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Exploring new interaction modes in virtual reality in the domain of virtual reality musical instruments.

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Description

The proposed project would set about to explore and compare new methods of interaction in virtual reality under the context of creating a virtual reality musical instrument. The domain of virtual reality is still in its infancy, and plenty of novel research is needed to create a more immersive, usable, and all round better virtual reality experience for the user. The context of music is a particularly interesting domain to explore as it offers rich complexity, and a chance for creative exploration, expanding beyond what is possible in the real world. To do this, possible virtual reality interaction methods would be prototyped, building upon influences from existing virtual reality applications, and drawing inspiration from real world musical instruments. This would allow the proposed instruments to not only explore the domain of interaction, but also the possible correlated sounds. A comparison of different possible interaction methods would be undertaken, along with a user study. The comparison will range from the various technical specifications, along to quantifiable measures undertaken as part of the user study. This would allow a fair and effective comparison of possible interaction methods.

Evaluation

As outlined above, the prototyped methods would be compared through various factors, primarily involving the user study that would be undertaken with the prototypes. This user study would attempt to quantify various qualities of the virtual reality, drawing from existing research into this domain. Technical factors involved in the creation of the prototypes would also be considered. The factors would be combined and then each prototype would be compared to one another, so they can be ranked accordingly. The data produced from the user study would then be evaluated using statistical methods.