

Furbish up and furnish theater of SmartXP-lab at Creative Technology

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At the study of Creative Technology there was the desire to redesign the theater hall of the SmartXP-lab. This long hall is located at the back of the Zilverling building on the University of Twente (image 1). The hall has been used as the main lecture hall of Creative Technology since September of 2010. At the beginning the study of Creative Technology only had 40 first year students, but this number had increased to 120 students in 2018. The big increase in students caused problems in the limited space of the SmartXP-lab. For example in the current rows setup there is a distance of over 20 meters between the students sitting in the back row and the teacher (image 2).

The aim of this bachelor assignment was to do research towards a proper design of the furniture and context dependent interior of the theater of the SmartXP-lab. This was done by answering the following main question:

“How can the SmartXP-lab be redesigned in such a way that it fits with the current functions and desired use of the space in different contexts?”

The approach for answering this question was to analyze the current design and use of the SmartXP-lab first. Some projects had already been done in the past that focused on specific contexts of the SmartXP-lab such as project work and lectures. The information from the previous research and experiments was used to get a clear vision about the SmartXP-lab and to investigate where there was room for improvement in the SmartXP-lab. Furthermore the furniture and devices in the SmartXP-lab were also analyzed to see how they were used in different contexts. Interviews were conducted with different users of the SmartXP-lab to find out the issues with the current design of the theater hall.

The outcomes of the analyses were used to create mood boards about different issues of the SmartXP-lab. These mood boards were used as a starting point for all of the sketches during the ideation phase and to keep them relevant to current problems of the SmartXP-lab. To finish the ideation phase there was a meeting with the client where all of the idea sketches were briefly discussed. The client preferred to focus on the classroom configurations instead of designing new furniture for the theater hall.

Out of the initial 16 different configurations, six of them were selected by the client to be developed into functional concepts for the theater hall. To make sure that the new configurations would fit, a lot of the dimensions of the theater hall and furniture were measured by hand. All of these measurements were then used to create an accurate 3D model of the SmartXP-lab.

Additionally, a multifunctional room divider (image 3) and a curved panel for the balcony (image 4) were designed as well. The classroom configurations, room divider and the curved panel were all presented to the client and UT supervisor. The client was enthusiastic about the room divider, but had some problems with the curved panel due to its attachment to the balcony and height. Given the resources available both the client and UT supervisor suggested to prioritize the classroom configurations. This meant that the multifunctional room divider and curved panel were not developed any further.

After the six classroom configurations had been shown to the client, three of the six were chosen to be actually placed in the theater hall. The selected concepts were: “Stadium”, “Semicircle” and “Groups”. The selection was made by taking into account both the feedback from the client and supervisor and the findings from placing the configuration in a 3D model of the SmartXP-lab. Finally

the three different classroom configurations were actually placed in the SmartXP-lab to find out whether they actually fit like in the 3D model. For concept “Groups” a variation was made that had slightly bigger groups of tables, meaning there were a total of four different classroom configurations.

After all four configurations had been placed down at least once, the results of these testing placements were discussed with the client and UT supervisor. Based on the photos that were made from various perspectives of each configuration, the client decided to focus on two configurations for the evaluation. These configurations were concept “Stadium” and concept “Semicircle”. Both configurations of concept Groups were left for what they were for now to focus on the evaluation of the other two concepts. After the two concepts had been selected, there was also a discussion with the SmartXP-lab technician to make sure that there were no unforeseen problems and all the necessary equipment was available.

In the available concept evaluation timeframe, two Creative Technology teachers tested the Stadium configuration once each with groups of 70 and 40 students. The evaluation showed that the students did prefer the Stadium configuration for a lecture and tutorial over the current rows setup, but for a workshop where the students need to work in groups the rows setup was still the preferred option. So the Stadium configuration has potential, but it needs further improvement to suit other contexts where the students work in groups.

