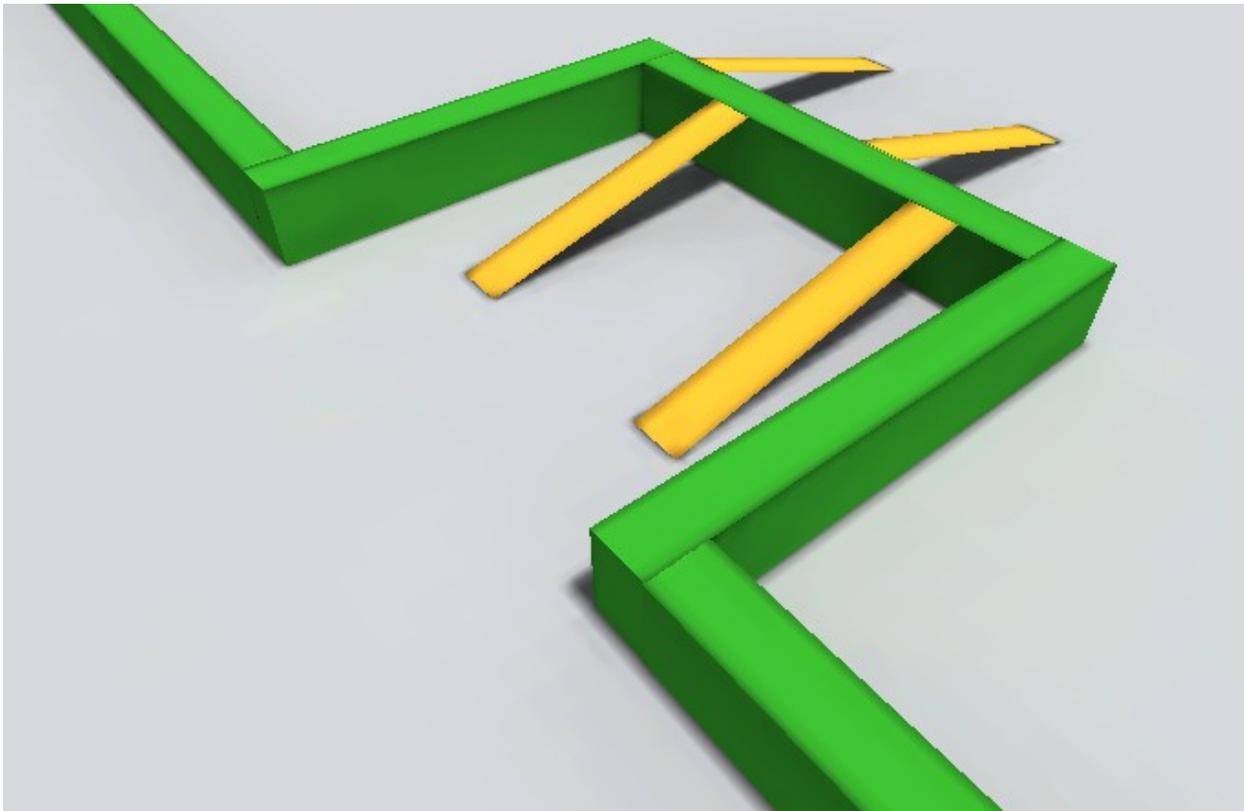
Priority: 50

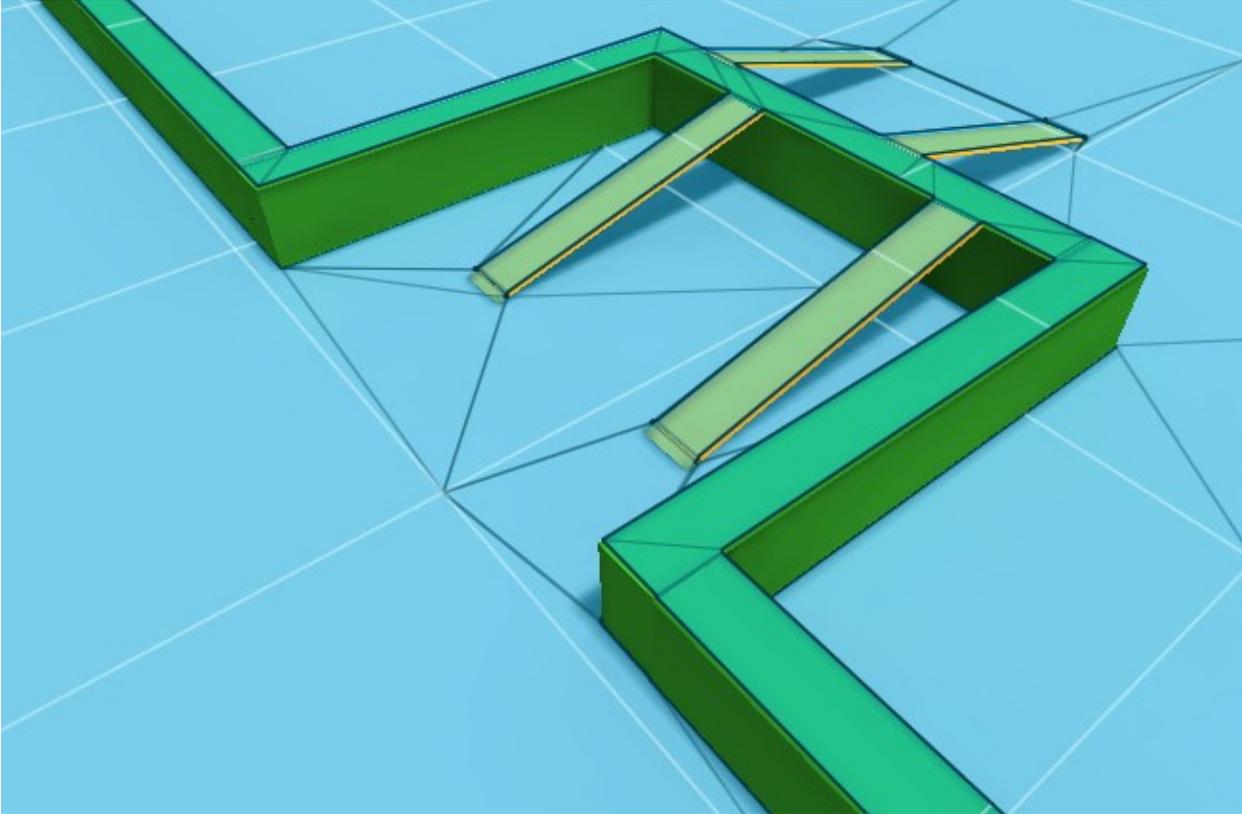
**Path Finding**

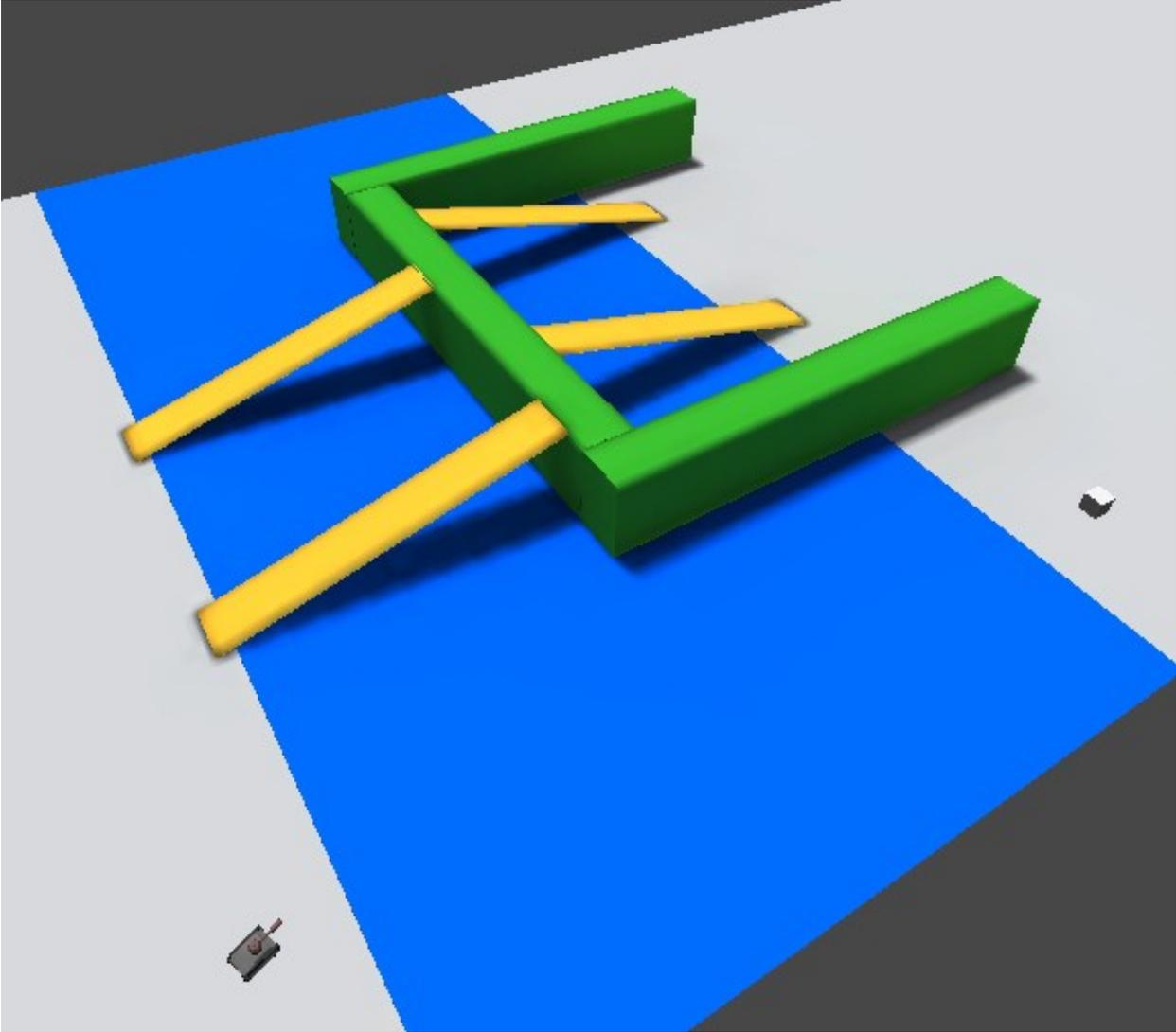
Auto Traverse Off Mesh:

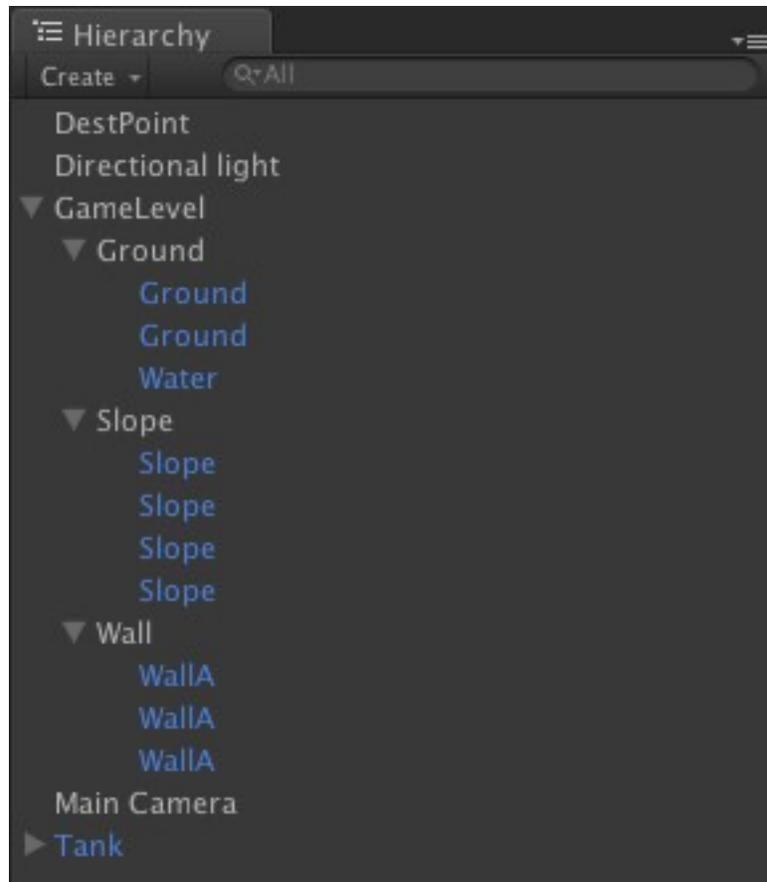
Auto Repath:

