Programming tutorial 3 - Ai enemy that chases the player

**Setting up the scene:**

1. Open up a 3D scene in Unity and spawn a cube by opening up the selection on Samplescene > GameObject > 3D Object > Cube.
2. Stretch the cube to create a platform.
3. Name it “platform”.
4. Spawn a capsule by opening up the selection on Samplescene > GameObject > 3D Object > Capsule.
5. Duplicate the Capsule to create the enemy that will chase the player.
6. Spawn a material in the assets folder colour it blue and assign it to the player to make the player stand out. Then assign a red material to the enemy.
7. Name the capsules “Player” and “Enemy” accordingly.
8. Add a character controller on the player and add the Movement script, since we need the player to move around to test how the Ai will follow the player.
9. We’re going to use a Navmesh to tell the Ai where it can move. So next click on the platform and switch to the Navigation menu, click on the “Object” tab and make sure “navigation static” is ticked.
10. Click on the “Bake” tab and click on bake, which should add a blue navmesh on our platform.
11. Add a NavMeshAgent to the Enemy.

**Building the code:**

1. After the “using UnityEngine” add “using UnityEngine.AI”. then establish the NavMeshAgent and refer it to the enemy. The create two publics, one refers to the GameObject player and the other public will be a float called EnemyDistanceRun and set the distance to 5.0f (this can be adjusted later). It should look like this:

private NavMeshAgent Enemy;

public GameObject Player;

public float EnemyDistanceRun = 5.0f;

1. In void start we need to have our enemy get the component “NavMeshAgent” which is attached to the enemy.

void Start()

{

Enemy = GetComponent<NavMeshAgent>();

}

1. In void update we’re going to have a float that identifies the distance as the transform position of the object and the transform position of the player.

float distance = Vector3.Distance(transform.position, Player.transform.position);

1. Now in void update again under the float we just made we are going to create an if statement. We need something to happen when the distance is less than the EnemyDistanceRun. Under this if statement we need to transform the position of this game object towards the Player.

if (distance < EnemyDistanceRun)

{

Vector3 dirToPlayer = transform.position - Player.transform.position;

Vector3 newPos = transform.position - dirToPlayer;

Enemy.SetDestination(newPos);

}

1. Once that’s done Make sure the script can identify the player by dragging the Player under the new script. The Enemy should be chasing the player when the player gets within distance.

References used:

THSS tech “Unity simple AI script to have an enemy chase the player”

<https://www.youtube.com/watch?v=y82yS40fvIc>

Brackeys “Unity NavMesh Tutorial - Basics”

<https://www.youtube.com/watch?v=CHV1ymlw-P8>