2017

WIZARD ESCAPE

FINAL PROJECT FOR COSC 471
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Contents

Introduction

We have learned a variety of concepts in Computer Graphics, but have been limited to lab and homework assignments. Therefore, we created a game in Unity3D utilizing some of the those concept that enhanced our understanding. We made a third person character game which involves a wizard in fiction world that has to complete multiple puzzle/challenge type of levels.

Game PC Requirements

The build file is for Windows PC, x86 architecture.

Alternatively, you can run the game in UNITY 3D.

Character Control

Walk forwards: w

Walk right: d

Walk left: a

Walk back: s

Fire fireball (only level 1): v

Jump: space bar

Crouch: c

Game Level Description

Level 1 (Author: Anna Shchelokova)

The level consists of a square terrain with a forest with a character placed in the middle of it. The character must navigate through the forest. Navigation is assisted by compass.

There are 4 stones located across the terrain, each of them requires 5 souls. Once each stone obtains 5 souls, portal to the next level becomes activated and the game loads level 2 once a character enters the portal.

Souls can be obtained via killing vampires. Vampires leave behind particle system which follows character upon being collided with. There are also few souls scattered across the map which can be also collected by character. Once the character walks close to a collecting stone, the stone "takes" 5 souls which get destroyed. The character can see that the stone has enough souls, because a particle system is generated near the stone upon completion of the requirement.

Player Health and Vampire Health

Player spawns with 100 health points and the player can see character's health on the user UI on the health bar. Upon collision with a vampire he loses 20 health points. When character health drops to 0, the character is respawned at a spawner and spawner consumes all the souls following character.

Vampires have initially 60 health points, and they lose 20 per collision with fireball.

There are also "life balls" in the forest. They add 20 points to the player's health. If player is damage is less than 20 points, they fill health to 100%. Life balls are destroyed after collision.
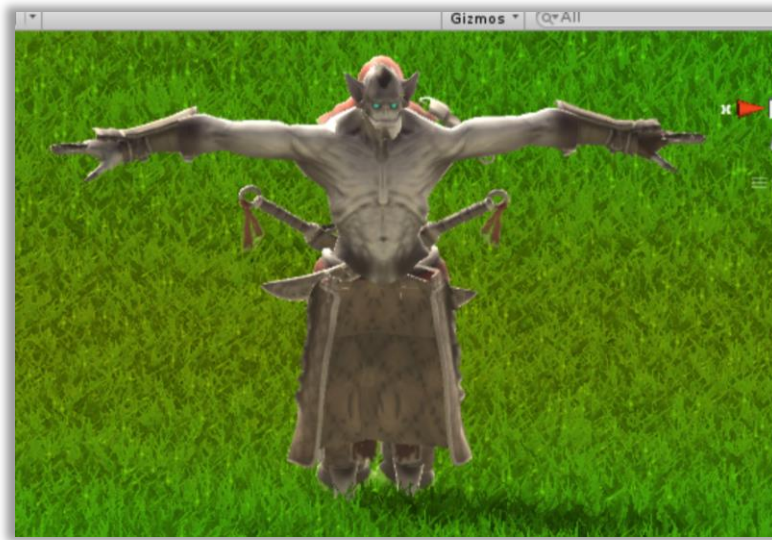
Standing Stones that Collect Souls