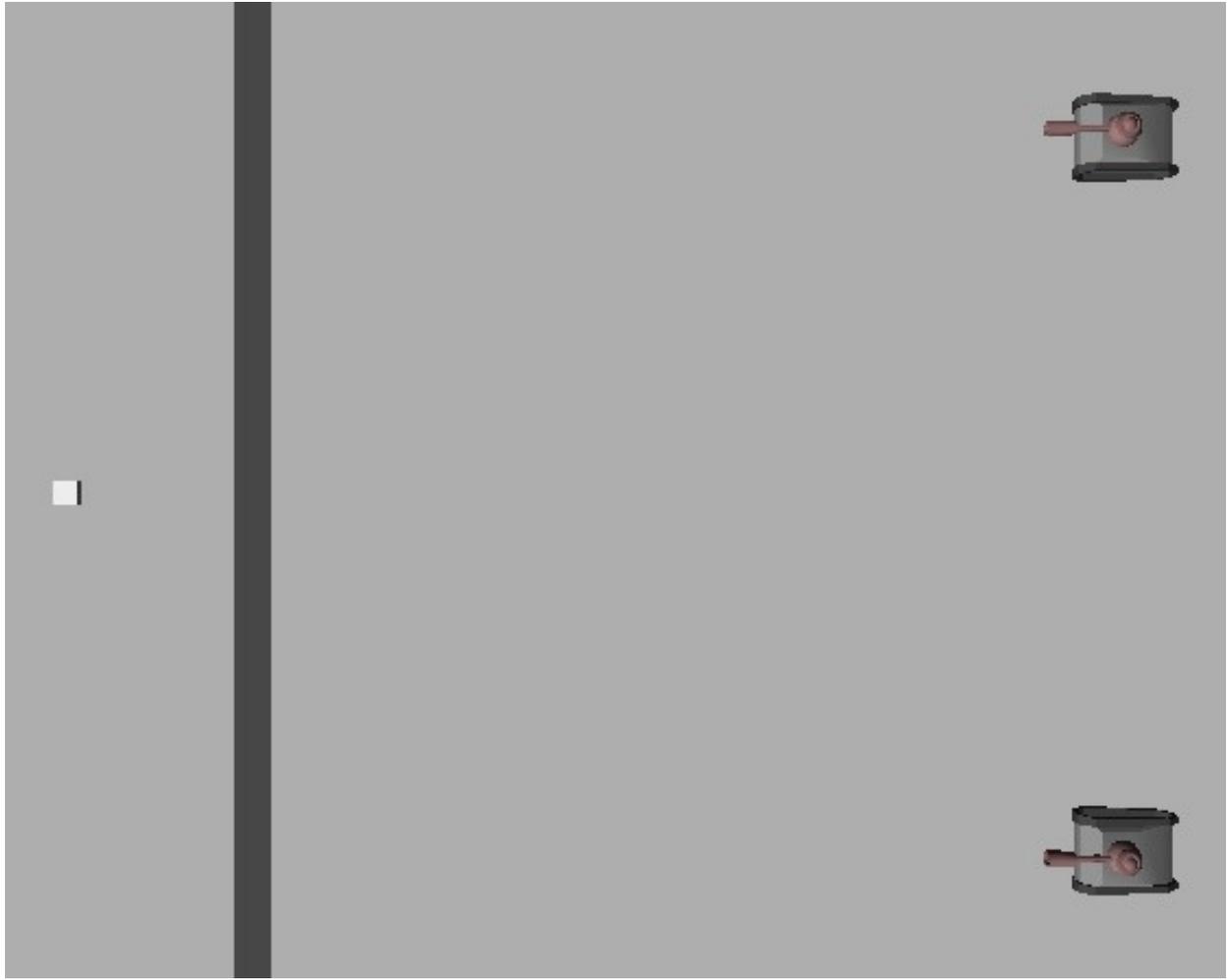
Area Mask: Everything











Inspector Navigation Lightmapping

GroundOffMeshLink Static

Tag Untagged

Prefab Select

Transform

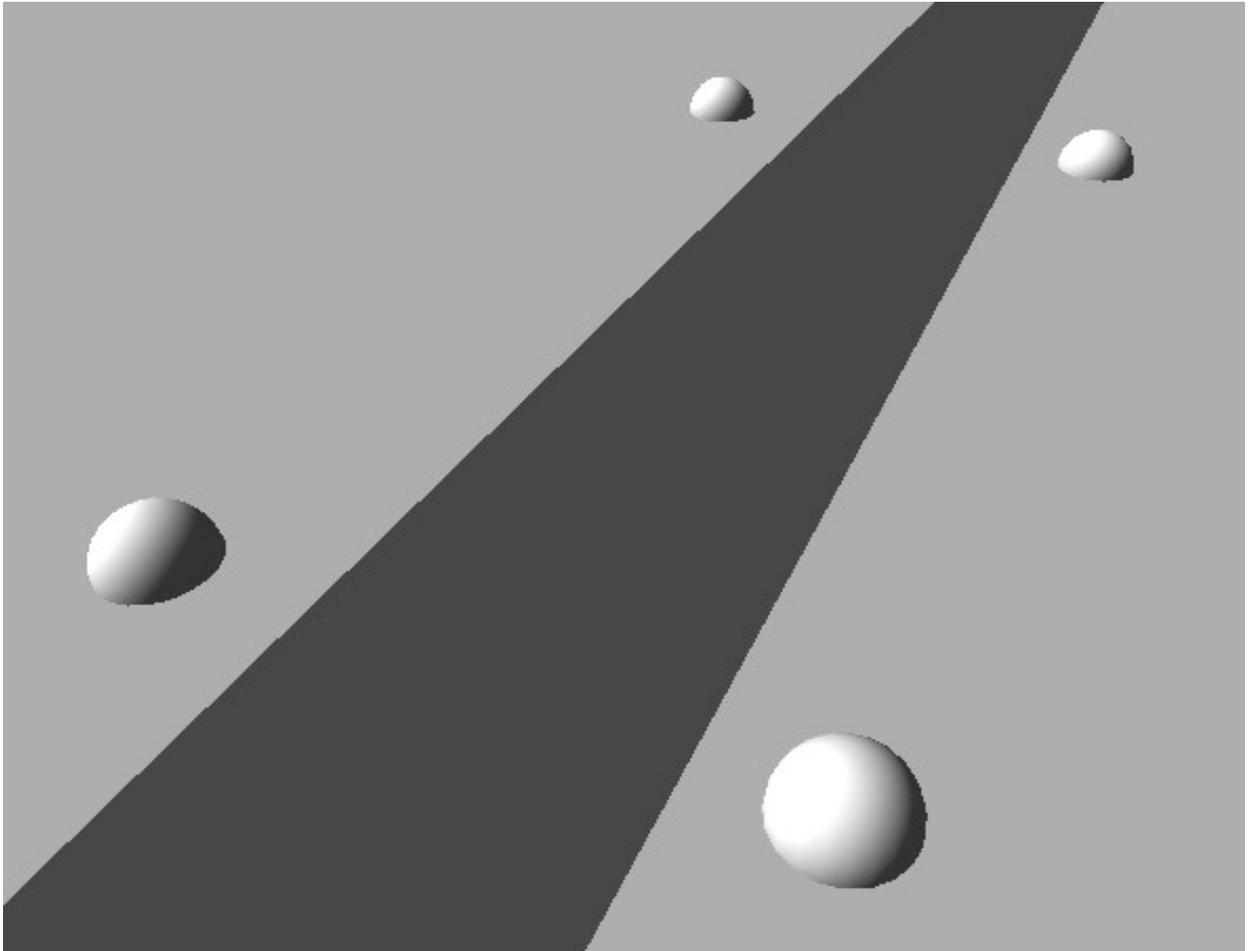
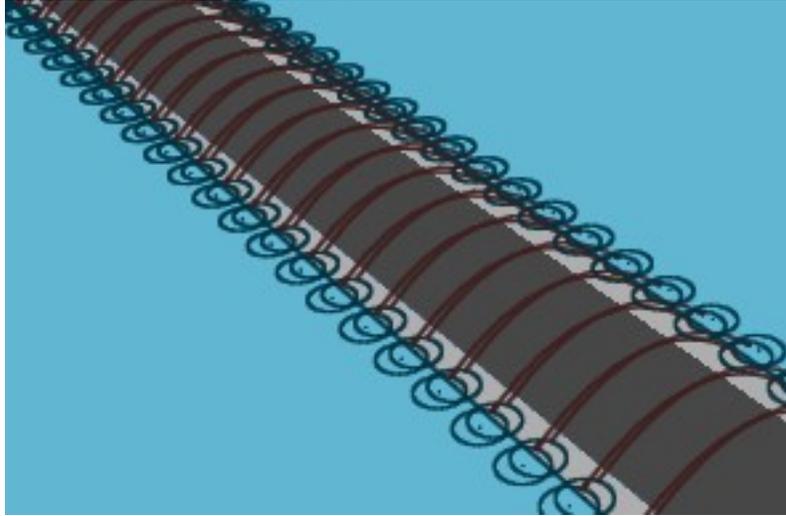
Position

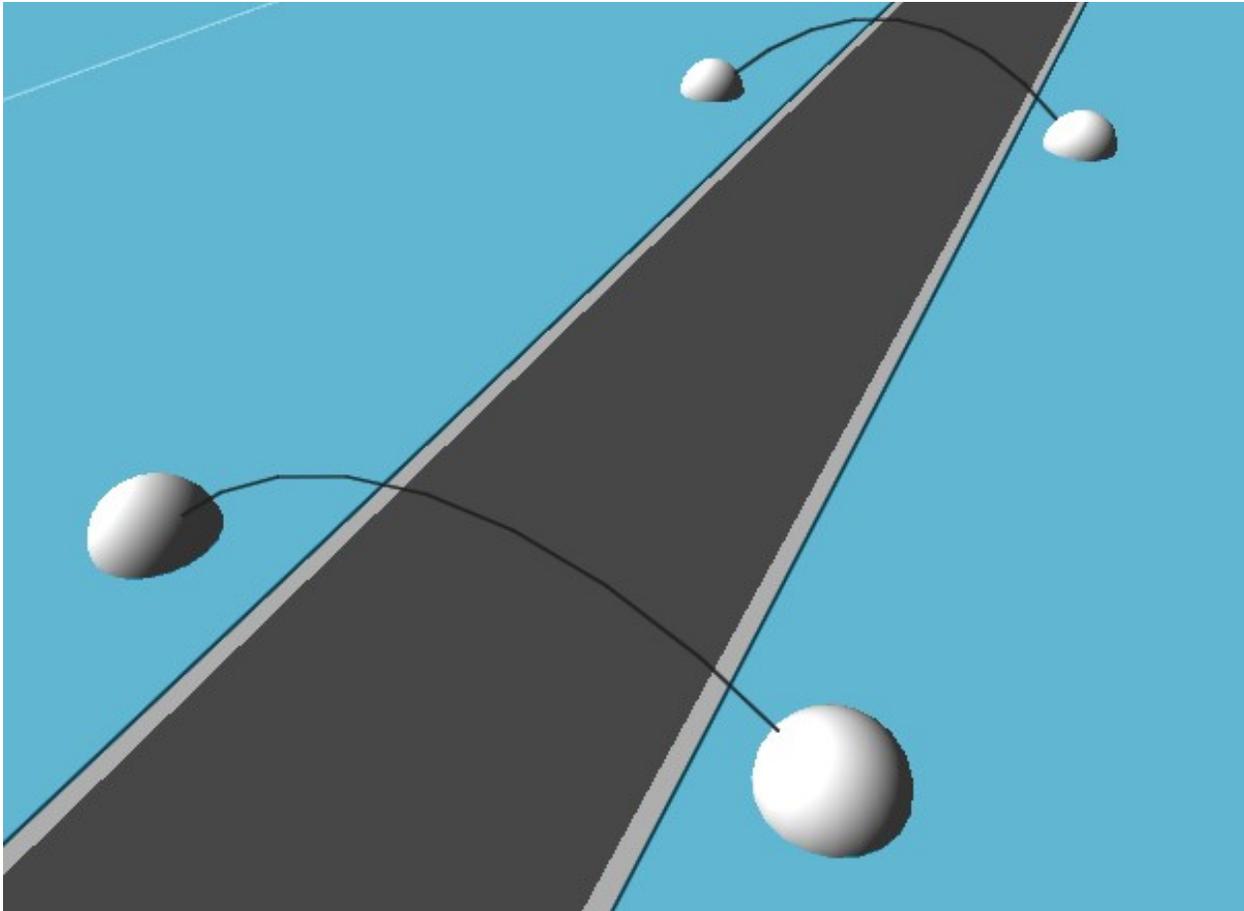
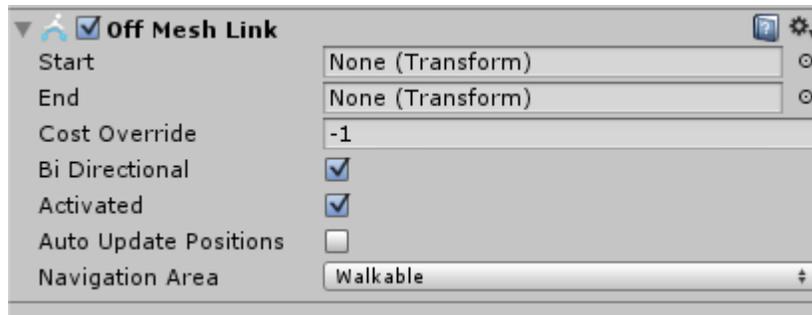
X -1476.076 Y

