

A Social Sculpture for the Digital Age

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Abstract

Nearly 1300 residents of the city of Amberg came together to create a sculpture. The sculpture has both a physical and a virtual presence. The physical part consists of a large sphere, split into two hemispheres, each large enough to walk in between and view from the inside. Each participant of this collaborative project designed wax plates that were then cast in bronze and mounted onto the sphere. The realization of the virtual counterpart of the physical creates a duality that changes the perspective how the observer perceives the art. It provides deeper insight into the intention of the artists' work and their relationship to each other in this social artwork.

1 Introduction

In 2010, two sculptors, *Hanna Regina Uber* and *Robert Diem*, came up with the idea to realize a “social sculpture” wherein many people collaborate to create an artwork together. The artwork would express solidarity with their home city. Moreover, it would mediate the spirit of the city and tell stories about her citizens. The two artists elaborated plans to model the sculpture as two hemispheres, like a globe. The globe would then be divided by degrees of longitude and latitude creating multiple polygons. Participating artists would then contribute small sculpture pieces, which would fit into each of the polygons. At this point, the artists, recognizing the large amount of organization and data involved in this project, developed a partnership with our university. The author of this article suggested creating an interactive virtual counterpart of the physical sculpture and formed a team. In contrast to other solutions (Carrozzino et al. 2008), he planned to focus on the aspect of having a social sculpture. Some important benefits of such a solution are:

- Connectivity of people can be visualized virtually. This won't be shown in reality.
- Plates can be found easier when they can be searched online.
- Some plates are on top or bottom, the virtual presence allows for closer view.
- People are able to post additional information and stories about their work.
- The sculpture can be observed from everywhere.

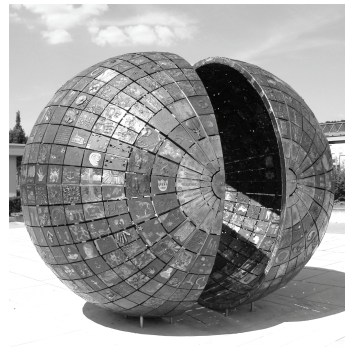


Figure 1: View of the Sculpture.

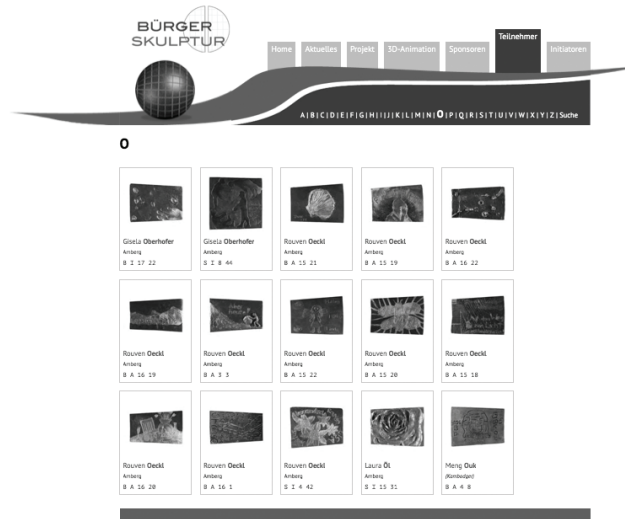


Figure 2: Project Homepage

2 3D Viewing

The key feature of the Internet presence of the sculpture is the 3D view (Figure 3). This view is surrounded by a panorama of the real location. So the first step was to make such an image from the original location where the sculpture was installed later on. A scene was created in a 3D modeling tool and surrounded by this image. Then, a 3D model of the sculpture was created and texturized with the images of the plates. This scene was exported to a data format which is displayable in web browsers. We evaluated several 3D web display techniques and chose the 3D engine Unity (Blackman 2011). There, one can program interactions via JavaScript. It was important to have an interface to the Web Browser environment, so the 3D View could interact with the other parts of our web application.