Portal to next level

Vampire in the initial poistion. Once the game plays, they are animated

Spawn Point
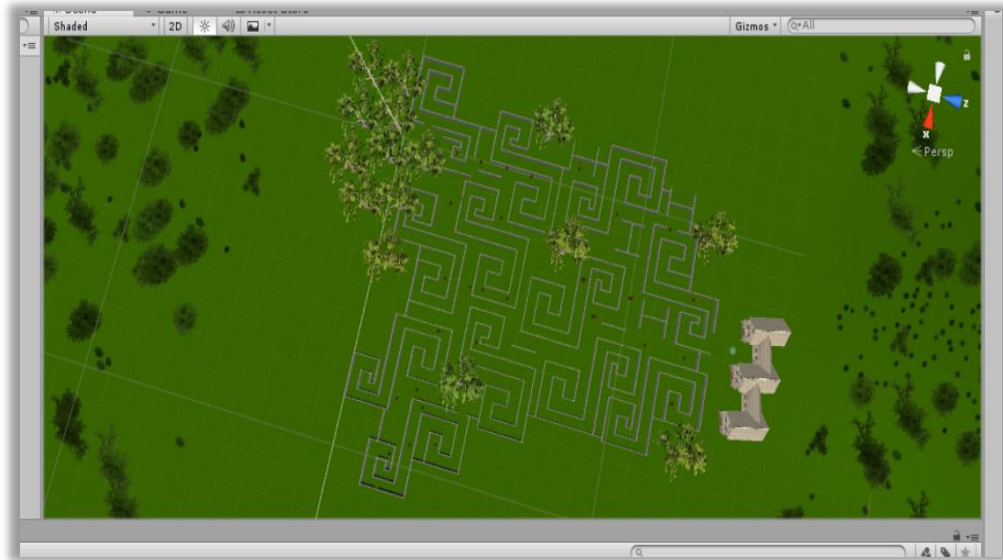

Soul

Life Ball

Fireball

Level 2 (Author: Gita Govinda Ellison)

The wizard has to go through a maze to reach his home. Along his way are spinning death balls. If he bumps into one of these balls, his health level diminishes. In 3 collision, he dies and is respawned. Once he's out of the maze, he must reach his wand. This signifies winning the level.
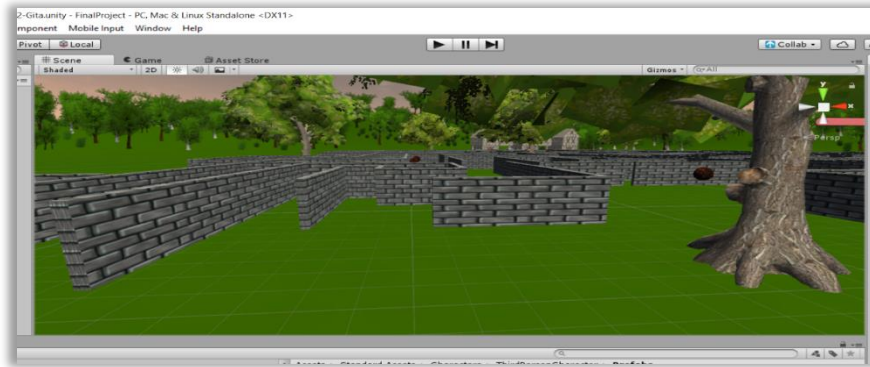
The maze

Each part of the maze is divided up into phases. One block was placed, applied texture and then duplicated. Then this whole segment was duplicated. Each block has box collider active so they become solid and nothing can pass through.