Rotation

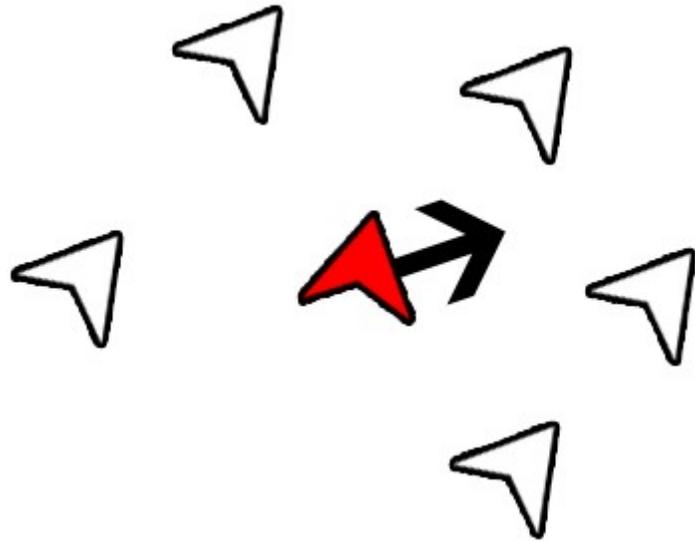
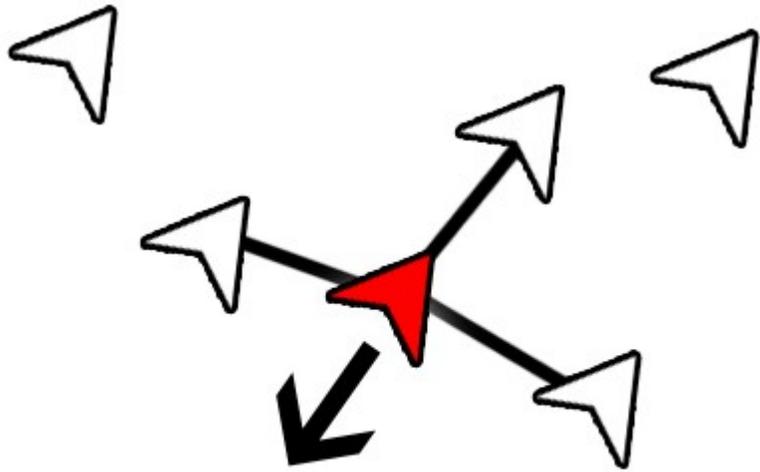
X -90 Y

- Nothing
- Everything
- Lightmap Static
- Occluder Static
- Batching Static
- Navigation Static
- Occludee Static
- Off Mesh Link Generation





## Chapter 5: Flocks and Crowds





**Inspector**

**UnityFlock**  **Static**

Tag **Untagged** Layer **Default**

**Transform**

Position  
X  Y  Z

Rotation  
X  Y  Z

Scale  
X  Y  Z

**Cube (Mesh Filter)**

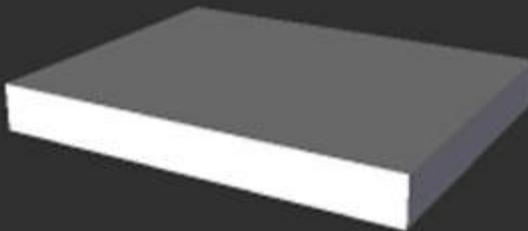
**Mesh Renderer**

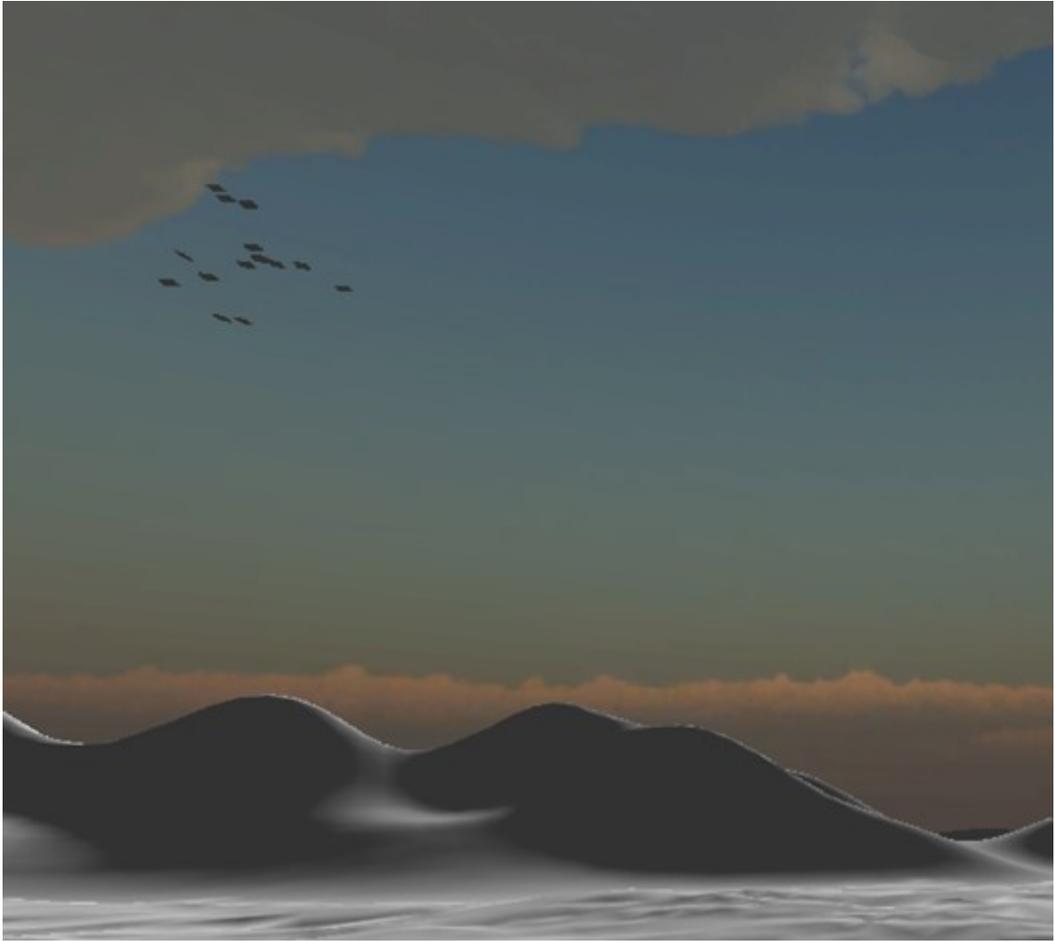
**Unity Flock (Script)**

Script

Min Speed	20
Turn Speed	20
Random Freq	20
Random Force	20
To Origin Force	50
To Origin Range	100
Gravity	2
Avoidance Radius	50
Avoidance Force	20
Follow Velocity	4
Follow Radius	40

**Preview**





**Inspector**

Flock  Static

Tag Untagged Layer Default

**Transform**

Position  
X 9.98262 Y 1.533306 Z -2.36271

Rotation  
X 0 Y 0 Z 0

Scale  
X 0.5 Y 0.5 Z 0.5

Cube (Mesh Filter)

Mesh Renderer

Rigidbody

Flock (Script)  
Script Flock

Sphere Collider

**Inspector**

**FlockController**  Static

Tag: Untagged Layer: Default

**Transform**

Position  
X: 0 Y: 22.26561 Z: 0

Rotation  
X: 0 Y: 0 Z: 0

Scale  
X: 1 Y: 1 Z: 1

**Flock Controller (Script)**

Script	FlockController
Min Velocity	3
Max Velocity	50
Flock Size	20
Center Weight	1
Velocity Weight	9
Separation Weight	5
Follow Weight	1
Randomize Weight	5
Prefab	Flock (Flock)
Target	Target (Transform)

**Inspector**

Target  Static

Tag Untagged Layer Default

**Transform**

Position  
X 0 Y 15.27327 Z 0

Rotation  
X 0 Y 0 Z 0

Scale  
X 1 Y 1 Z 1

**Sphere (Mesh Filter)**

Sphere Collider

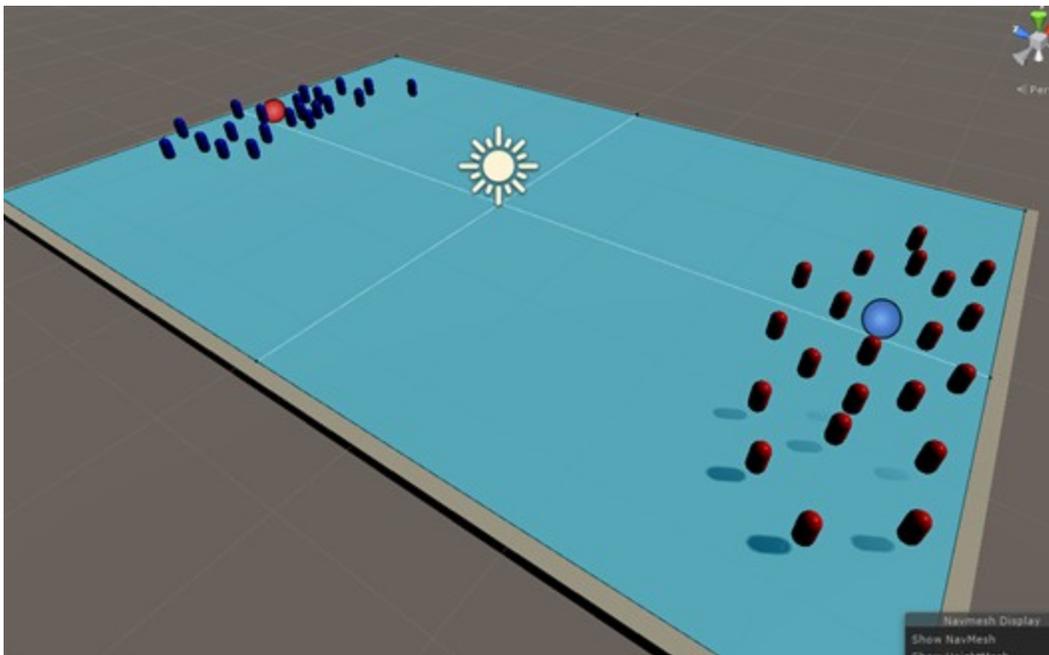
Mesh Renderer

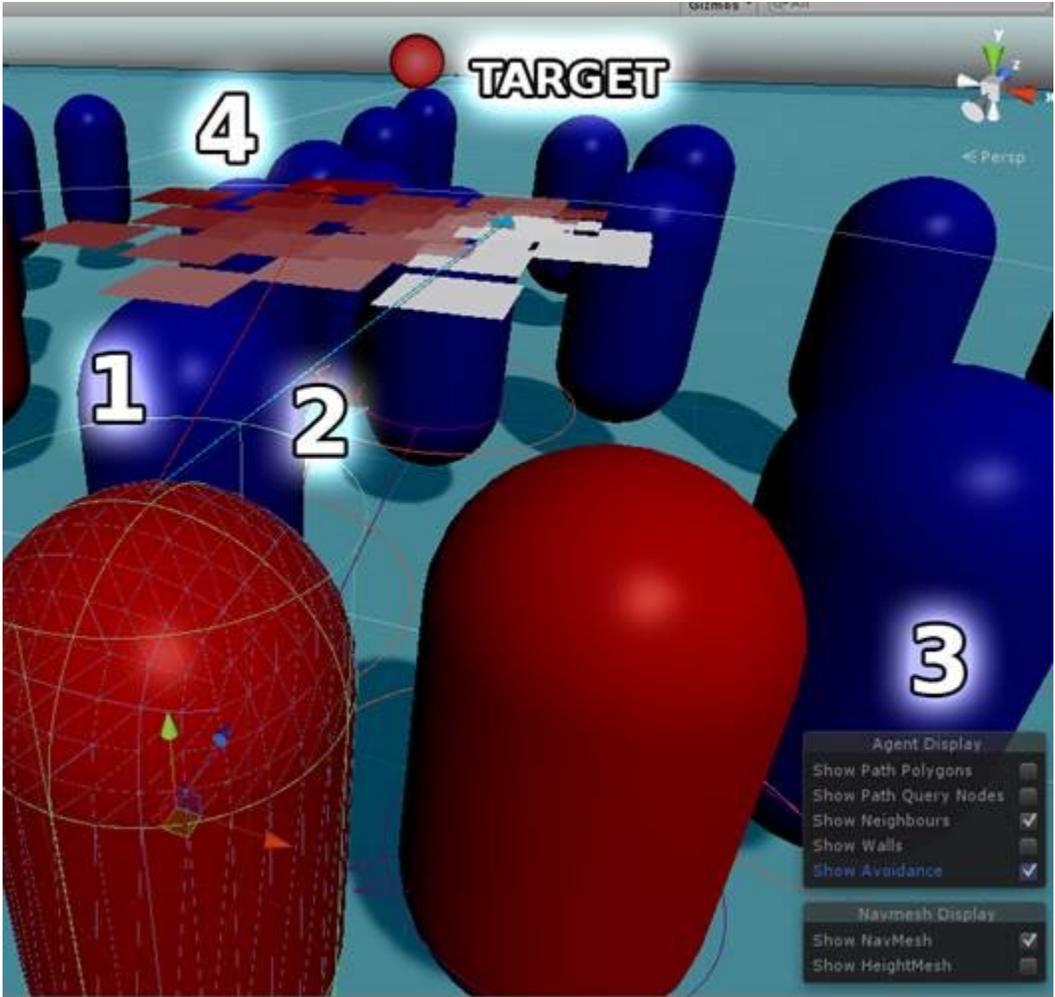
**Target Movement (Script)**

Script TargetMovement

Bound

X	30
Y	40
Z	70
Speed	8





**Nav Mesh Agent**

**Agent Size**

Radius: 0.5  
Height: 2  
Base Offset: 1

**Steering**

Speed: 3.5  
Angular Speed: 120  
Acceleration: 8  
Stopping Distance: 0  
Auto Braking:

