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Blog: Virtual Organs at Oamk

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Abstract

Various realms of culture are digitalized rapidly, and artists and art pedagogues are actively searching for digital solutions to create new methods and tools for creative work. Although everyone is not pleased with the speed of digitalization in culture, more people regard it as an opportunity rather than a threat. Virtual organs at the Oulu University of Applied Sciences (Oamk) exemplify a courageous innovation in music pedagogy. The organs are at the forefront of development, so they are of broader interest. The Dutch organ manufacturer Mixtuur has invested strongly in Oamk's virtual organs, and the company sees that the development work taking place here benefits its operations more broadly.

Virtual instruments utilize computer software to create sound in one way or another. This can be done by a computer keyboard or MIDI controller, but also as an extension of a conventional instrument. A virtual organ is one of many virtual instruments. Ismo Hintsala, a senior lecturer of music at Oamk, defines it as a computer application that combines computer software with an electric instrument with keyboards, pedals, and drawknobs, resembling a traditional organ. The author interviewed Ismo Hintsala in October 2021.

Development Work in Cooperation

Hintsala says that Oamk's virtual organs are probably the best ones in Finland, thanks to the close cooperation with Mixtuur. As an example of the organs' exceptional quality, he takes UHT Renatus keyboards

whose playing weight can be adjusted to organists' requirements. Oamk's organs are the only ones with these keyboards in Finland. Even the organ benches have been designed to fit the instruments, not only functionally but also aesthetically.

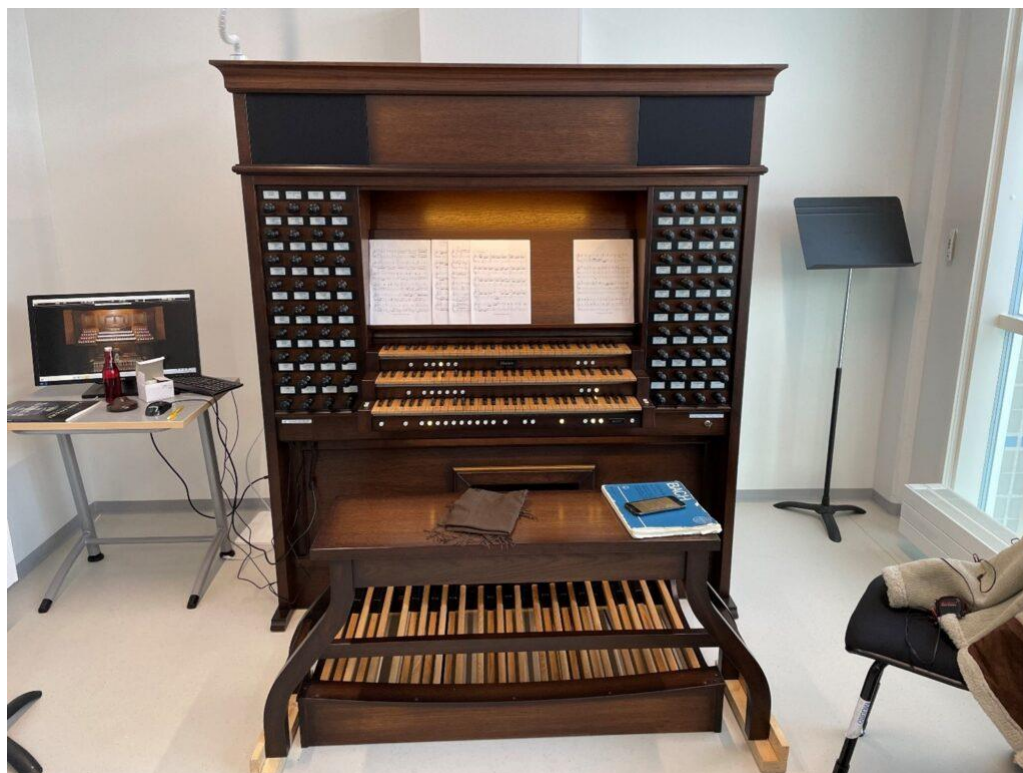


Image 1. Picture of virtual organ at Oulu University of Applied Sciences. Photo: Petri Hoppu

Hintsala actively observes the operation of virtual organs and reports on the shortcomings he has detected. According to him, users must not settle for mediocre solutions but raise issues with the manufacturer, as this is in the interests of both subscribers and the manufacturer. Hintsala describes the cooperation with the manufacturer as working and valuable in both directions.

It is also crucial for the manufacturer that the students get used to virtual organs and have positive experiences. They are future experts when organs are bought to different institutions like churches or music conservatories. A virtual organ is often a tempting option, especially when the instrument needs to be placed in a small space. Without any more profound knowledge and personal experiences of a virtual organ, it may be challenging to find the courage to purchase one.

From Recordings to Sample Sets and Sound

The starting point for producing sound from a virtual organ is that various, mostly Central European organs are recorded into sample sets, each pipe separately from three distances. These are loaded into the Hauptwerk software that opens the audio files by the organ keyboard. The virtual organ is connected to the internet, and it is possible to order and download new sets when these are created. This implies that the virtual organ is never complete, but it can be described as a process with multiple potential extensions.

The reason that organ pipes are recorded from different distances is that it enables multiple echo effects. While playing a virtual organ, one can choose between furthest-away recordings when the sense of echo is most robust or closest ones with almost no echo. Hintsala says that his students typically prefer a strong echo since it creates an atmosphere of a large church or concert hall, although it may make it challenging to

control the sound. In this way, students can better prepare themselves for actual performance conditions in large, echoing spaces.

However, Hintsala points out that students need to get accustomed to many spaces. For example, organs may be situated in congregation halls with wall-to-wall carpets or thick curtains, and in these spaces, the echo can be almost non-existing. While using virtual organs, a student must occasionally choose options with slight echo as well.

World in Organs

In terms of the playing experience, the virtual organ itself is no different from a regular organ, but according to Hintsala, it is the same as when playing a church organ. However, virtual organs have many features that expand the opportunities to study organ playing and facilitate the execution of large organ works. These have many registry changes that can be automated in virtual organs.

Moreover, virtual organs allow for changes and experiments related to the level of tuning that would take much time with traditional organs. Modern man is accustomed to keyboard instruments with equal-tempered tuning, but history knows many other tuning systems, and virtual organs allow them to be experimented with. Virtual organs can create soundscapes like those at J.S. Bach's time and earlier.

Above all, however, virtual organs allow for organ experiences that would otherwise remain a dream for most students. For example, with a virtual organ, one can get experiences of playing German, Italian, Dutch, or French organs. Hintsala compares virtual organs to an aircraft simulator. Just as pilot students utilize simulators in many ways before they try out a real jet aircraft, virtual organs also simulate different organs and organ playing situations. In practice, virtual organs allow for training that would not be possible with traditional organs.

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