# 3D-VISUALISATION OF LOST JEWISH HERITAGE

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Since several years the students at the University of Applied Sciences in Wiesbaden are using the 3D-computer technology for visualisation their architectural designs. In combination with the field preservation of heritage it used many excellent animations, partly honoured by important international awards. The presentation will give a look inside two projects in the field of Jewish heritage.

It will be shown:

**MEMO38**
Virtual rebuilding of a destroyed synagogue

**THE JEWISH QUARTER IN REGENSBURG**
Visualisation of the Jewish district
destroyed in the Middle Ages

**MEMO38**
Virtual rebuilding of a destroyed synagogue

**The project**
In March 1998 Interior Design students began as "memo38" group to work on the computer reconstruction of the destroyed Synagogue of Wiesbaden. The project was divided into two parts: In November 1998 the exterior was reconstructed, then in November 1999 the interior of the synagogue was presented by a computer animated film. The name "memo38" evokes memory, memorial, commemoration and "post it".

**Research**
Since the construction files with plans and drawings have been lost completely, the "**memo38**" group's research depended on collecting photographs gathered from local townspeople and information provided by historical institutions and archives. First we searched in Wiesbaden but soon we learned that these photographs where not sufficient for

*Pull down 1939*

the reconstruction of the interior. Some photos had gone abroad with emigrants and fortunately were discovered by personal communication. One turned up at the Jewish Museum in Paris; it was most valuable because it had been taken before a redecoration of the interior around 1904. The ornaments matched the few sketches by Phillip Hoffmann that survived in the architect's family and are now part of the historical collection of the Wiesbaden Museum. Since these drawings and watercolours are the only information of the colour scheme which the architect designed, they could then be the basis of our texture colours. Some questions we couldn't answer with the documents found in Wiesbaden, so we tried to solve them by studying similar buildings. We looked for example at the Berlin Synagogue that was build just 3 years earlier in the same style. In contrast to Wiesbaden, there are still good drawings existing. Also very important is the point that we consulted with members of the local Jewish community, both of the former congregation and the one of today. Their recollections helped us with more accurate colouring of the tiles and other details. Being told by someone who actually still remembers the original synagogue was very important. Thus we learned about the passing of time. Now is the very last moment to receive authentic information from personal recollections. The

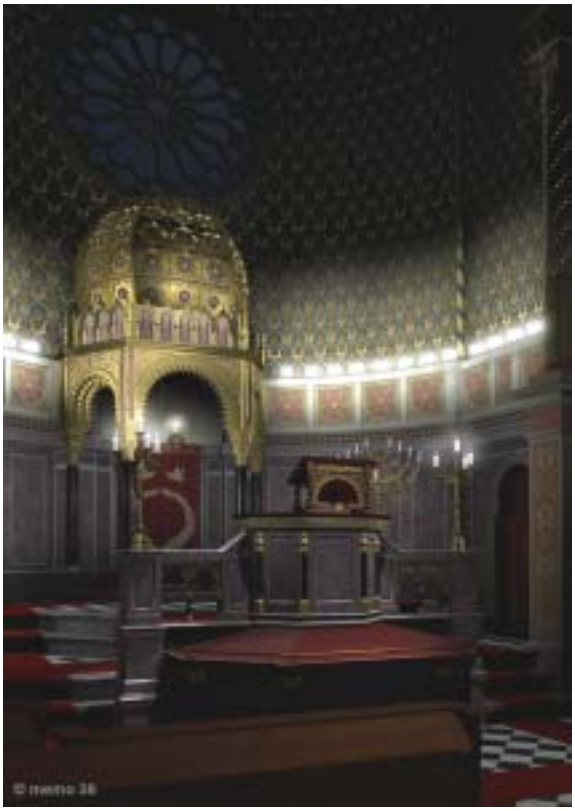
*The site of the Synagogue (1995)*

most moving moments occurred with visitors who prayed and sung in the beautiful sanctuary came to see our work in progress. Marthel Hirsch who played the organ 1936 – 38 opened her photo album for us provided the only inside view of the dome.

*Reconstruction of the interior*

**Reconstruction**
Paulgerd Jesberg, teacher at the university, had prepared geometrical studies that sharpened our understanding of the building's proportions. By combining his information with a close analysis of the photographs, we were able to determine scales and measurements. Next we divided the building into separate segments. Each student was assigned a different part for editing. An intensive analysis of each element and its ornaments with the magnifying glass followed.