**Obstacle Avoidance**

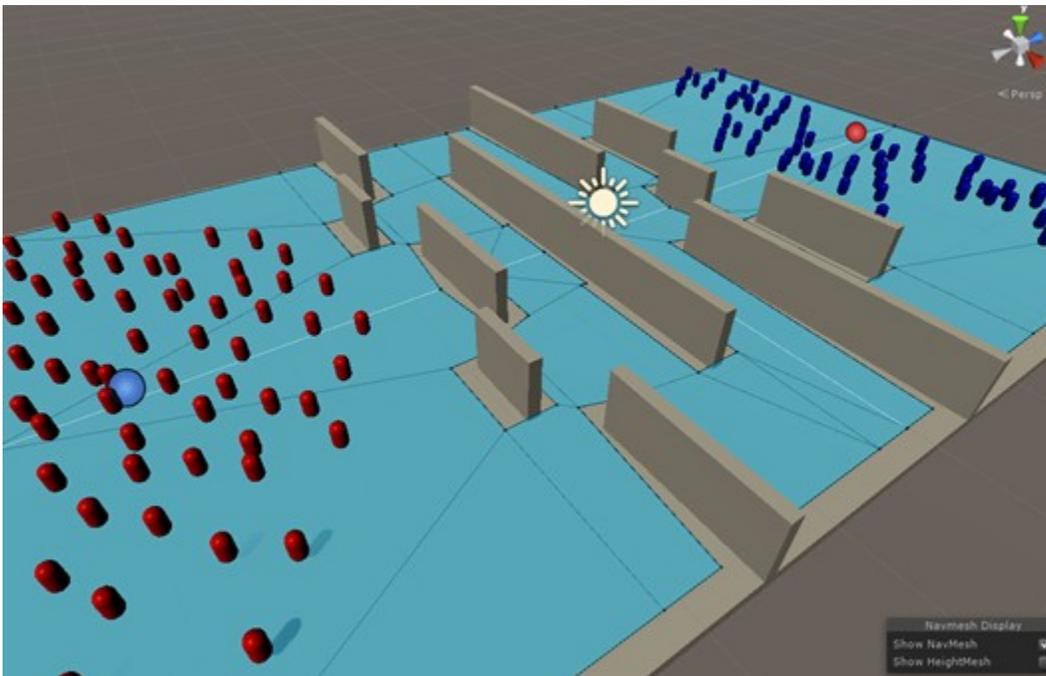
Quality: High Quality  
Priority: 50

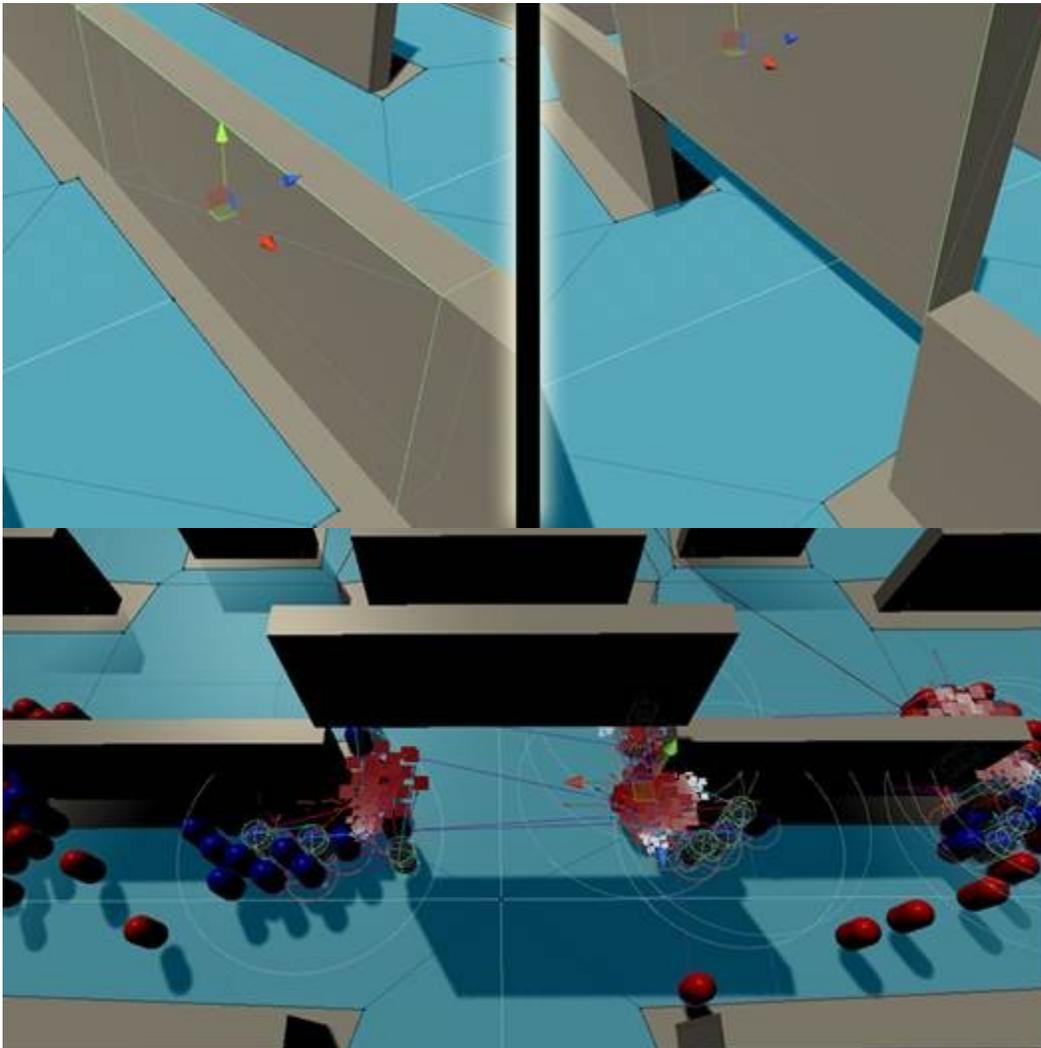
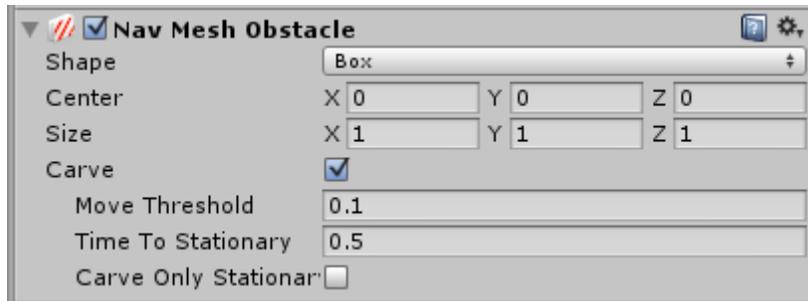
**Path Finding**

Auto Traverse Off Mesh:   
Auto Repath:   
Area Mask: Everything

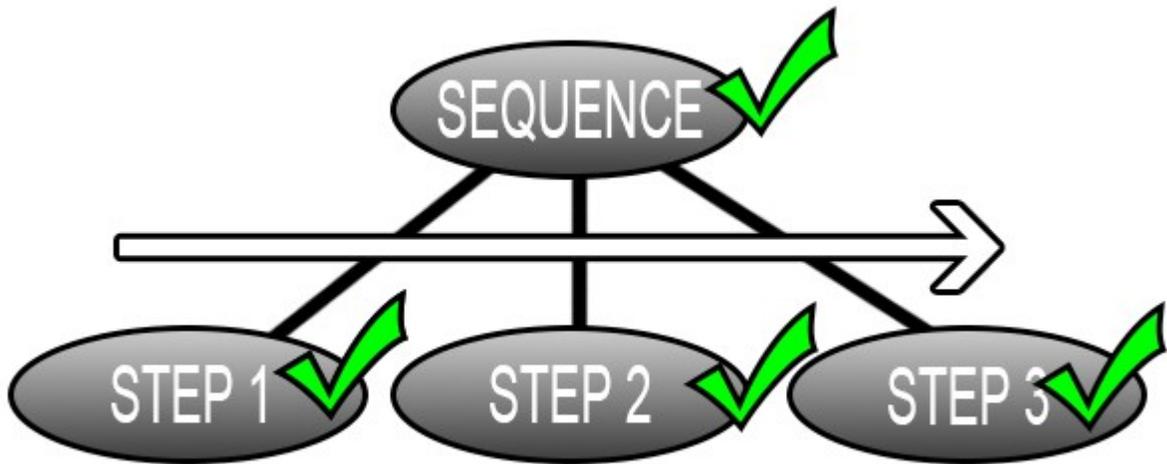
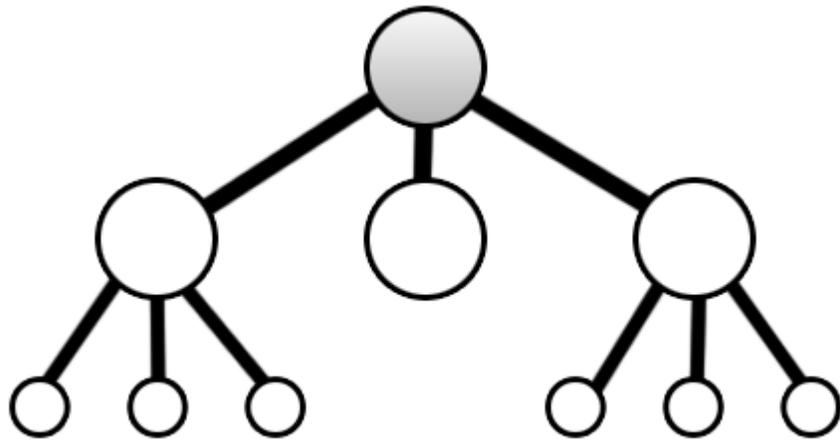
**Crowd Agent (Script)**

