Leon Lowentraut: "Volar"
Spectacular project at the University of Kaiserslautern

"volar" (Spanish: to fly) - that's the name of the project that emerged after one semester from the collaboration of students and the artist Leon Löwentraut, who was only 24 years old. During the winter semester 21/22, he had a teaching position at the Kaiserslautern University of Applied Sciences in the Virtual Design course. Topic: "Future Exhibition Design".

The results, a "multi-sensory storytelling" as Michel Lörz, one of the students, called the presentation, were presented by the students to a selected audience at the university. In addition to Löwentraut and the two professors from the Department of Building and Design, Prof. Dipl.-Ing. (FH) Matthias Pfaff and Prof. Dipl.-Des. (FH) Christian Schmachtenberg, as well as the President of the University Prof. Dr.-Ing. Hans-Joachim Schmidt and Kaiserslautern's mayor and head of culture, Beate Kimmel.

Analogue reality and digital extension

For Löwentraut, the painting process feels like flying - in order to make this tangible, the students have developed a room installation in which visitors can experience this feeling analogously and digitally.

Works of fine art can always be experienced in exhibitions primarily visually and, in rare cases, haptically. With the transfer of analogue works of art into a digital world, that will change. Pfaff explains: “It is usually impossible to touch and understand a painting. However, 3D scanning and 3D printing create the possibility of interaction between the viewer and the image." The professor explains: "The invisible data of the work of art and the emotionality of the artist during the creative process can be called up afterwards. With the help of modern recording methods in the field of neurofeedback, body data could be recorded in real time and converted into digital values. The data recorded in this way, which actually represents the emotion, is directly linked to the work of art and can be experienced digitally as an acoustic and visual design.”

Creative processes can be experienced at the university

Löwentraut painted the work in the Virtual Lab at Kaiserslautern University of Applied Sciences. And the students documented the genesis of the picture. Löwentraut's movements while painting were recorded via motion capture, highly sensitive microphones recorded the noises on the canvas and EEG measurements make it "visible" how Löwentraut gets into a "flow" or a "trance experience" in the creative process: in real time collected data will be made accessible in the exhibition.

The group is breaking new ground because the creative phase becomes comprehensible for visitors in the exhibition situation. The neurofeedback data generated in real time during the creation of the artwork serve this purpose. As an interface, the students built a waist-high box at the size of a dining table. This could be in a separate room in the museum together with the picture. On the surface of the box is a 3D-printed plate that reproduces the topography of Löwentraut's image in detail. If visitors now walk over this plate and feel the structures of the picture hanging on the wall in front of them, they trigger a video projection via approx. 50 sensors under the plate, which now projects the part of the picture they have just touched onto this plate. A flight through the work of art is visualized. And the picture builds up in the same way as the motion capture recordings recorded the painter's movements during the act of creation. You can hear the implementation of the brainwave measurements, the noise of brush and spatula on the canvas, the music that played while painting. Visitors engage interactively

with the picture, take it apart and put it back together again, if necessary not alone, but together with other visitors.

What's next?

Schmachtenberg says: “The goal is to develop intelligent staging formats for the art sector. The prototype developed by the students shows disruptive possibilities where the journey is going. We will continue to work on surprising visitors with our creations. Dipl.-Psych. Martine Hoffmann, psychotherapist and head of the applied research and development department at GERO in Luxembourg, who wired the artist and was responsible for measuring his brainwaves, comments: "A project like this creates an interface that I think not only interests art enthusiasts and researchers/scientists, but can also inspire a broader and more diverse audience." She adds: "Last but not least, it helps to open up new horizons in which art and science flow together in an unusual way, in order to encourage the creative ones.”