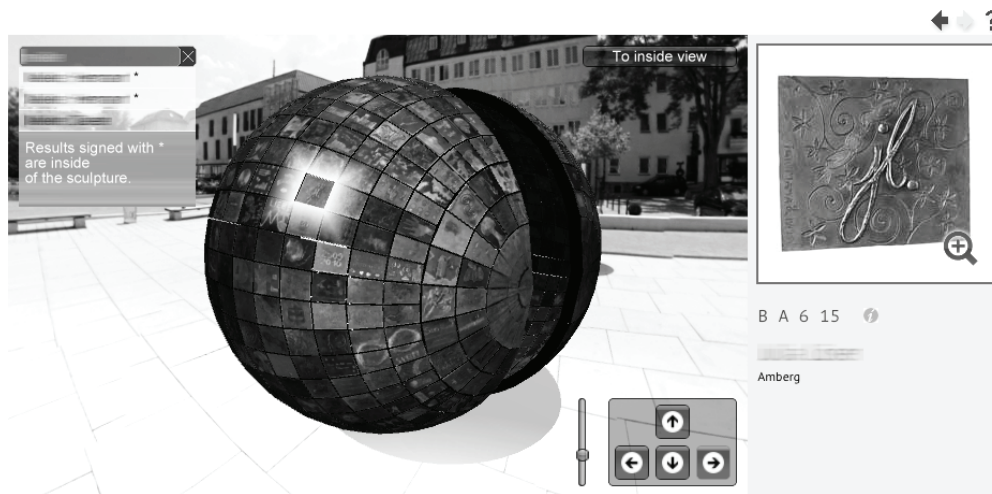


Figure 3: Navigation interface of the virtual sculpture.

3 Searching and Social Features

Viewers are able to search for names of artists. When typing some letters, recommendations of names are displayed. Artists, who own more than one plate, appear with more than one entry. After choosing a name, the 3D representation of the sphere rotates to show the plate of the artist being searched. The plate is automatically highlighted. When the virtual view shows the outside of the sphere and the target plate is inside, the camera changes its perspective automatically and fade smooth to an inside view of the sphere and vice versa. The viewer is also able to navigate around in the virtual environment. By clicking on the preview of the plate (Figure 3, top right) a mini homepage of the plate will be shown. Apart from the 3D view, users can search the plates alphabetically (Figure 1). They can simply click on a letter and all plates, where the names of their owners starts with this letter are shown. This alternate feature is also a fall back solution for users who can't view the 3D scene. On July 14th, 2012 the sculpture was revealed at a site in front of the train station in Amberg, Germany. The web site went online as well (Bürgerskulptur 2013). Since then, viewers have been able to search the plates online and read the coordinates (see Figure 2, below the preview image): S A 10 38 means Street-side Aussen (German for outside) latitude: 10 longitude: 38. Plate owners got an e-mail with a unique link that allows them to log in to their mini homepage. They are able to connect to other plates. Additionally, they will be able write a statement about their plate. The artists think this will be a great extra feature, as these stories could be very interesting. Also, some of the art work needs extra explanation. For example, there is one plate that includes a so-called "dead drop" (Dead Drops 2013). A USB-Stick has been integrated into it (Artist: *von der Recke*). So the sculpture has its own digital memory. We consider to upload all images of the plates in high resolution, so the sculpture will have a inner representation of itself.

4 Future Work

We tested the popularity of the web presence using an online survey. Results of the survey revealed that responders found the virtual sculpture a to be an excellent supplement to the physical sculpture. Many suggested a multilingual upgrade the website, as lot of visitors to the site are not able to read German. Moreover, it would be useful to have access to the application on mobile phones. Viewers would be able to search online while standing in front of the sculpture. So, we plan to realize a web interface for mobile phones. The work on the physical sculpture is finished. Like many sculptures, it can be enjoyed for a very long time in the future. However, the digital representation will need a long- term maintenance process, because web technology is changing very rapidly. One big issue will be to preserve the interaction (Koller 2010).

5 Summary

In our project, we successfully connected a collaboratively developed bronze sculpture with a virtual counterpart. Visitors to the sculpture, both physical and virtual are able to get more and new insights about the intentions of the participants who created the sculpture. The amount of data is static. Maybe an extendable sculpture could be realized one day. We encourage artists to work together with computer scientists to redefine the meaning of visual and plastic arts in the digital age.

Acknowledgement

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Literature

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