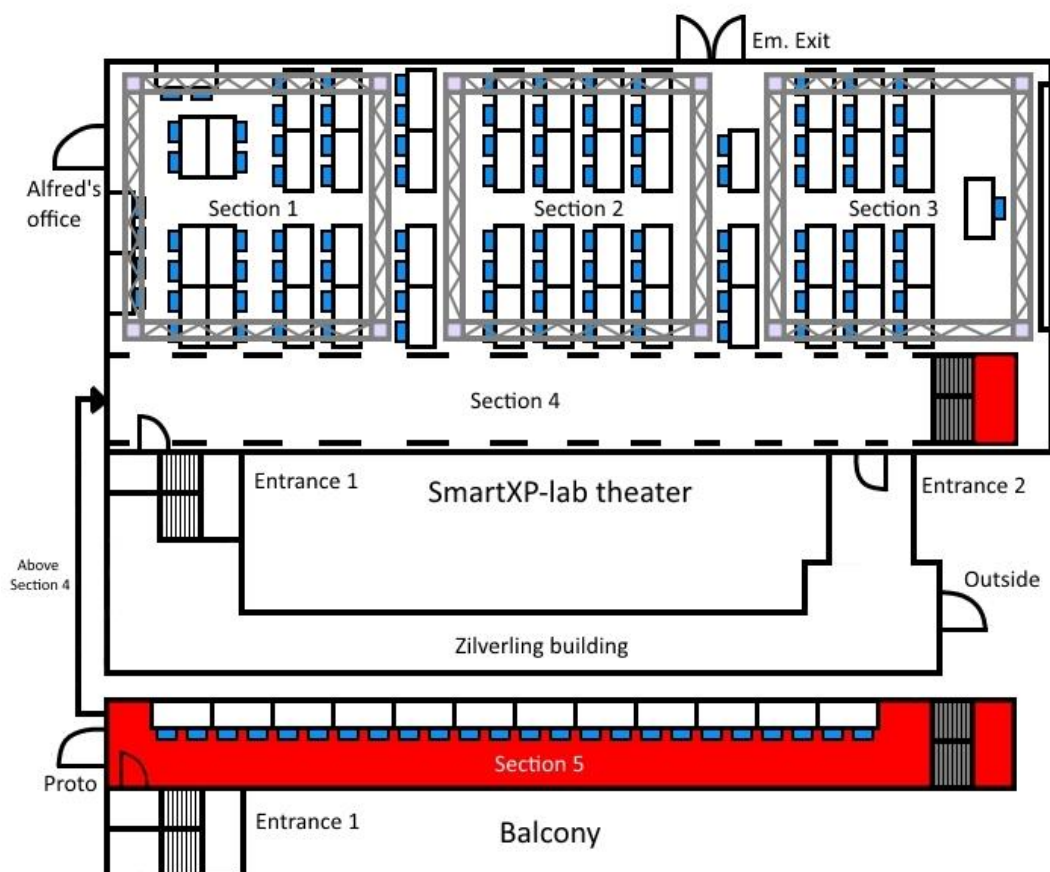


Image 1: Schematic overview of the SmartXP-lab theater hall.

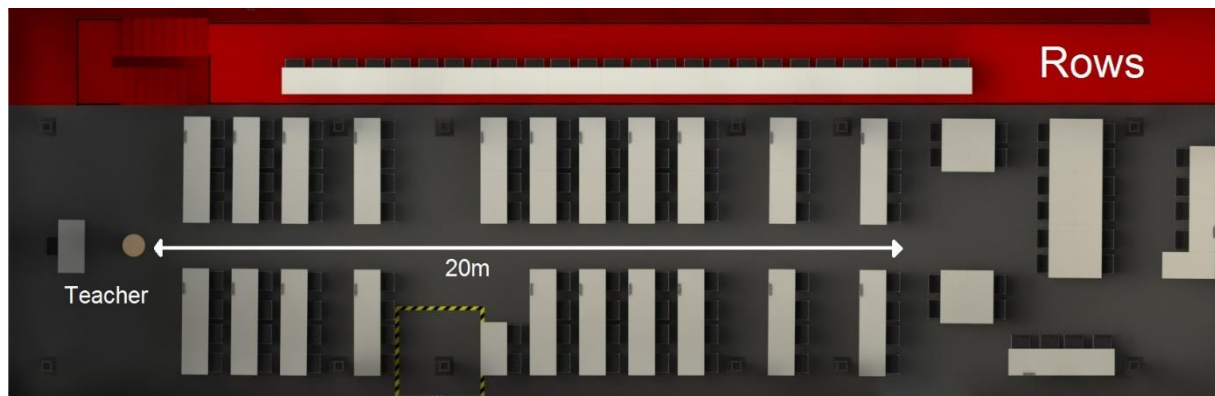


Image 2: Top view of the current rows configuration.