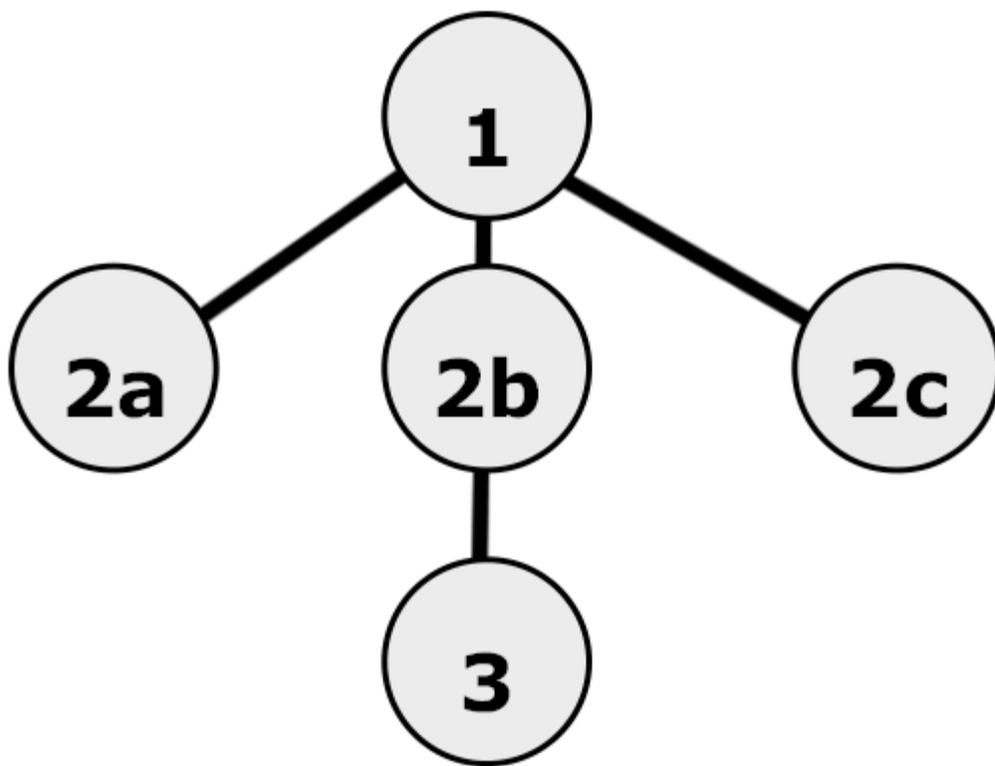
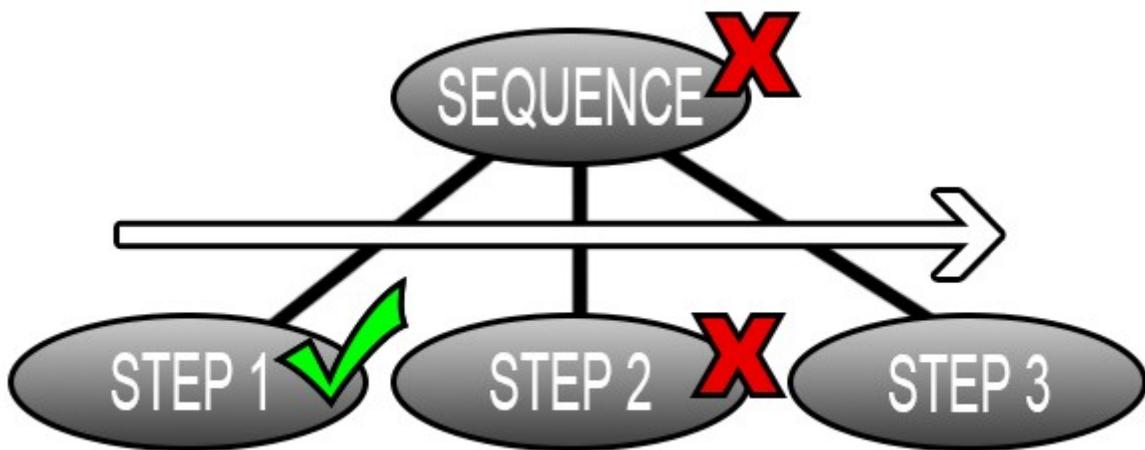
Script: CrowdAgent  
Target: RedTarget (Transform)

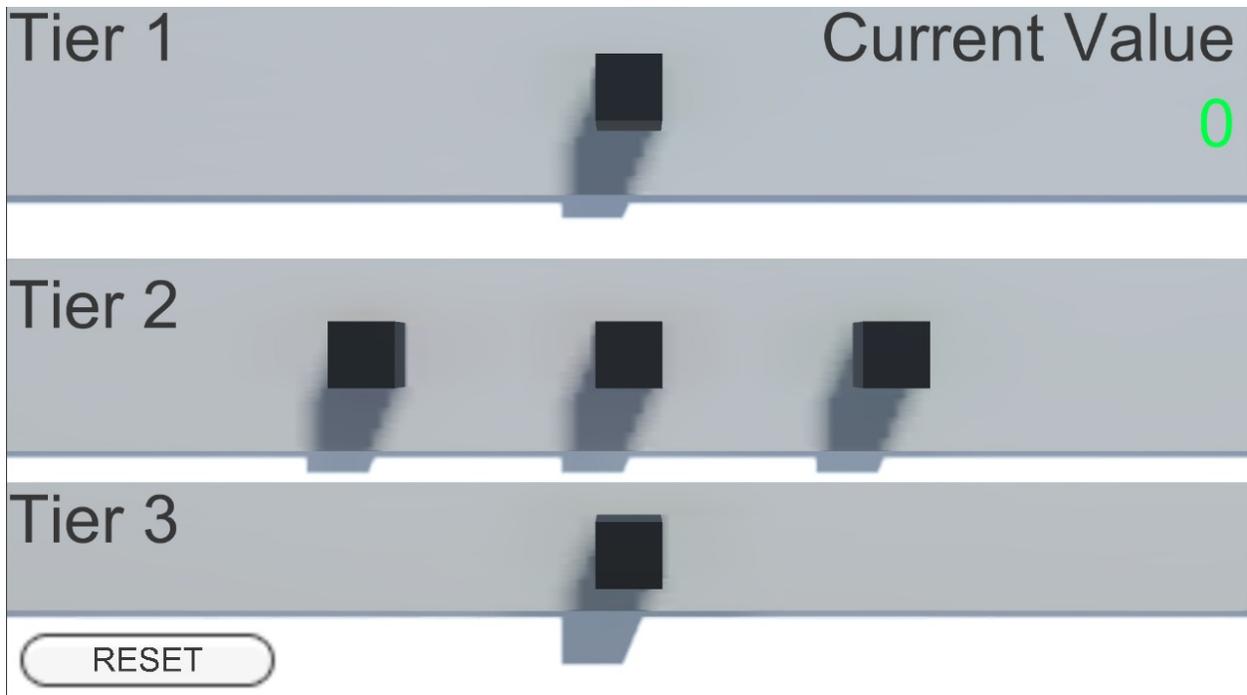
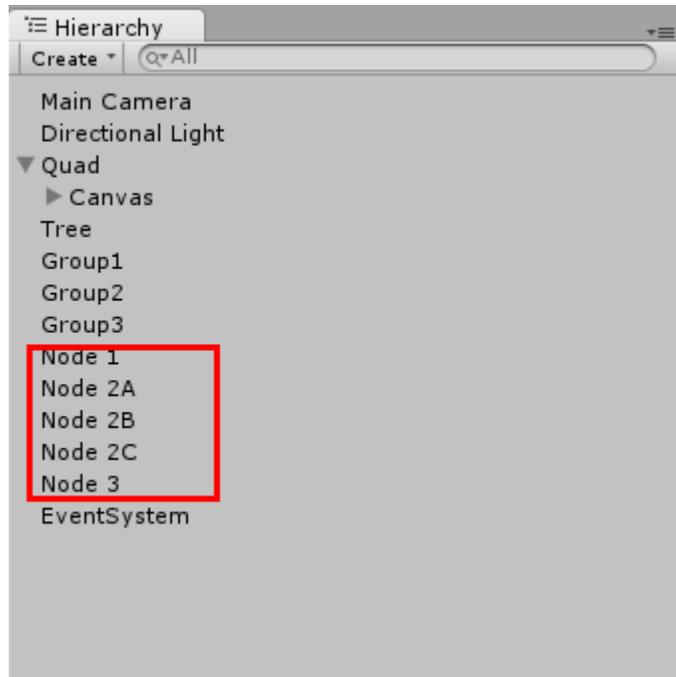


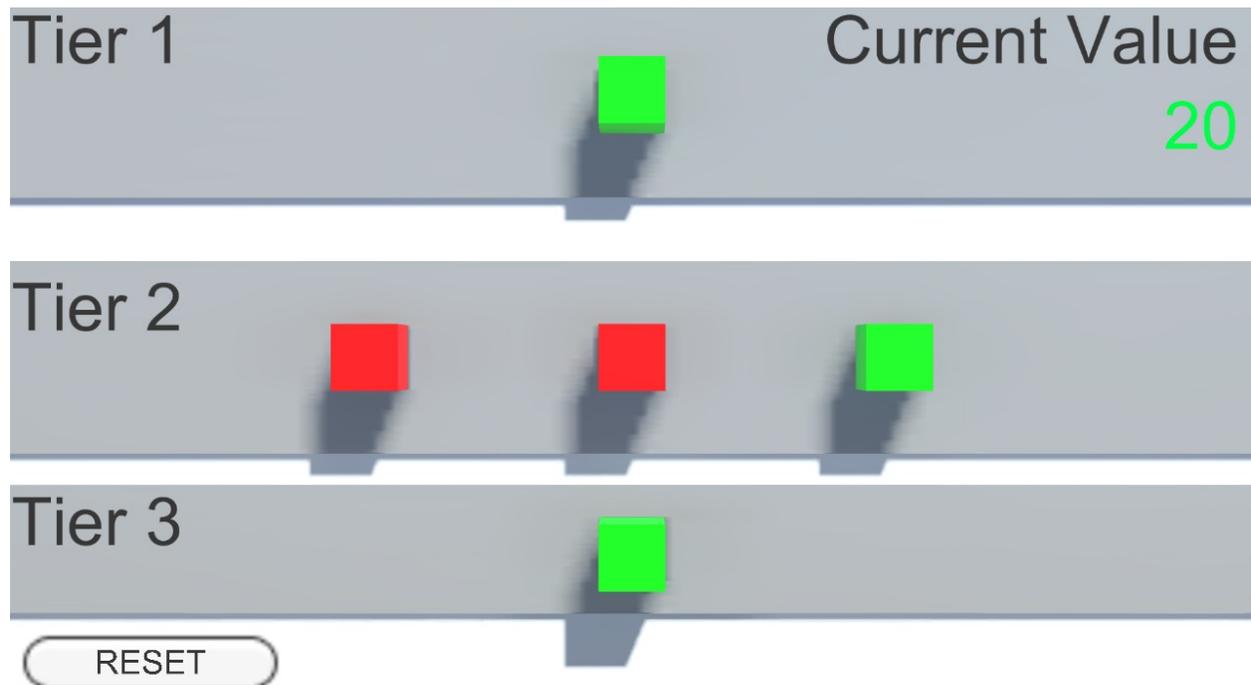
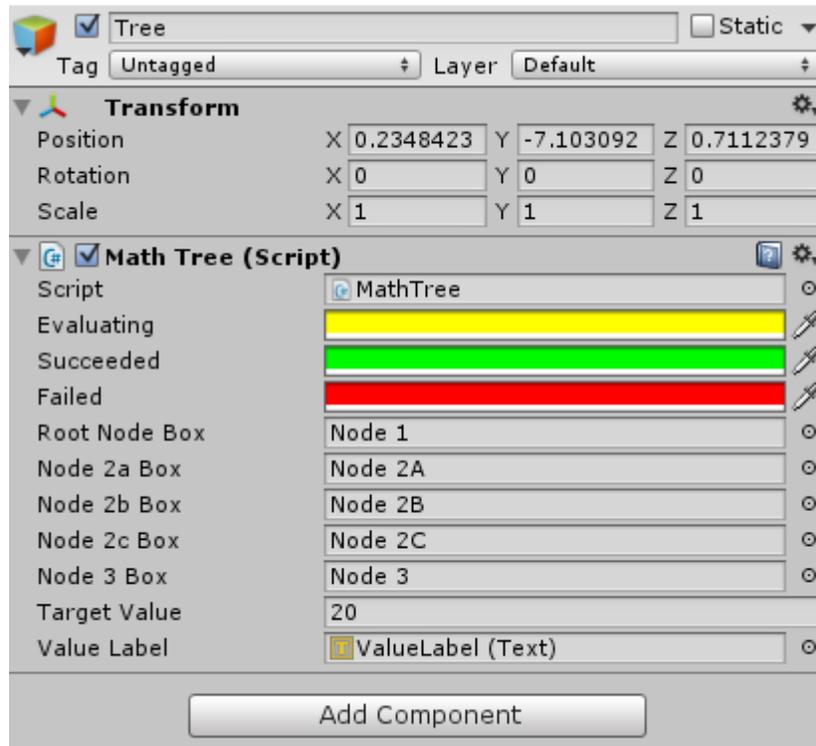


