Unity Basic 3D Movement Tutorial

- Firstly you will want to create a 3D plane and a 3D cube. Put the Y axis on the cube to 0.5 so it rests on the plane.
- Now you should add a component to your cube and select script.
- Open the script and you should have something that looks like this:

```
public class Movement : MonoBehaviour {

    // Use this for initialization
    void Start () {

    }

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

    }
}
```

- The “void Start” is for things you want to happen when the program starts, and the “void Update” is for things that you want to happen on every frame.
- Firstly, we will create a public float for the moveSpeed and then define the moveSpeed in the “void Start” as we will want to set this when the game starts. I have set mine to “1f”

```
public class Movement : MonoBehaviour {

    public float moveSpeed;

    // Use this for initialization
    void Start () {
        moveSpeed = 1f
    }

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

    }
}
```

- Now we will want to work within “void Update” as we will want the movement to update every frame.
- Firstly we want to start off with: transform.Translate(); This means that we will be moving the object.
- Now, in the brackets we will add (0f,0f,0f) ,these correspond to the X,Y and Z axis movements. Now your code should look like transform.Translate(0f,0f,0f);
- Now, we will make it so that the cube moves when we press the movement keys.
- To do this we will add a few bits of code in the script.
- Firstly, we will get rid of the 0f for the X and the Z axis and replace them with moveSpeed so your code should look like:
  transform.Translate(moveSpeed,0f,moveSpeed);
- This will make it so that the move speed float will be applied to the object you will be moving.
- Next, we will make it so that the keys will affect the object so that we can control it. For this will want to * the moveSpeed by the corresponding Input. For this we will add

“Input.GetAxis(“Horizontal”)” and “Input.GetAxis(“Vertical”)” to the code. So I t should look like this;
transform.Translate(moveSpeed* Input.GetAxis(“Horizontal”),0f,moveSpeed* Input.GetAxis(“Vertical”));

- Now, finally we will finish off by adding “Time.deltaTime” to our code. This will make it so that the movement will work the same on all types of system regardless of the FPS of the game because the movement will be calculated by the amount of time that has passed.
- Your final code should look like:

```
public class Movement : MonoBehaviour {

    public float moveSpeed;

    // Use this for initialization
    void Start ()
    {
        moveSpeed = 1f;
    }

    // Update is called once per frame
    void Update ()
    {
        transform.Translate (moveSpeed*Input.GetAxis ("Horizontal") * Time.deltaTime, 0f,moveSpeed*Input.GetAxis ("Vertical")*Time.deltaTime);
    }
}
```