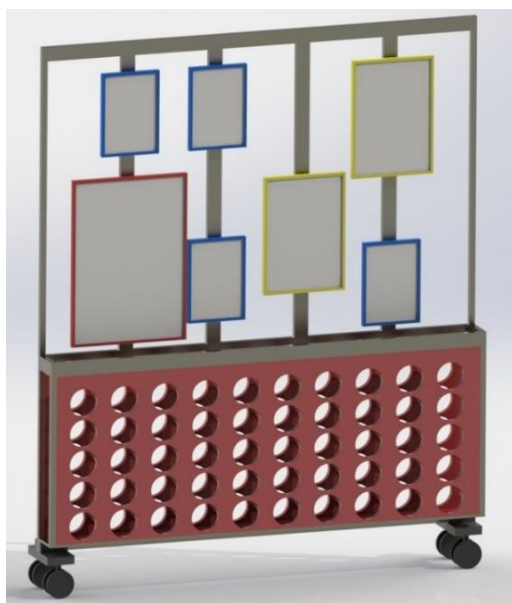


Image 3: Model of the multifunctional room divider (L) and placed in the SmartXP-lab (R).

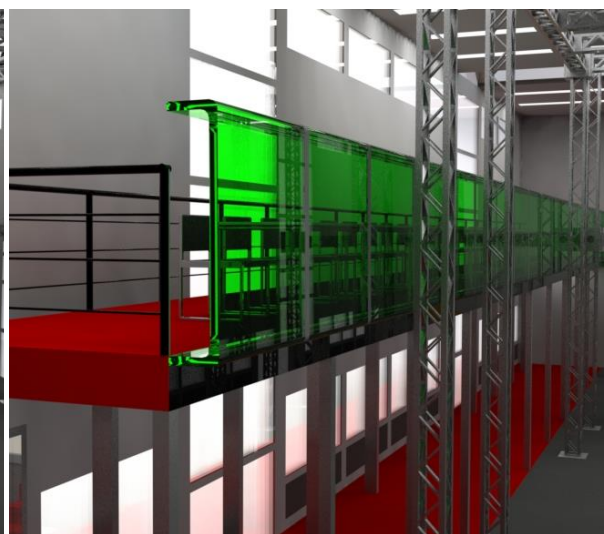
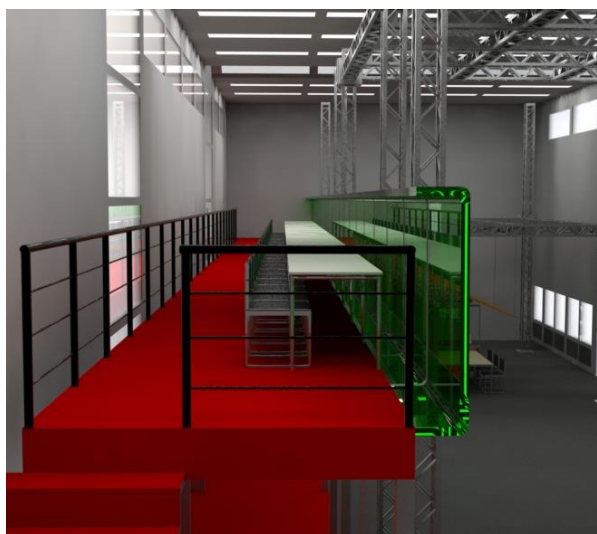


Image 4: Renders of the curved panel for the balcony of the theater hall.

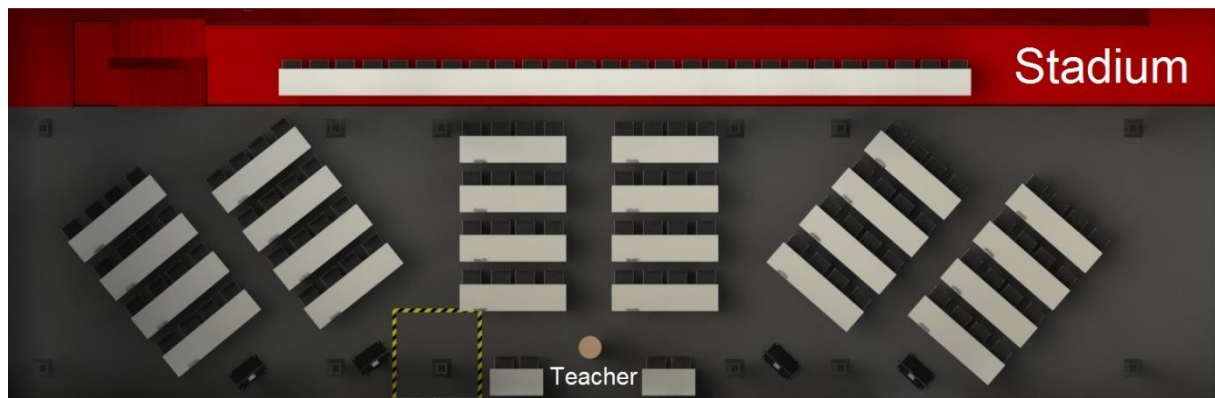


Image 5: Top view of the “Stadium” configuration.