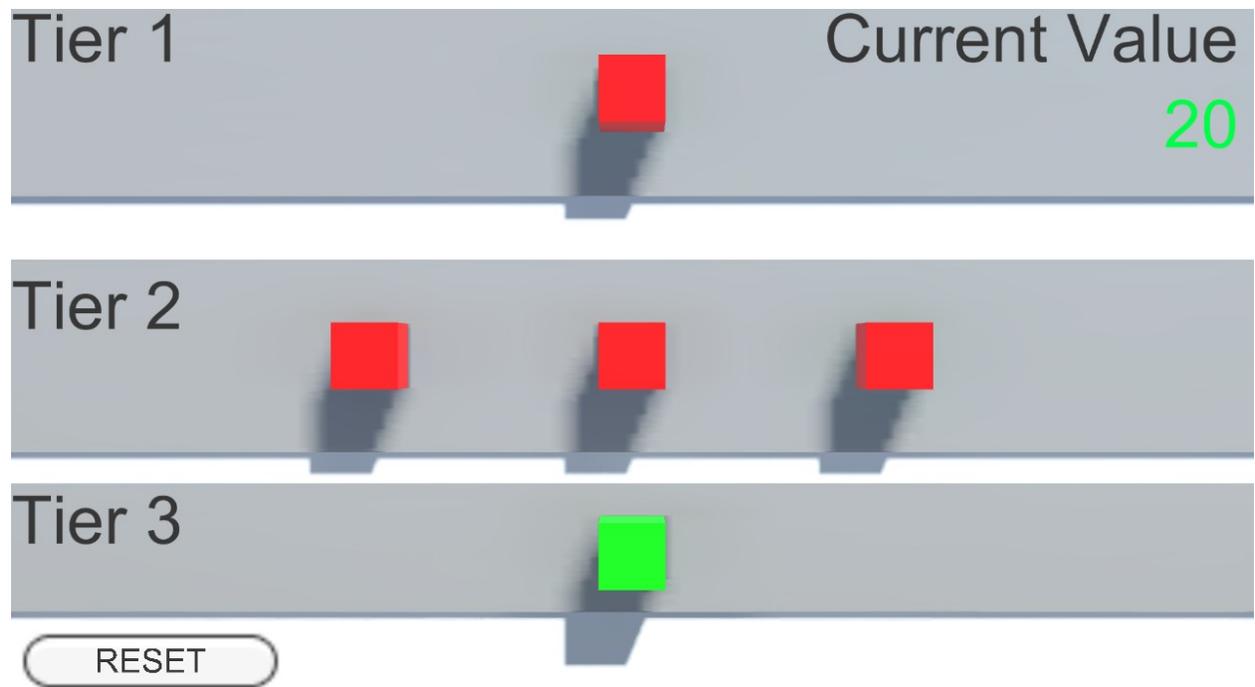
## Chapter 6: Behavior Trees











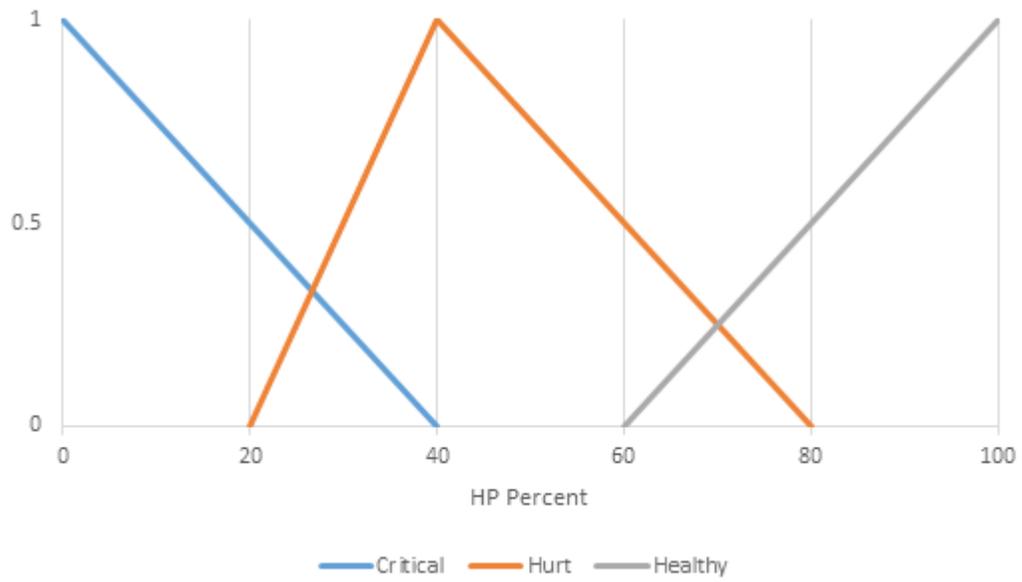
## Chapter 7: Using Fuzzy Logic to Make Your AI Seem Alive

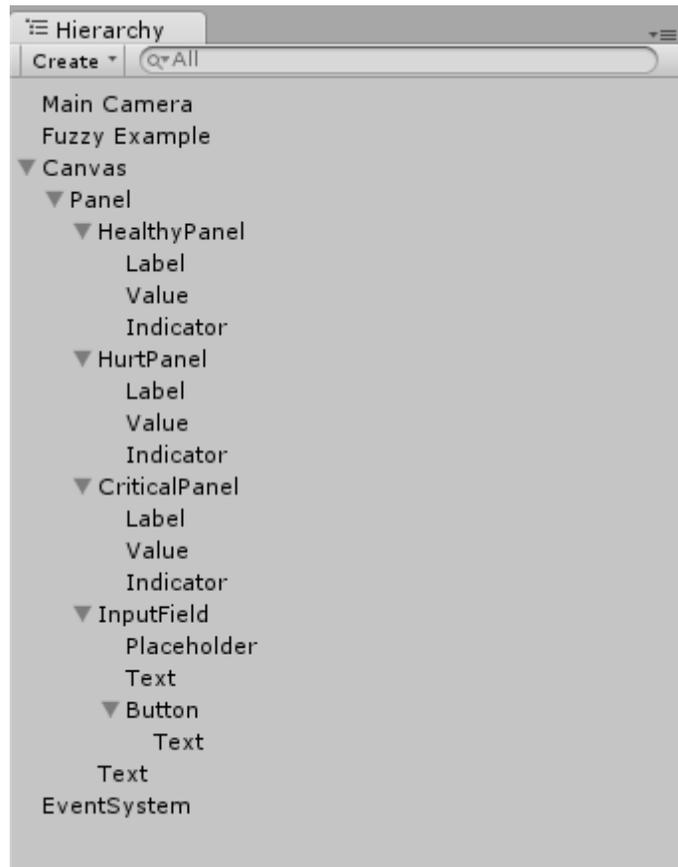
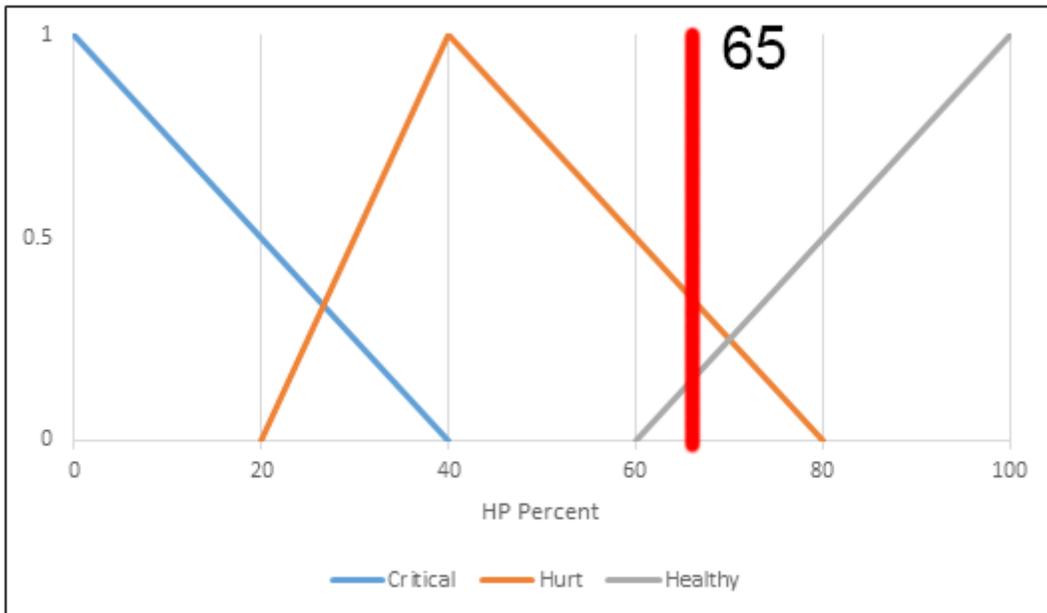
# Should I Eat?

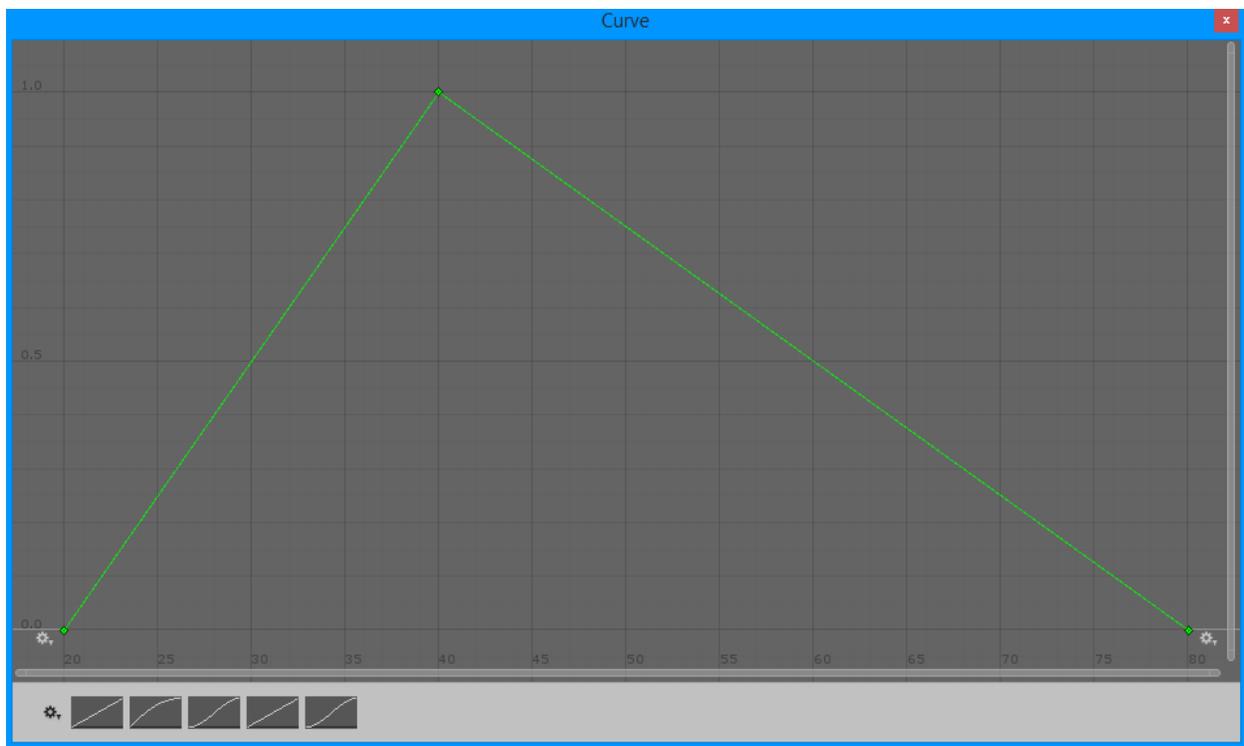
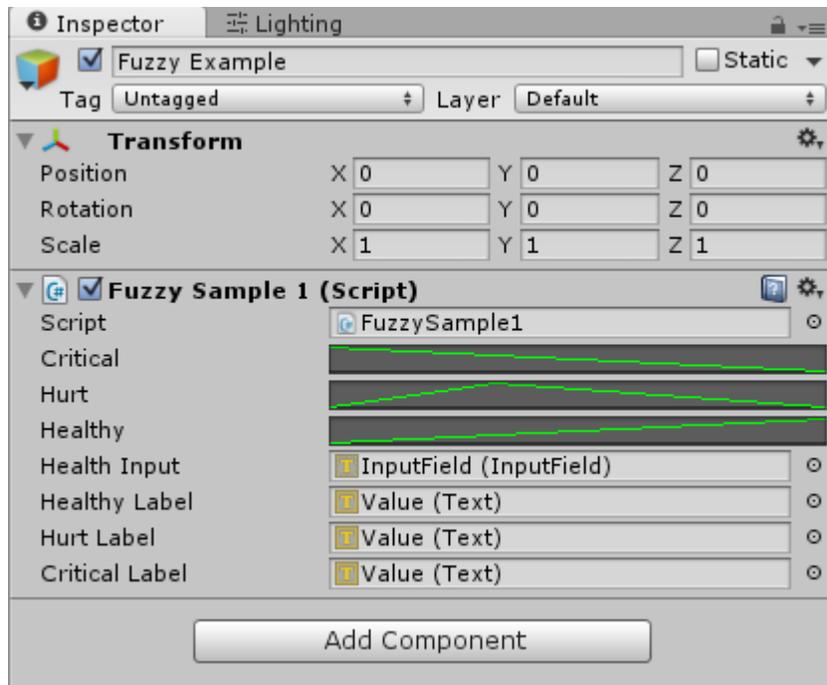


