

Musitation

Problem

After COVID, people who have an interest in music creation are afraid of continuing in-person social musical activities although they desire immersive music learning and meaningful interpersonal interactions.

Goal

The goal of Musitation is to support meaningful social interaction through music and to inspire people to creatively express themselves through collaborative VR music experiences.

Design rationale

The tangible visual format of notes also transforms the abstract concept of music into concrete materials that players can directly interact with. This design is backed with the theory of agent-based restructuring of Constructivism that makes learning music more accessible and engaging (Wilensky 2010). Besides, research has shown that educational video games have benefits in learning music, which supports the use of VR in music making experiences (Lesser 2020). The collaborative experience is grounded with our user and market analysis and research.

Research

Self-Determination Theory

Self-Determination Theory suggests that people are motivated by Autonomy, Relatedness, and Competency (Deci & Ryan, 2000). More recently, it has also been suggested by researchers that there is a fourth need, namely the need to satisfy drives for novelty. COVID has created massive changes to how we fulfill those drives to satisfy those 4 needs. As WFH has increased HBR and Brookings has suggested that millions of people will continue to WFH post-COVID. WFH has demonstrated aspects of isolation, leading to a number of consequences, namely the desire to and comfort with connecting with others online through AR and VR and other novel communication channels to fulfill the need for relatedness and novelty. Additionally, BBC has reported how people WFH pick up new hobbies out of need to create, or autonomy restoration and competency drives. Studies on music in community have demonstrated how there is a therapeutic and healing effect to community based music activities. Mobile technologies, such as VR, have demonstrated to not only be effective in connecting others but also help others learn while connecting in both formal and informal ways. Finally, studies on video games have demonstrated how primary needs in self-determination theory are met through video game engagement.

Constructivist Learning Theory

Constructivism's central idea is that human learning is an active engagement with the world. Knowledge is constantly constructed upon previous ones, the experience with environments and other people. (Dewey, 1938; Vygotsky, 1978; Phillips, 1995). As a result, the same piece of music can be interpreted differently by different people. Therefore, Musitation is designed to have playing engage directly with the melody and harmony of music. This engagement is made tangible by turning musical notes into manipulable blocks. There is no prerequisite of music theory needed prior to playing the game.

User analysis

Our target user (13+) is someone who is interested in music creation but has minimal music knowledge and time to learn music extensively. They want an immersive and instantaneous way to connect with their friends socially and musically without traveling long distances or risking COVID-19 infection. Ultimately, our user wants an online music environment where they are an active and social creative participant in a tangible, interactive world beyond the desktop.

Market analysis

<p><u>Strengths</u></p> <ul style="list-style-type: none">- The VR medium brings more fun for beginners to continue their musical exploration and motivates the informal social learning to continue.- The tangible formats of music supports beginners to experiment with melody making without any prior music background.	<p><u>Weaknesses</u></p> <ul style="list-style-type: none">- VR is still a niche market that limits the use of the product to a certain population
<p><u>Opportunities</u></p> <ul style="list-style-type: none">- With the popularity of VR and rising interest in learning music, the market for more high-quality VR music games is expanding. Musitation fills the gap for beginners who are interested in music creation and social interaction.- People are eager about learning music for leisure activities, especially since COVID as people have more alone time at home	<p><u>Threats</u></p> <ul style="list-style-type: none">- There are some existing platforms or games that support collaborative music experiences, including computer-based software sound as Soundtrap, Hookpad, and Chordify, VR music experiences such as Beat Saber and EXA: The Infinite Instrument, and sandbox video games such as Minecraft, Stardew Valley, and Animal Crossing.

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