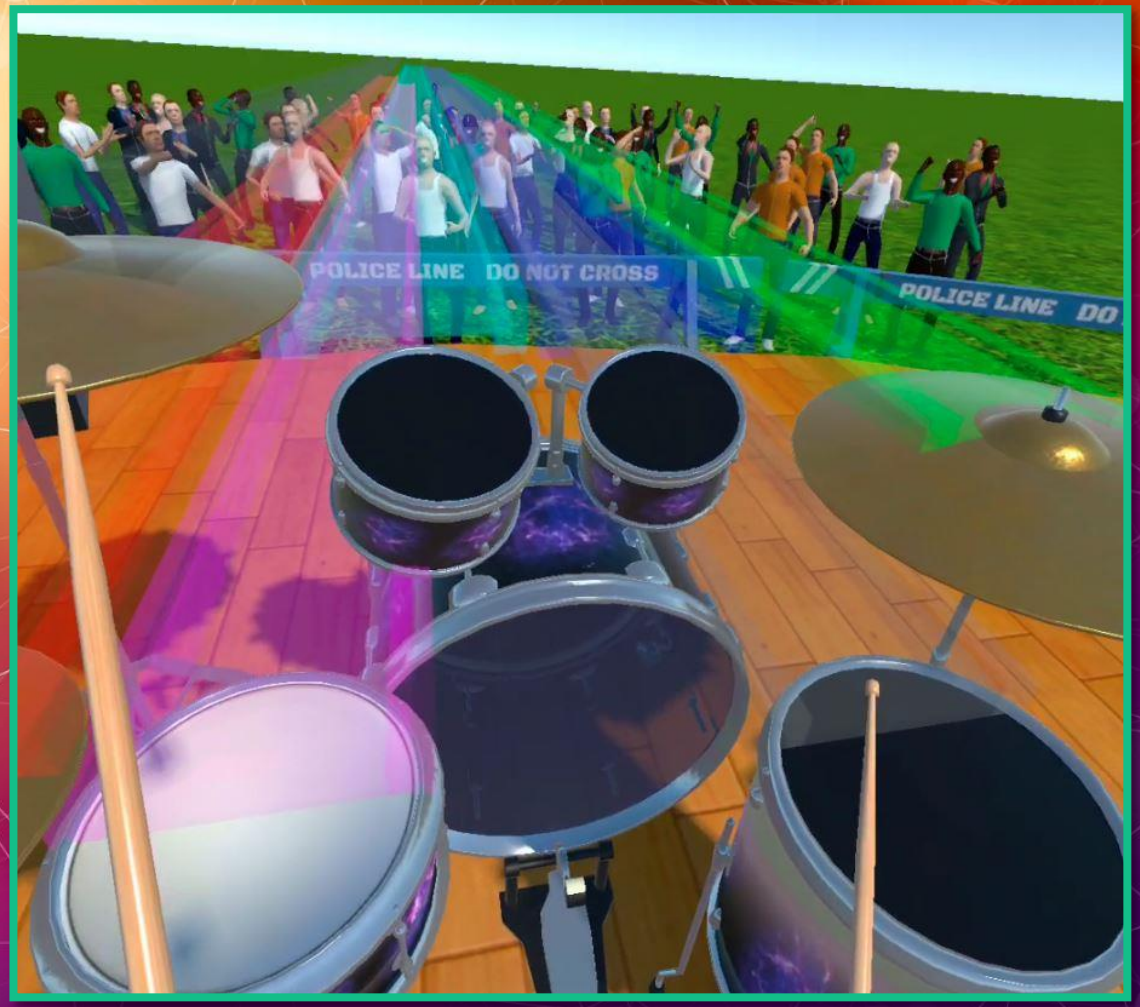

Drum Legends – A VR Game

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Agenda

- Introduction
- Technologies and Platforms
- Equipment
- Scenes Overview
- Songs

Introduction

Drum Legends is a virtual reality drummer game.

To play the bass we constructed a DIY bass pedal which anyone can construct at home using basic materials and a Bluetooth mouse as the actual controller. Everything is affordable and easy to acquire.

In the game you can play your favorite songs in front of your fans and have a lots of fun.

Technologies and Platforms

Our VR game was developed using Unity for the headset Meta Quest 2 using the XR plug-in framework and XR Interaction Toolkit.

The code was written in C# and edited using Visual Studio Code.

Also, to create interactive songs in the we developed a Python script using PyCharm.

