

# Volundarhus

A Game Made In Unity



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Grade 6

Tippecanoe County 4-H

## My project

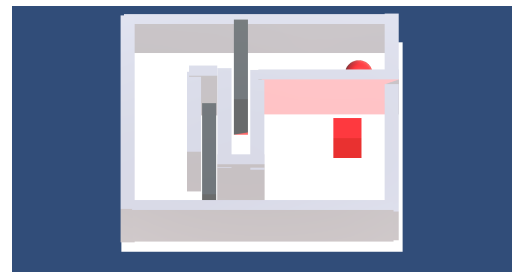
Link to my game: <https://play.unity.com/mg/other/webgl-builds-64431>



My project is a 3D puzzle game where you rotate a maze to make a ball roll to the end. I made this game in an engine called Unity and programmed it in a coding language called C#. I have never used Unity before and this was my first time programming with text, so I used a lot of tutorials and Unity forum pages.

I learned about Unity from many sources like seeing it used on YouTube or seeing a game say “Made in Unity”, so I knew a bit about what you could do and make with it. I downloaded Unity and set about making my first 3D game.

At first, I was wondering about what I should make. I knew I wanted to make a 3D puzzle game, but nothing stood out to me. I started thinking if I could do something new with an old kind of puzzle. I decided on mazes, then started thinking about what I could do with that when I remembered a maze from one of my favorite video games. In the game, there is a part where you have to rotate a maze to move the ball. This idea stood out to me and I started making my game.



As I started my game I used a very helpful tutorial on rotating objects in unity and how to tie them together so they all weren't rotating individually. I did encounter a problem where my ball would slide around, and then just fall out. I fixed this by adding physics but made it so that it doesn't interact with forces. I made the first level and the second, which added walls that can be

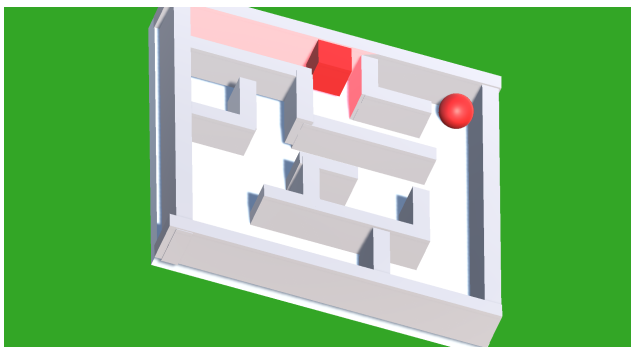
slid out of the way. Then I decided that I needed a way to access the two levels, so I fired up another tutorial and made a title and level select screen, and made it look nice.

When I made the third level I had the idea in mind of making it actually a maze. The first two levels had been an introduction. Now we were getting to the point of the game. I looked up simple mazes and put one into the game.



After that, I thought my project was pretty much done so I had some people in my family play it. They suggested adding an instructions page and animations going into and out of levels. The animations were particularly hard for me because there was an error I couldn't seem to solve, but I went through and checked everything and realized I hadn't assigned a variable to an object and once I did that fixed the problem.

A lesson that I learned was to persevere. Many times in the project my code had a bug or I left out a semicolon and I wanted to stop, but I kept



going and worked through it. Another lesson that I learned was to make sure you check all the places that something could be wrong. Once I couldn't figure out the error that Unity was giving me, but it turned out that I hadn't assigned a variable.

All in all, I am proud of myself and what I have accomplished. I have learned valuable lessons along the way, which I will keep in mind for next year's project. Next year I would enjoy delving deeper into 3D modeling, which you can't do well in Unity by itself, and deepening my understanding of C#. I enjoyed making this project.

## My Code

### My rotation script:

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

public class levelselect1 : MonoBehaviour
{
    public void StartGame () This here is an action that is set in Unity on the button
    object.
    {
        SceneManager.LoadScene(1); In Unity, there is a build index that numbers
        the scenes that contains all the levels and menus, so this is loading the level
        select screen
    }
    public void LevelOne ()
    {
        SceneManager.LoadScene(2);
    }
    public void LevelTwo ()
    {
        SceneManager.LoadScene(3);
    }
    public void LevelThree ()
    {
        SceneManager.LoadScene(4);
    }
    public void unknowing ()
    {
        SceneManager.LoadScene(5);
    }
    public void back ()
    {
        SceneManager.LoadScene(0);
    }
}}
```

## My Game Over Script

```
using System.Collections;
using System.Collections.Generic;
using UnityEngine;
using UnityEngine.SceneManagement;
public class EndGame : MonoBehaviour
{
    [SerializeField] public Animator transition;
    void OnCollisionEnter (Collision collisionInfo)
    {
        if (collisionInfo.collider.name == "End1") this is checking if I am hitting
the end
        {
            transition.SetBool("gameover", true); I am activating a trigger here
so it plays the animation
            Invoke("leveldone", 2);
        }


    }
    void leveldone()
    {
        SceneManager.LoadScene(1);
    }
}
```

## My Level Select Script


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


public class levelselect1 : MonoBehaviour
{
    public void StartGame () This here is a action that is set in Unity on the button
    object
    {
        SceneManager.LoadScene(1); In Unity there is a build index that numbers
        the scenes which contains all the levels and menus, so this is loading the level
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    public void LevelOne ()
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    {
        SceneManager.LoadScene(3);
    }
    public void LevelThree ()
    {
        SceneManager.LoadScene(4);
    }
    public void unknowing ()
    {
        SceneManager.LoadScene(5);
    }
    public void back ()
    {
        SceneManager.LoadScene(0);
    }
}}
```

## References

Transition tutorial:  How to make AWESOME Scene Transitions in Unity!  
<https://www.youtube.com/watch?v=CE9VOZivb3I>

### Rotation Tutorial:

 Animations Basics! How to Rotate Objects [Unity 2018 tutorial for beg...  
<https://www.youtube.com/watch?v=OwIE3GI8Rdg&t=126s>

Title Screen Tutorial:  START MENU in Unity  
[https://www.youtube.com/watch?v=zc8ac\\_qUXQY&t=352s](https://www.youtube.com/watch?v=zc8ac_qUXQY&t=352s)