

## **Coding Assignment Tutorial # 2**

### Simple Character Movement

In this project I will make moveable character

1. Build the environment consist of shapes and a surface. The cube object could be used for walls and a plain object could be used for the walkable surface for our player.
2. Select all the walls in the hierarchy and give them a box collider so our player won't go through the walls. Same goes for the floor, use mesh colliders or box colliders depending on your terrain.
3. In the player object that you have created in the hierarchy. Select the Player and add a "new component" on the right-hand side of the screen which shows you the "Inspector". First Add a type of collider which is suitable to your player, in this case my character is a box shape, so I used box collider. The next component that needed to be added in is the Rigidbody, so the character doesn't go through the ground. The new component is called the "PlayerController" which is a script. Open the Script and Enter these codes bellow;

```
using System.Collections;
using System.Collections.Generic;
using UnityEngine;

public class PlayerController : MonoBehaviour {

    public float speed = 18;

    private Rigidbody rig;

    // Use this for initialization
    void Start () {

        rig = GetComponent<Rigidbody>();
    }

    // Update is called once per frame
    void Update () {

        float hAxis = Input.GetAxis("Horizontal");
        float vAxis = Input.GetAxis("Vertical");

        Vector3 movement = new Vector3(hAxis, 0, vAxis) * speed * Time.deltaTime;
        rig.MovePosition(transform.position + movement);
    }
}
```

- There are two variables in this code which is public float speed and private Rigidbody. What float speed does is adjust the movement speed of the object (Player) we're applying to. For Rigidbody we are trying to get the "Rigid Body" that was applied to the object. So, we named the Rigid body to "rig". So, in Start rig is equal to "GetComponent<RigidBody>".
- In Update we want to get both values for movement in 3D which is Horizontal and Vertical values. So, we name the Horizontal Axis to hAxis which get as the Axis values. Same is done for the Vertical Axis which the named is set to vAxis.

- Vector 3 is used in 3D space which our game is currently doing. `Vector3(hAxis, 0, vAxis)`. What “`Speed * Time.deltaTime`” is make the speed moves in per second.
- `Rig.MovePosition(transform.position + movement)` is where we move from where we currently are and adding movement to it.