NO

YES





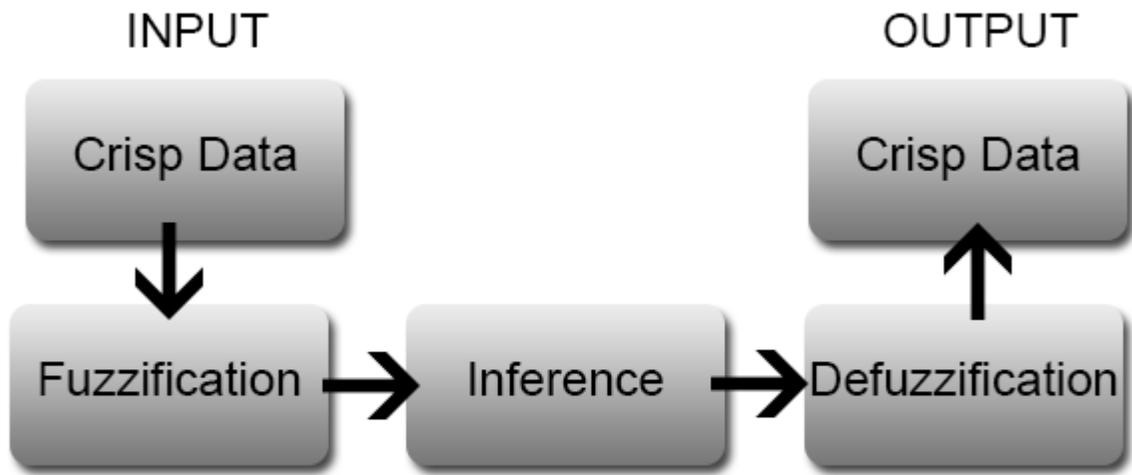


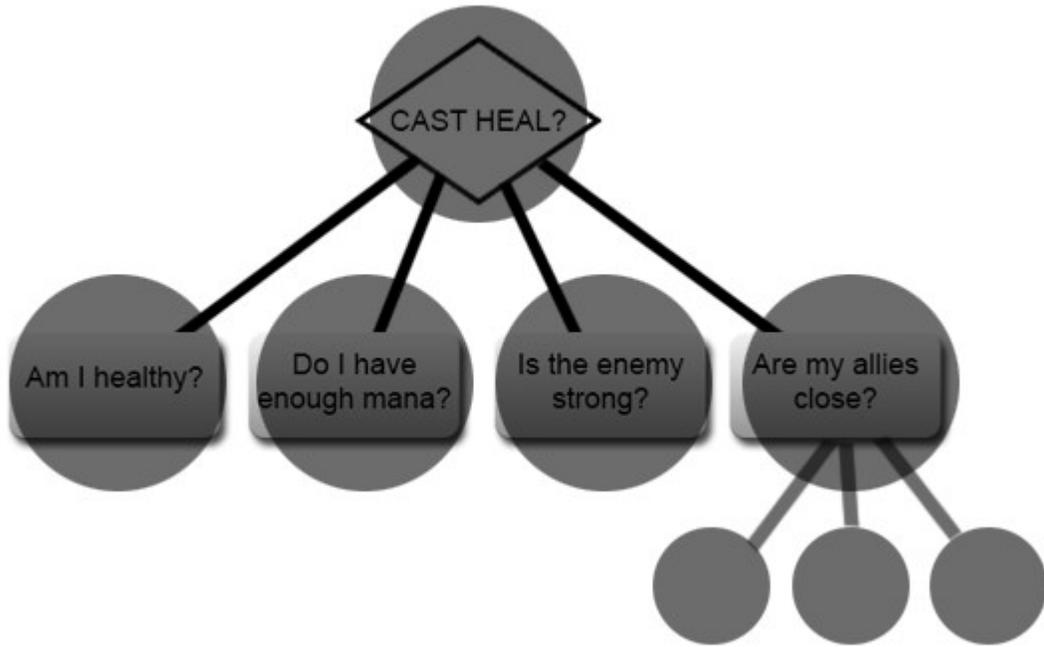
How is Bob the wizard doing?

Healthy	0 true	
Hurt	0 true	
Critical	0 true	

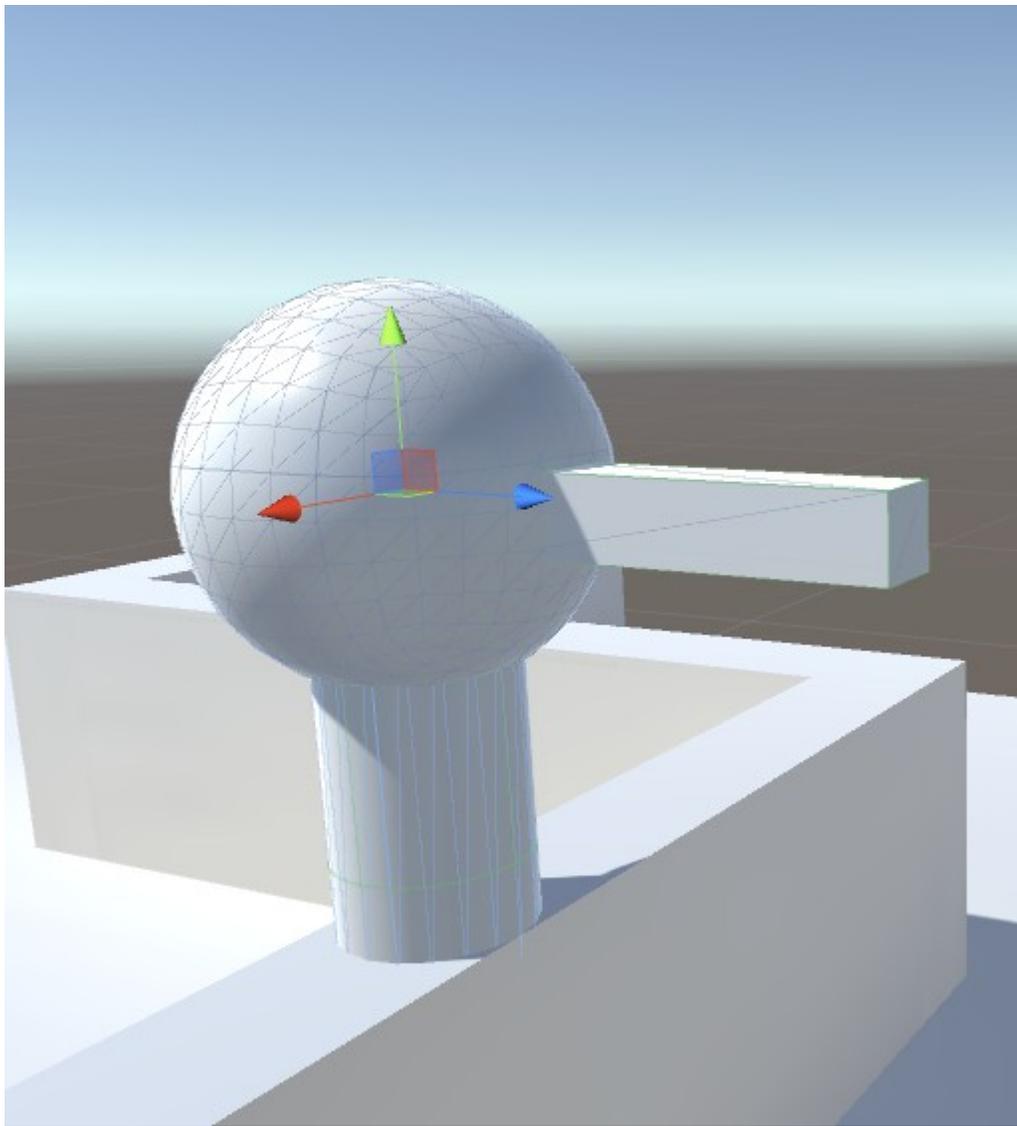
How is Bob the wizard doing?

Healthy	0.125 true	
Hurt	0.375 true	
Critical	0 true	





## Chapter 8: How It All Comes Together



- ▼ Tower
- ▼ Gun
- ▼ Barrel
- Muzzle

Inspector Lighting Navigation

Gun  Static

Tag Untagged Layer Default

**Transform**

Position X 0 Y 1.35 Z 0

Rotation X 0 Y 0 Z 0

Scale X 2 Y 2 Z 2

**Sphere (Mesh Filter)**

Mesh Sphere

**Sphere Collider**

Edit Collider

Is Trigger

Material None (Physic Material)

Center X 0 Y 0 Z 0

Radius 7

**Mesh Renderer**

**Rigidbody**

**Tower (Script)**

Script Tower

Animator Gun (Animator)

Fire Speed 3

Muzzle Muzzle (Transform)

Projectile bullet

**Animator**

Controller TowerStateMachine

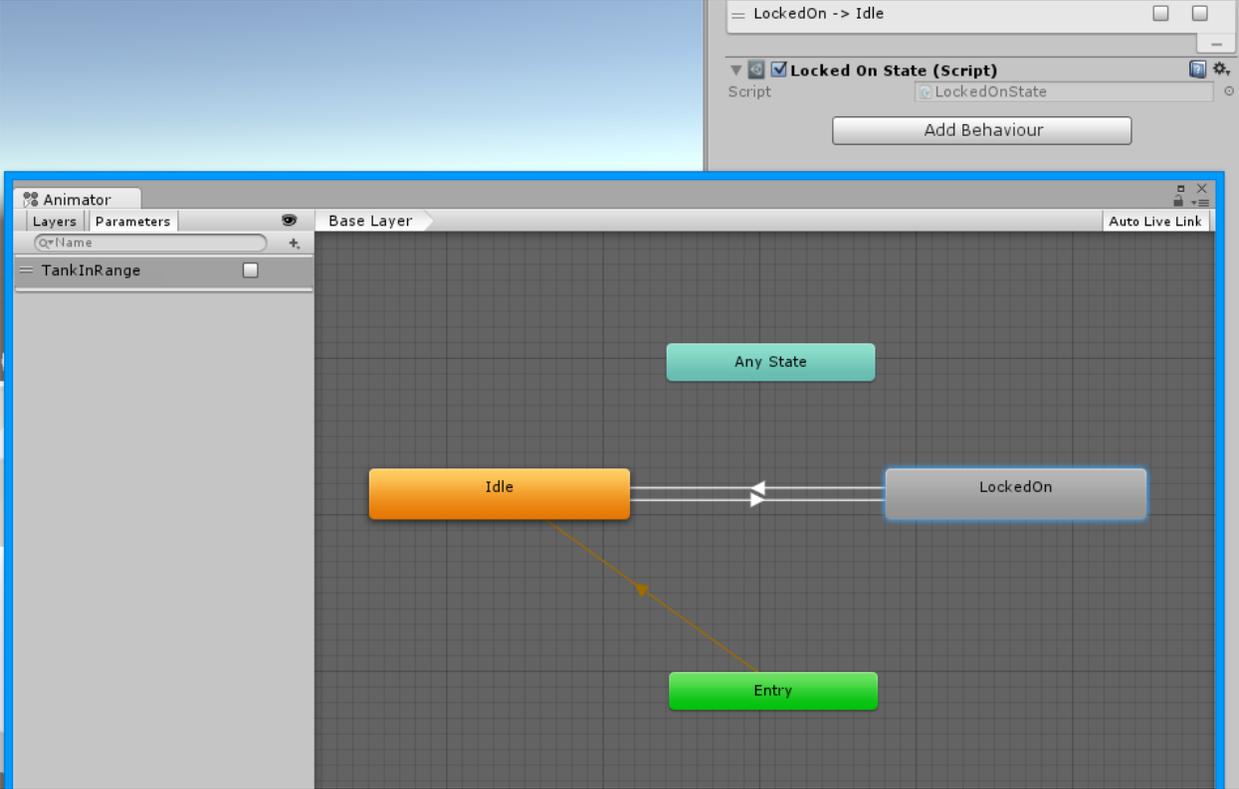
Avatar None (Avatar)

