

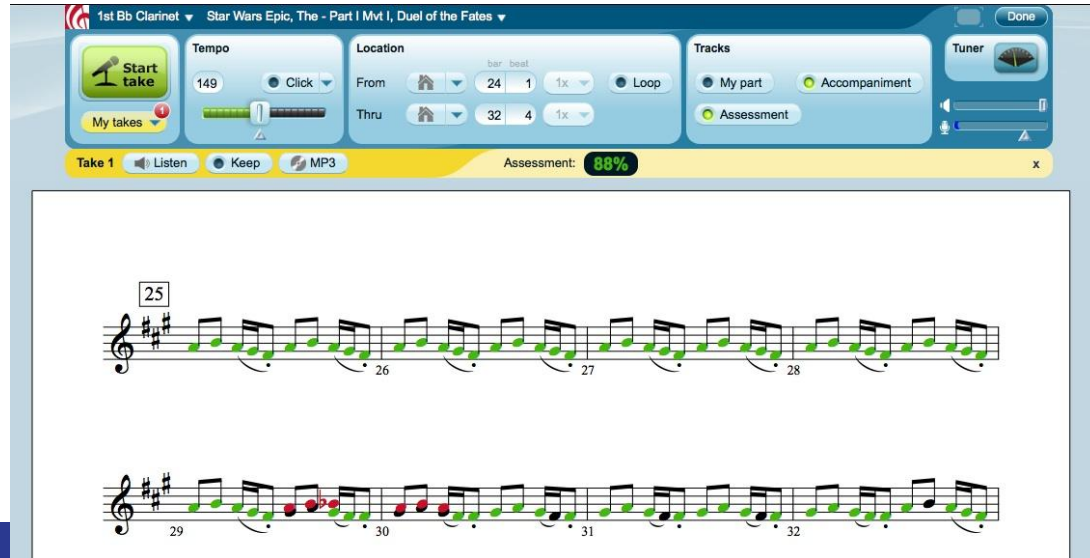
Smart Concert VR Project

By Patrick Fedigan



Research Question/Problem

- “How can we use modern technology to replicate musical performances and teach about performing?”
- **“Why do we care?”**



The screenshot shows a music software interface for a 1st Bb Clarinet part. The title is "Star Wars Epic, The - Part I MM I, Duel of the Fates". The interface includes a "Start take" button, a "Tempo" control set to 149, and a "Location" control with "From" (24 1) and "Thru" (32 4) settings. There are also "Tracks" (My part, Accompaniment, Assessment) and "Tuner" controls. A yellow bar at the bottom indicates "Take 1", "Listen", "Keep", "MP3", and an "Assessment: 88%" score. The main area displays musical notation for measures 25 through 32, with green notes and red notes indicating performance status.



Personal Background

- Musical Interests and Experience
- Technical Interests and Experience

“What kind of project can test the use both these skills?”



Intended Project Outcome

- To learn more about my current field of interest
 - (Sound Design, Music, Software Developer)
- To Produce a Demo-able Smart Concert Experience
- Feedback around musical performance with Virtual Reality
- Written Research and Conclusion Component



Method and Timeline

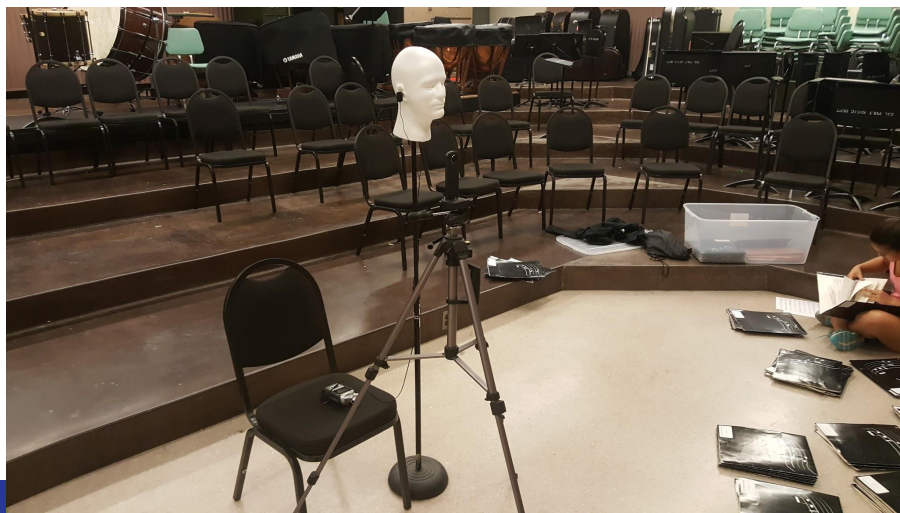
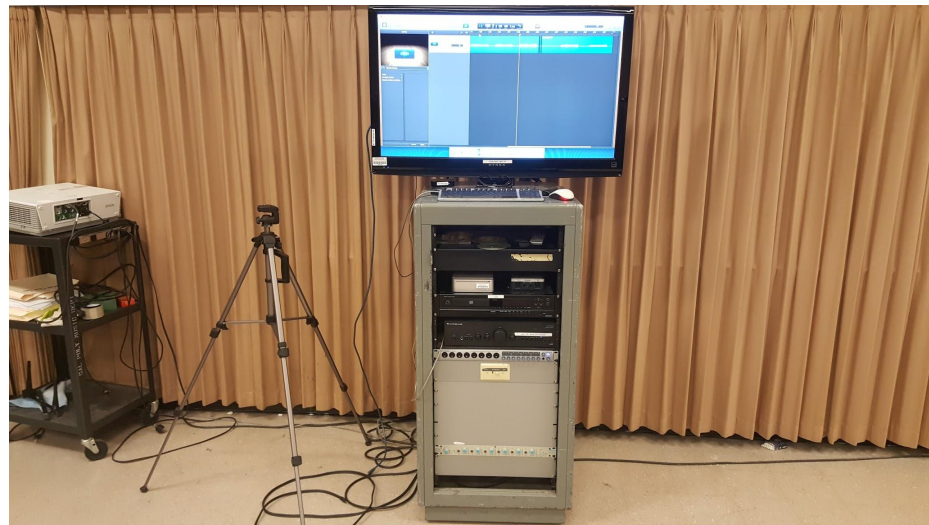
1. Research!
2. Discussion with peers
3. Learning Virtual Reality platforms
4. Designing Demo
5. **Recording**
6. Developing
7. Testing and feedback
8. Conclusion and presentation



