

22 Virtual band

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1. Introduction

Playing music as a band has limitations being that all members have to come together and play. Thus, occasionally members would also find a struggle to come together or even to find the time to come and play together. Virtual Reality could help us with the experience. By having people at different places, a beefy wifi connection and a good computer and camera, 'Virtual Band' 's system will simulate a band being played live. With you being able to choose your instruments and also able to play them instrument-less.

2. Related works

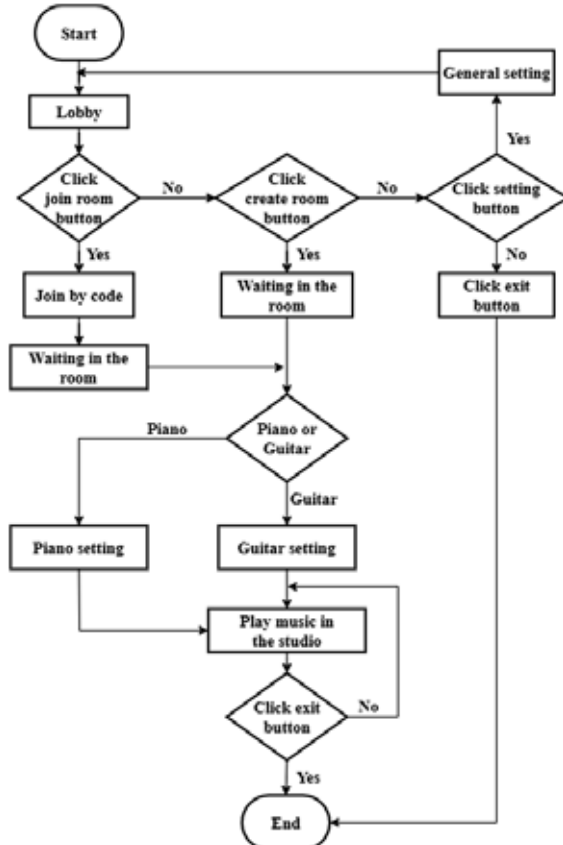
- VRchat
- Paradiddle (VR drums)

3. System realisation

Required resources (at the moment)

- VR headset (in this case we use Meta Quest 2)
- Computer
- Strong Wifi connection
- Camera (A phone is also able to be used)
- Electronic pedals (for drumset)

4. Flowchart of how this application works



4.1 System structure

This would become an application. Upon entering, you would join or create a server. Choose your instrument, and it'll connect to the server to play with other people. You could also click on settings to change the instrument settings or quit at anytime.

5. Used software

Unity, Blender, Visual studio code

6. Runtime Environment

- Unity runtime, Meta Quest 2, camera(s), electronic pedal (for drums)

7. Development Environment

- Unity 2021.3.7f1, Visual Studio code

8. Roadmap and Improvement

We'd like to develop and implement a guitar into the system. As it is one of the key instruments of a band. But it is also the hardest to do. Whilst that, we'd also consider improving the connection to have the least lag possible.