MIDI 2022 Conference

Special session

Title: Interacting with Virtual Reality Applications

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Virtual Reality (VR) is an increasingly popular technology. The market of hardware and games for VR is expanding dynamically. However, VR can be used not only for entertainment. It can also be a very useful tool in education and engineering research.

Confucius used to say, "Tell me and I will forget, show me and I will remember, let me do, and I will understand". VR allows us to interact with physical objects, perform an endless series of experiments and analyze mechanical systems with visualized abstract properties, like forces, potentials and accelerations. This way, we can learn new skills without wasting resources, improve our movements' precision, and grasp inside into the way "things work".

We can use VR equipment to learn how to perform complicated medical operations, optimally hit the ball in tennis matches, or arrange an automated factory hall. We can also visualize chemical reactions, test mechanical systems and control algorithms or construct Ruby Goldberg's machines. The patients can use VR for rehabilitation and athletes for training. The sky is the limit.

The main goal of the proposed session of MIDI2022 is to share ideas and experiences in interacting with Virtual Reality applications e.g., in education and engineering research. The special online session will be held on the Oculus Workrooms platform, so the part of participants equipped with Oculus Quest 2 can join a session as virtual avatars. All other participants can traditionally join an online session with video or audio streaming.

The Special Session will cover topics in the context of research in Interacting with Virtual Reality Applications, including but are not limited to the following:

- Applications & Experiences
- Collaborative Work in Virtual Environments
- Human-Machine Interaction & Usability
- Process Visualization
- Virtual Laboratories
- Virtual Reality for Bioengineering

- Virtual Simulations of Mechanical Systems
- Virtual Reality in Rehabilitation
- Virtual Reality for Improving Precision of Human Motion