Maze Phase
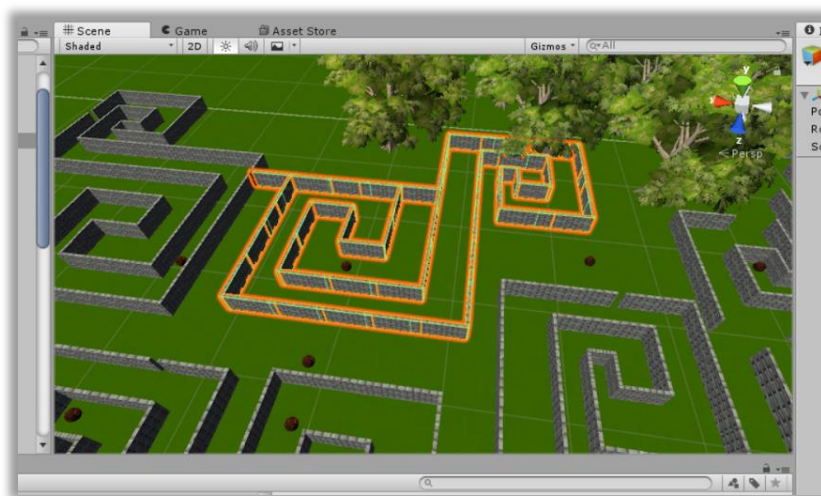
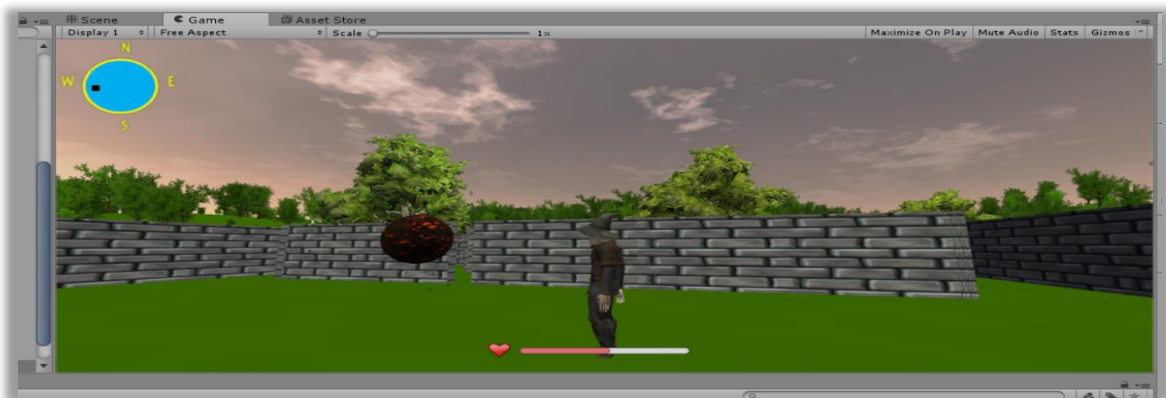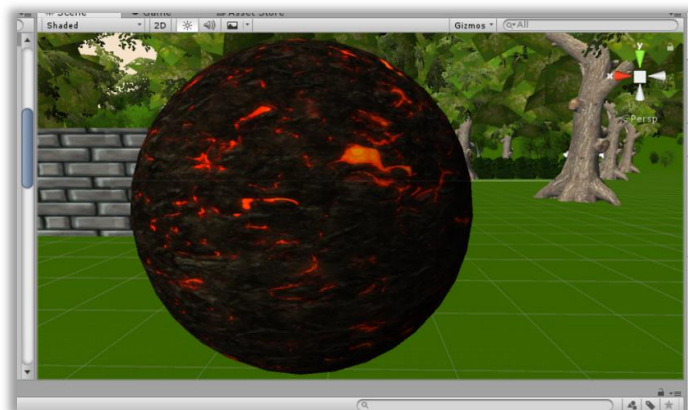*Spawn point*

Respawning will take the player back to this point: Vector3.zero

Death ball damage

This is a demonstration of bumping into a death ball. PlayerHealth script attached to the main character drops the health down as viewed in the health bar.
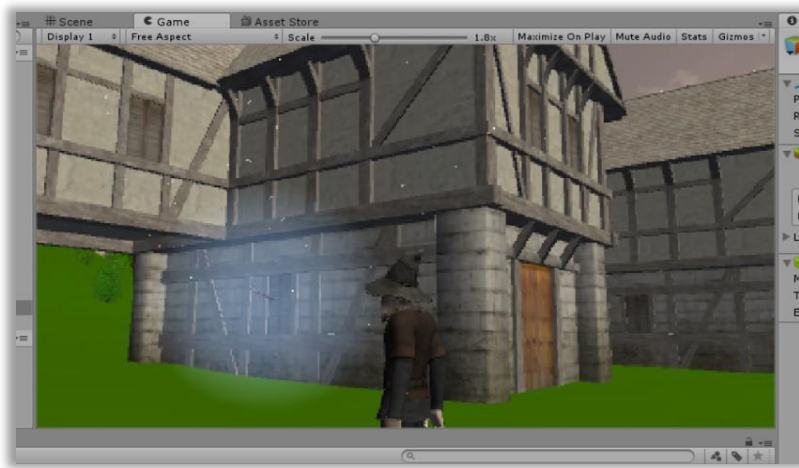
Death ball

Death balls were created with a spherical object and a lava texture. It has a basic particle system attached to it. Like the walls, they have a collider so you can't walk through it. They also have a spin script so they look a little bit more intimidating. One ball was copied and placed all over the maze. They have been labeled "obstacles".
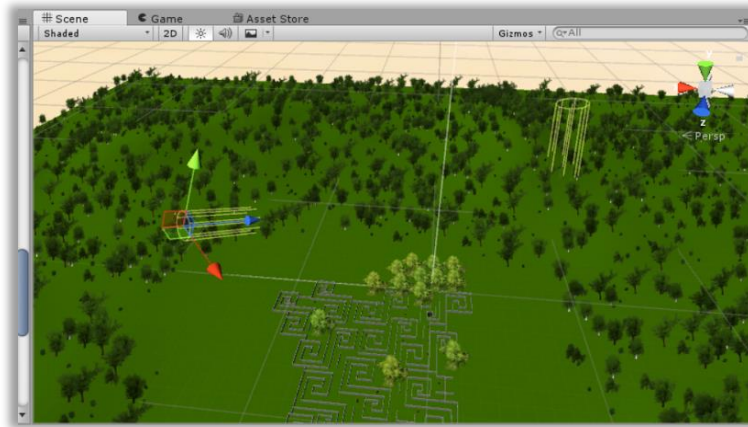
Home base