Equipment

The Meta Quest 2 as the Virtual Reality headset

DIY bass pedal which uses a Bluetooth mouse as the electronics making the pedal completely wireless.


oculus

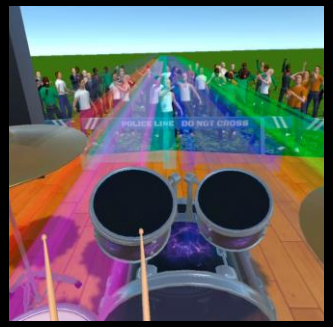
Scenes Overview

Main menu

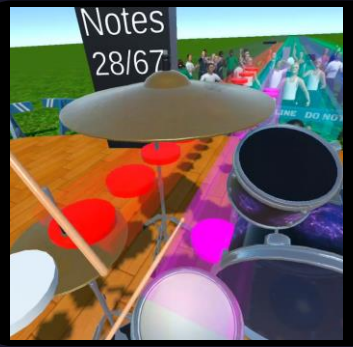
Start

Options

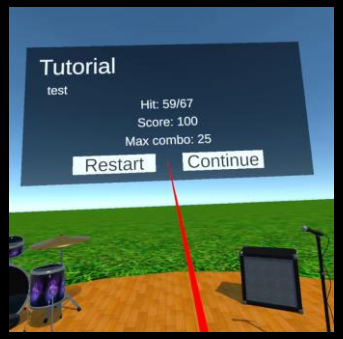
Scenes Overview



Tutorial



Level



Finish Scene

Songs Level File

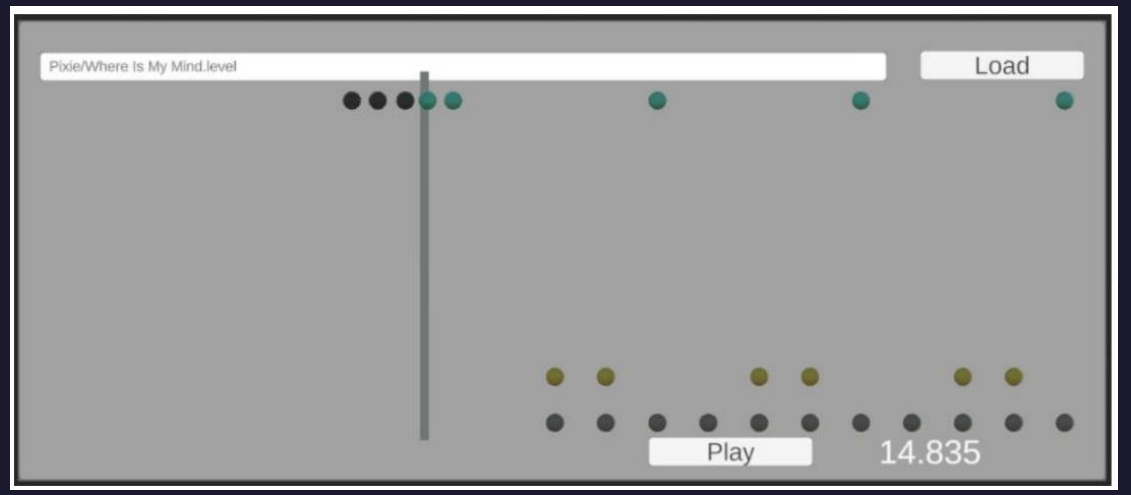
- The levels in the game are created using a human-readable XML file with the extension ".level".
- In the main menu scene, all ".level" files are found in the song's directory and are parsed to create the song selection menu using the metadata.
- Once a player chooses a song to play, the file is parsed.

```
ngDescriptor>
 <SongAudioFile>Back In Black.mp3</SongAudioFi
 <Metadata>
     <AudioType>MPEG</AudioType>
     <Name>Back In Black</Name>
     <Author>AC\DC</Author>
     <Difficulty>Easy</Difficulty>
     <Length>00:04:15</Length>
     <Image>Acdc_backinblack_cover.jpg</Image>
 </Metadata>
 <Notes>
     <NoteDescriptor>
         <start>0.627</start>
         <drum>HighHats</drum>
     </NoteDescriptor>
     <NoteDescriptor>
         <start>1.2863406593406594</start>
         <drum>HighHats</drum>
     </NoteDescriptor>
     <NoteDescriptor>
         <start>1.9456813186813319</start>
         <drum>HighHats</drum>
     </NoteDescriptor>
     <NoteDescriptor>
         <start>2.605021978021978</start>
         <drum>HighHats</drum>
     </NoteDescriptor>
```

```
C:|x---------------|----------------|----------------|----------------|
H:|--x-x-x-x-x-x-x-|x-x-x-x-x-x-x-x-|x-x-x-x-x-x-x-x-|x-x--x--x--x----|
S:|----o-------o---|----o-------o---|----o-------o---|----o--o--o--ooo-|
B:|o-------o-------|o-------o-------|o-------o-------|o----o--o--o----|
```

Songs
Creating the level

- For creating a level we developed a Python script which takes textual tab representations of a song.
- To test the resulting level the 2D scene was developed which plays the song.



Thank You