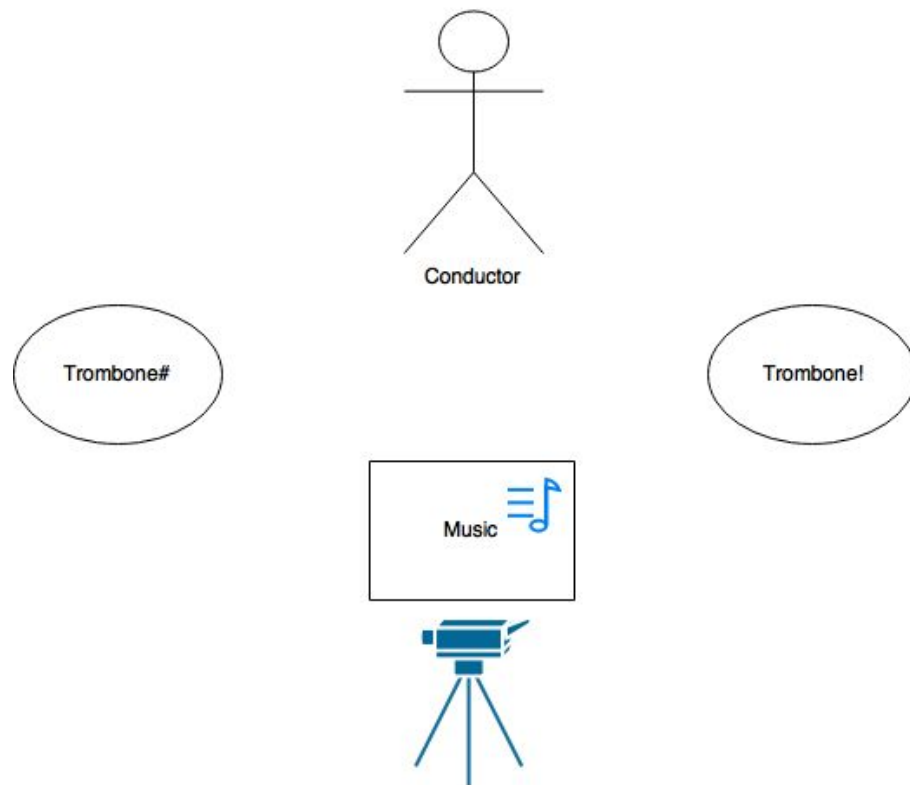
Tools Used

- Ricoh Theta S
- Various audio equipment





Diagram



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Trombone !