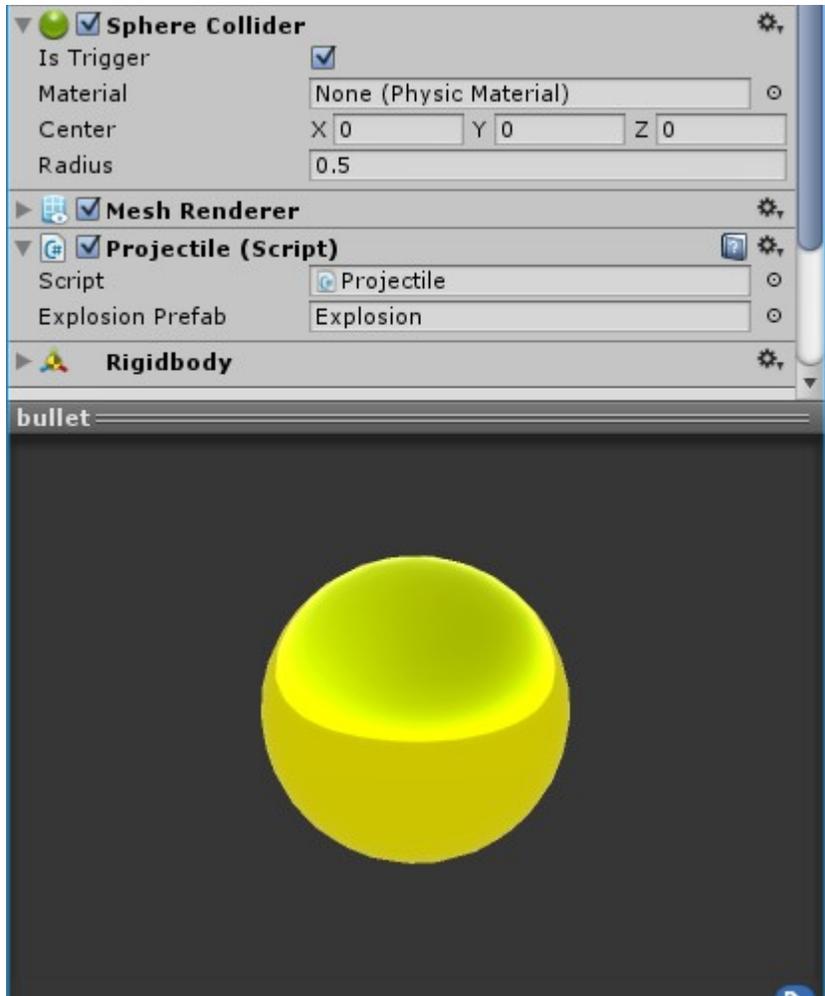
Apply Root Motion

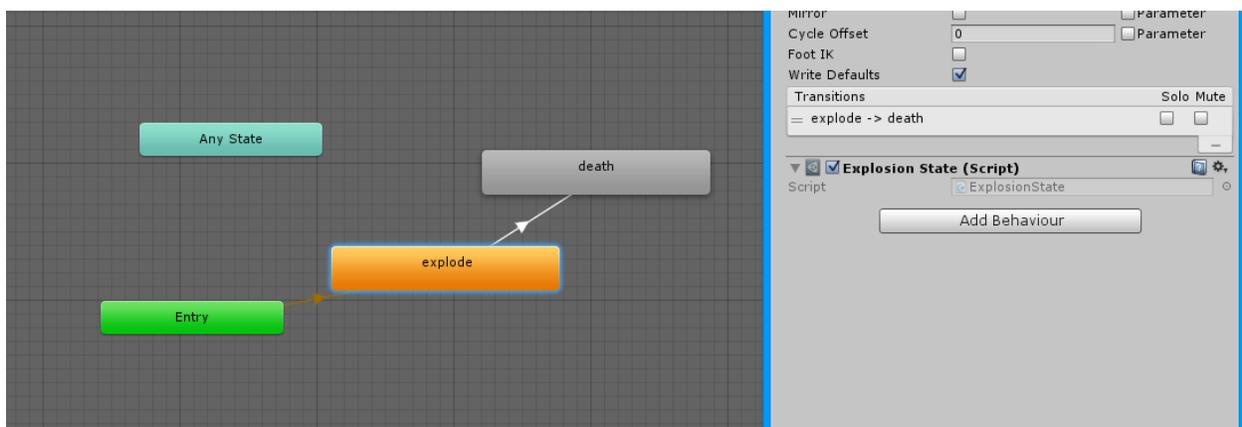
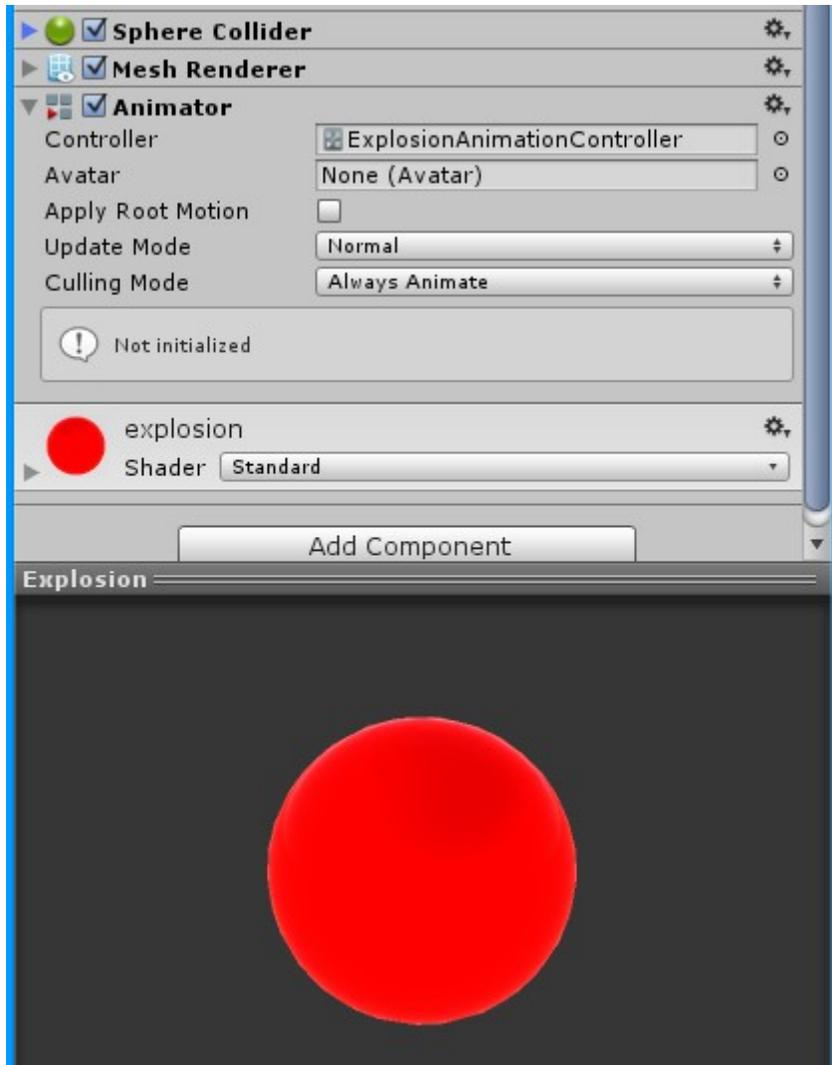
Update Mode Normal

Culling Mode Always Animate

Clip Count: 0  
Curves Pos: 0 Rot: 0 Scale: 0 Muscles: 0 Generic: 0 PPtr: 0  
Curves Count: 0 Constant: 0 (0.0%) Dense: 0 (0.0%) Stream: 0 (0.0%)

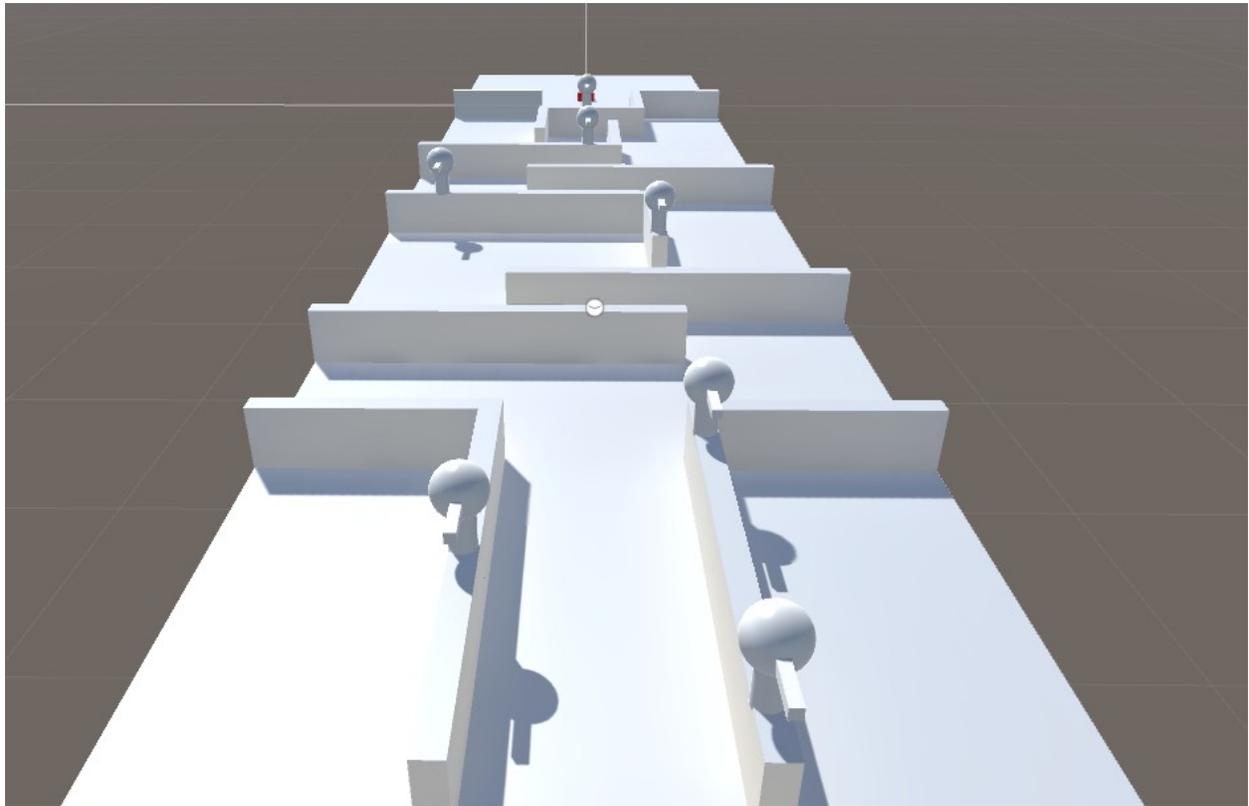


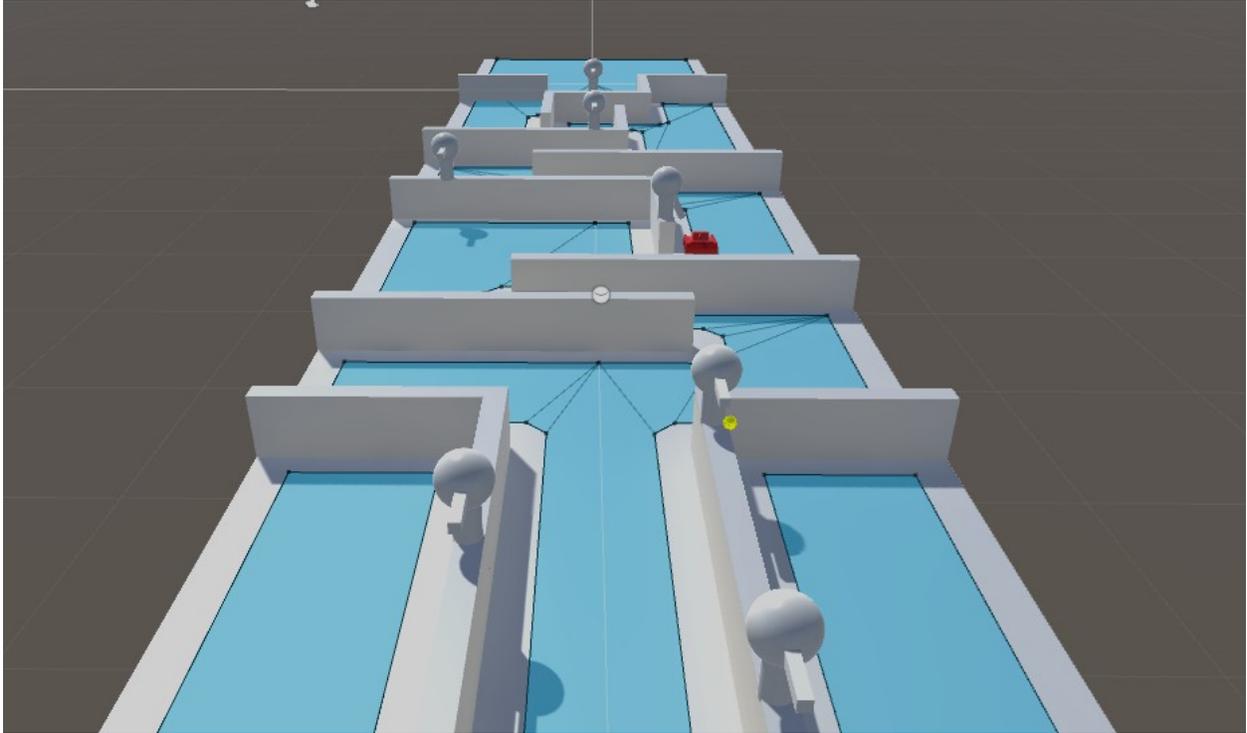




▼  **Tank (Script)**  

Script	Tank	○
<b>Goal</b>	<b>Goal (Transform)</b>	○
Speed Boost Duration	3	
Boost Particle System	Particle System (Particle System)	○
Shield Duration	3	
Shield	Shield	○





Tap "B" to boost  
Tap "S" to shield

Tap "B" to boost  
Tap "S" to shield

