

VIRTUAL RECONSTRUCTION OF THE BERLIN CASTLE AND NOBUNAGA'S PALACE

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The initiation of this VR-project goes back to the first EVA-Conference in Japan, held in April 1998 in the City of Gifu.

Virtual Reality (VR) and especially virtual reconstruction are highly efficient means to support the preservation and dissemination of our cultural heritage.

With this in mind, Prof. Iwainsky, Chairman of the Board of the Society for Applied Computer Sciences (GFal), suggested an intercultural project of virtual reconstruction. His idea was, that a Japanese team should model a famous, but destroyed German building, and a German team a corresponding Japanese one.

Only in September 1998 a next step for the preparation of such a project followed. Mr. Morimoto, Vice Governor of Gifu Prefecture, visited the Science and Technology Park in Berlin-Adlershof (WISTA) and pushed forward the *intercultural* project.

At the end of the year 1998 the budgeting of the project could be specified: Gifu Prefecture would finance the Japanese team, the City of Berlin the German one. Furthermore both sides decided which buildings should be virtually reconstructed, namely the Berlin Castle and Nobunaga's Residence in Gifu.

A difficult project phase followed. This phase included search work, the collection of various documents, data acquisition and the elaboration of complex instructions for the reconstruction. The German team at the IIEF and the GFal developed an HTML-presentation of the Berlin Castle for the Japanese reconstruction team at the Virtual Technology Center. This HTML-representation includes a large amount of photos, plans, references, schematic drawings, historical and architectural data and various explanations (texts). Vice versa the Japanese team prepared new CAD-drawings of Nobunaga's Residence, that was completely destroyed in the year 1600, and collected reference photos.

On the bases of these (purely two-dimensional) documents 3D-modelling of the buildings was carried out in the next project phase. Because of the higher complexity of the Berlin Castle in comparison with Nabunaga's Palace, the Berlin team helped to reconstruct the Castle.

In only one and a half months the virtual reconstruction could be nearly finished. Finally the 3D-model of the Berlin Castle was integrated in the Virtual Berlin presentation of artemedia, the largest 3D-model in the world. On 29 September 1999, during the Asian-Pacific Weeks, both virtual reconstruction objects were presented for the first time to the public. In real time a flight from the Brandenburg Gate over the street Unter den Linden, around the castle dome, a "landing" on the street, and a walk through the South-East portal to the famous Schlüter's courtyard was demonstrated.