Trombone @

Trombone #

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$\text{♩} = \text{♩}$

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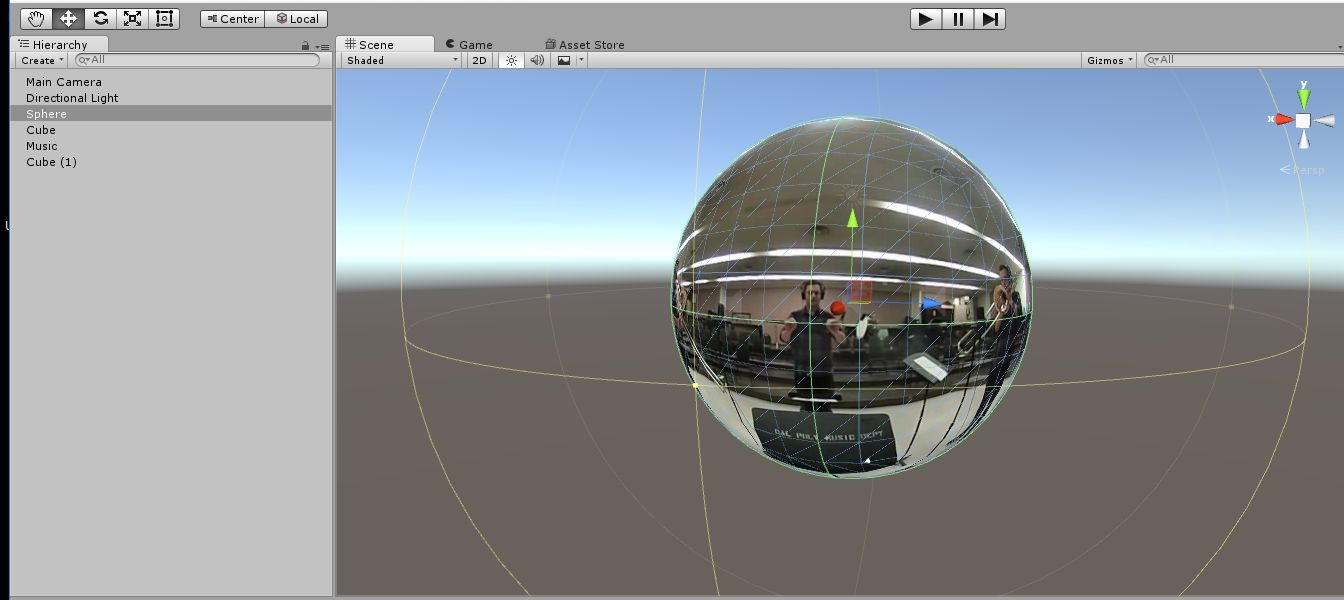
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24

28

molto rit.





Hierarchy

- Create + Gr>All
- Main Camera
- Directional Light
- Sphere
- Cube
- Music
- Cube (1)

Project

- Assets
- Media
- Planet Earth Free
- SCM_Ignored
- Skyboxes
- Standard Assets
- Characters
 - FirstPersonCharacter
 - Audio
 - Prefabs
 - Scripts
 - RollerBall
 - ThirdPersonCharacter
 - CrossPlatformInput
 - PhysicsMaterials
 - Prototyping
 - Materials
 - Models

Assets

- Plugins
- Prefabs
- Scripts
- Senior Project
- VR UI
- audioStart
- audioStart2
- file-page1
- NewAudioMixer
- red
- SmartScene
- Trombone@-Bass Clarinet in Bb-1
- Trombone@-Clarinete in Bb-1
- Trombone@-Horn in F-1
- Trombone@-Tenor Saxophone-1
- Video
- VRscene

Inspector

Tag: Untagged Layer: Default

Transform

Position	X: 0	Y: 0	Z: 0
Rotation	X: 361	Y: 270	Z: 0
Scale	X: 10	Y: 10	Z: 10

Sphere (Mesh Filter)

- Mesh: Sphere

Sphere Collider

- Is Trigger:
- Material: None (Physic Material)
- Center: X: 0, Y: 0, Z: 0
- Radius: 0.5

Mesh Renderer

- Cast Shadows: Two Sided
- Receive Shadows:
- Materials:
 - Use Light Probes:
 - Blend Probes: +
 - Anchor Override: None (Transform)

Audio Source

- Script: Movie Controller (Script)
 - Script: MovieController
 - Dts: performer2
 - Previews: None (Movie Texture)
 - Movie: None (Movie Texture)
 - Cover: None (Game Object)
 - Movie Screen Speed: 0.065

Light

- Type: Point
- Baking: Realtime
- Range: 10
- Color: [Color Picker]
- Intensity: 0.72
- Bounce Intensity: 1
- Warning: Currently realtime indirect bounce light shadowing for spot and point lights is not supported.
- Shadow Type: No Shadows
- Cookie: None (Texture)
- Draw Halo:
- Flare: None (Flare)
- Render Mode: Auto
- Culling Mask: Everything

Reverse Normals (Script)

- Script: ReverseNormals

Bass Clarinet in B \flat

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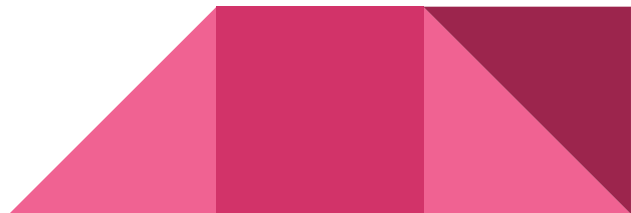
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November 15th - 16th

- Demonstrated project to musical peers
- Collected feedback



Responses

- Immersion rating: 8/10
- Most testers have not tried Virtual Reality before
- “Didn’t have to worry about instrument getting in way of performance”
- “Still got a sense of harmony between parts”
- “Putting you more in the headspace” - “possibility of performing in practice”.
- “Senses were tricked enough.”



The Future

- “VR music lessons”
- “Adapted for conducting”
- “Que others with your head”
- Have live recorded playback
- Promotion for musical ensembles



Links

VR Video: <https://www.youtube.com/watch?v=fNg3aFEqtfw>

Demo Responses: <https://www.youtube.com/watch?v=s7YiydpAALY>

More online content coming soon!

