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Bardventure's Abstract

Goal: Make a Virtual Reality Rhythm Game with Role Playing Game elements.

DESCRIPTION:

The goal is to do a rhythm game, a music-themed genre that challenges the player's sense of rhythm. Added to this, Role Playing Game elements, the player is immersed in a story driven adventure through their customized character.

Bardventure follows the adventure of a *Bard* (the player) in a world filled by "monsters" controlled by the music of the evil King! The player takes on a quest to purify the monsters with soothing music. If they succeed, the monster will be happy and give them a gift. Their ultimate goal is to purify the King to save the world.

To develop we used: Hand tracking, Unity and the Oculus Quest2.

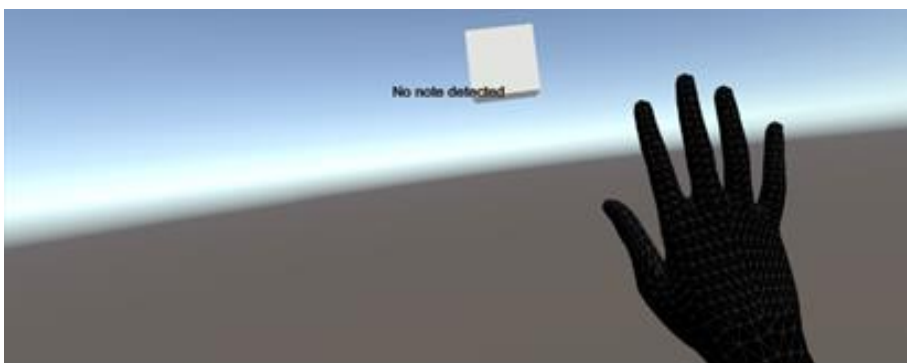
We divided the work in three parts:

HAND TRACKING:

We decided to use hand tracking to differentiate ourselves from other Rhythm VR games.

During the time of the game, they can open/close their hands or move them forward to play the notes.

The challenges encountered were our lack of experience in Virtual Reality, using Unity and C# and the lack of information/tutorials regarding hand tracking.



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RHYTHM GAMEPLAY:

It is the core of the project. This part is about the mechanics of the game. There are three different types of notes:

- ❖ Simple note: the basic one. You just push forward your hand to hit the note.
- ❖ Slider note: shows a pattern to follow with your hand (for example a circle)
- ❖ Special note: for a certain duration you must keep your hand closed.

They are initialized according to the midi file associated to the song.

The challenges encountered were to coordinate the different parts of the game together as this part must call the hand tracking and display parts. In addition to that, it was to create a good data structure for each element and adapt them according to each member's needs. Finally, it was to coordinate the notes/events and the music together.

DISPLAY:



This part is to show the game status to the player: The environment/world they will be part of, the different types of notes, events such as win or lose, inventory, menus, ...

The lack of good equipment and information were the biggest challenge for this part.

RESULTS:

We are in the merging phase of our project. The display and rhythm gameplay parts are merged though improvements need to be done. We are having troubles merging the hand tracking part with the rest. Moreover, the RPG elements are in the early stage of development.