The home was a prefab from the unity store. It has no collider so you can walk through it.

Wand
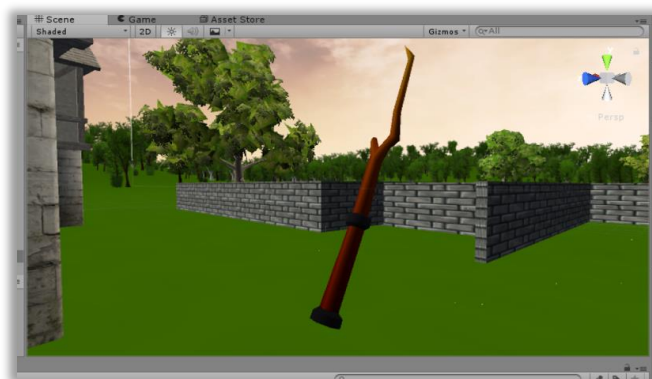
The intention for the wand was to reach the next level. It is another prefab from the unity store. Attached to it is another basic particle system, a light source(glow), and spin script.

Light Sources

There are two directional light sources because trees and high walls partially blocked off the light.

Terrain

Terrain and trees are supplied by Unity. The trees have a collider so you can't walk through it. You can also step on some roots. A wind zone has been applied to the terrain as to portray a hint of realism.

Challenges and Known Issues

Game camera on the second level is set up same as in the first level, however it collides with the walls which interferes with the visibility. Once it hits the wall everything turns dark and eventually completely black. The intention was to switch between first person and third person views, but the script wasn't cooperating.

There was an intent to make a minimap for the level 1. However, I have really big terrain and was far into the development of the level when I realized it was a good idea to make one. Rebuilding entire level over would have been a waste of time and making minimap with the current terrain size would have been for the most part useless.

Some Scripting and Implementations Details

HealthSystemScript Level 1, Level 2
Player starts with certain amount health points.
On collision with any object with tag "Enemy", it reduces health.
Once the player dies, the player is relocated to spawner object by transform.

Compass script Level 1, Level 2
Tracks player's direction by calculating euler Angles.

SpinScript Level 2

Rotates the death balls.

Master Portal Script Level 1

Tracks the state of the standing stones. Once each stone has 5 souls enables the teleportation to next level

Spawner Script Level 1

Kills souls when wizard respawns

Vamp Health Script Level 1

Tracks vampire's health and deal with fireball interactions.

Follow Script Level 1

Makes invisible fireballer object follow the wizard and track wizard's direction. Fireballer object always stays in front and when player wants to shoot fireballs, fireballs are instantiated in the fireballer.

Soul Follow Script Level 1

Makes souls follows player upon triggering.

Point Script Level 1

This is the script for the standing stones. Checks if there are any souls nearby. If there are any and stone has less than 5 souls, adds points to the stone and destroy the souls that were "utilized".

Other scripts that we pulled from other resources were also modified.

References

Unity Asset Store. Majority of assets were modified to fit our needs

Unity Standard Assets

WorldSkies Free

Mysic Runestone

Nature Starter Kit 2

Particle Ribbon

Pyro Particles

Classic Skybox – its in the package but we never used it

Medieval House 3D

Mixamo https://www.mixamo.com/

Mixamo Vampire Lutsh Character and Zombie Animations.

Mixamo Magic Lite Pack

Tutorials

Creating Compass In Unity 3D Part 1

https://www.youtube.com/watch?v=Rexc8O_IToY

Creating Compass In Unity 3D Part 2

https://www.youtube.com/watch?v=_X4yhtWswnM

Learn - Modules. (n.d.). Retrieved May 19, 2017, from https://unity3d.com/learn/tutorials