*View from south-est*



*Inside of the synagoque*

**Digitalisation**
Once we completed the modelling of each segment, we reassembled them to form a single wireframe model. Then we mapped textures over the frame and supplied exterior finishes to create the building's skin. By using some original water-coloured design sketches by the architect Philipp Hoffmann we developed a RGB-colour range to create the most realistic colour impression of the interior decoration. As a next step we discussed the storyboard, checked different camera tracks and created the scene design, lights and atmosphere. After the rendering the computer animation was edited at a postproduction studio in Frankfurt. The result is an ten-minutes VCR of a professional standard.

**Purpose**
The content of our project is not an abstract architectural object. This film is a visible, virtual and enduring memorial to the congregation and community of the Wiesbaden Synagogue, as well as anyone interested in architectural and social history. What began solely as an undertaking of computer reconstruction broadened into a significant historical and sociological research project. It is of immense value not only for us as the creators of the project but also for anyone who learns about our work. Computer technology and the Internet may prove to be an effective tool in communicating and commemorating historical events, buildings, and artefacts. Out of the shards of history this CAD animation revives and recreates memory.

**Results**
The end product took of more than 12.000 hours of work. A number Jews from Wiesbaden and their families had the opportunity to see the film. They appreciate young people in Wiesbaden spending so much energy and time with this project. The film was displayed on a large screen directly at the site several times, for the 9th of November commemoration. Afterwards a construction container was used as a temporary exhibition space. It also received press and radio coverage. In 2000, an exhibition was designed and shown in the Active Museum Of German Jewish History Wiesbaden. The innovative approach to a topic of Jewish tradition caught the interest of scholars, the experts of heritage protection and archaeologists. We were invited to conferences and presentations at various universities and research institutes. The quality of the film design and the use of music were acknowledged by the animago 3D-award 1999 and 2000. By applying CAD to the topic of German Jewish history we confronted the visitors of technological fairs with the theme of commemoration.

**THE JEWISH QUARTER IN REGENSBURG**
Visualisation of the Jewish district destroyed in the Middle Ages

Virtual reconstruction and visualisation of the Jewish district destroyed by pogroms during the Middle Ages History and archaeology During road works on the Neupfarrplatz in Regensburg it happened incidentally that the workers came across parts of old cellars and foundations. When continuing the following excavations by and by brought to light important parts of the old Jewish quarter. The discovery of parts of the gothic synagogue built on roman foundations was classified as a historic sensation. The Jewish quarter in Regensburg is known as the oldest one in Southern Germany existing ever since 700 years.

*The jewish quarter in Regensburg*

**Investigations**
Parts of the uncovered cellar within the old Jewish quarter were restored by the city of Regensburg and transformed into an underground museum – the so called „document Neupfarrplatz". The idea was to elaborate the history of the Neupfarrplatz into a virtual reconstruction and to present this visualisation in the museum. It was the Fachhochschule Wiesbaden, University of Applied Sciences, Department of Interior Design, which was given the order by the city of Regensburg to work out and realise this virtual presentation. The financing of this project is sponsored, in co-operation with the Jewish Museum in Prague and Vienna by the European Union Program „Raphael – Maintenance of European Culture".

**General preparations**
The reconstruction works of the synagogue are mainly based on the only two preserved plans of the interior parts of the synagogue.
The analysis of these two copperplates (Albrecht Altdorfer) had been worked out by a group of students from the Technical University of Darmstadt. Together with curators and scientists in Regensburg a series of streets (streetscape) of the Middle Ages had been reconstructed in a two-dimensional design, transformed by computer into a 3D-CAD-System to be then visualised. Very helpful in some parts for the visualisation were several dates taken by ArcTron during the excavations. Besides experiences and material from the archives of the city of Regensburg, references and publications of the synagogues in Prague, Speyer and Worms turned out to be a very helpful basis for further reconstruction works on the synagogue in Regensburg.

*Inside of the gothic synagoque 1519*

**Medial working up**
The result of the medial reconstruction shows a 3D-presentation of the gothic synagogue, old streets, interior and outside views of Jewish houses – easy to understand even for non-professionals. Nevertheless, one always has to consider that a virtual reconstruction can only be an attempt to represent the original situation of the buildings within the former Jewish quarter.

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