Effects of Cross-Instrumental Control on Musical Engagement in a Network Music Environment

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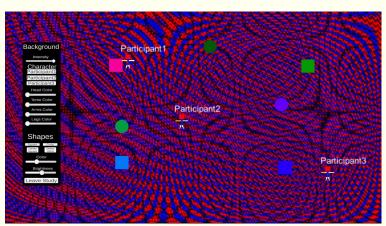
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MOTIVATION

❖ COVID-19 pandemic hit the music world hard. People could not come together to make music like they could before.

❖ Wanted to create a way that people could safely create music together in real time from a distance.

SOUND DESIGN

❖ Participants create background grooves by instantiating squares (percussion) and circles (low, mid, and high melodic lines).

❖ Participants can play a synth (represented by stick figures). Stick figure colors represent the synth parameters.

❖ Shape color affects which line/percussion pattern will play, and brightness controls volume.

❖ Intensity slider controls background brightness and a low pass filter.

❖ Avatar distance from squares affects pitch shifting and reverb of each individual percussion instrument.

Unity Screen Shot

STUDY

❖ 5 participants were split into two groups. Each individual in both groups were given ample time to learn the system.

❖ The participants were put through three conditions.
  ❖ 1: Control only your own color and one background element (ie, intensity slider, circles, or squares)
  ❖ 2: Control your color, someone else, and two background elements
  ❖ 3: Control everything

❖ Each condition lasted 3-5 minutes.

❖ After the last condition, a focus group was held to gauge the participants' experience and engagement in the three conditions.

RESULTS

❖ The second condition seemed to be most enjoyable. "There was a sense of feedback for any action."

❖ The first condition at times "sounded flat". There was "no overall density to control."

❖ The third condition proved enjoyable to some, but was also met with remarks like "more control didn't correspond to better music."

DISCUSSION

❖ There exists a balance between chaos and individual control.
  ❖ Some chaos provides interest while some individual control provides grounding and structure.

❖ Overall, the second condition was met with the most favorable reviews. It seemed to offer the best balance between chaos and individual control. As a result, it bred the strongest sense of synchronization and togetherness.

❖ These preliminary findings suggest that allowing mixed control over musical parameters in a network music system developed in the future could be a promising way to create an engaging space.

FUTURE WORK

❖ More work balancing audio, introduce mediums of communication

❖ Add support for different music, acquire more participants

❖ Explore virtual reality as a potential medium