

## **From Digital Contents to the Interpretation of an Architectural History--digital models reconstructed for a traditional house located at a fishing village of Pescadores Islands in Taiwan as examples**

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Based on historical materials within digital archives collected between August 2008 and July 2009 about a fishing village (Hua-zai, "Flower village") located at Pescadores Island in Taiwan, this paper tries to use a traditional house within this village as an example to discuss how it is possible to interpret its architectural history by using its digital models reconstructed on basis of its digital contents.

At first, a data base of digital contents for this traditional house have been established according to those historical materials collected, including written, oral and audio-video ones, and even those on artifacts (especially buildings and facilities). The digital contents are then selected and reorganized according to the building components used in the procedure of constructing or repairing a traditional house on the basis of field studies done before. The research method is mainly applied on the basis of historical studies, so as to trace back from the existing situation of this traditional house which was the result of repairing in 2002 to the one in 1919. These building components have further been reconstructed into digital forms as the elements of forming this traditional house.

These two digital models have their own reconstructive expressions based on the information they have been interpreted historically. For the 2002 digital one, it is reconstructed authentically mainly based on the space information of its color cloud points from 3D laser scanning techniques for its existing situation. It is not only shown its corporeal form, but also its visible form. But for the 1919 one, it is reconstructed to be looked like realistic rather than authenticable or fictional, because they are based on the space information of color cloud points of building components borrowed from other existing buildings which were built in the same period in same village to show its visible form. These are quite different from the conventional ways of using color photos to reconstruct digital models, due to our reconstructive representations on its visible form mainly based on building materials and their texture borrowed from other existing buildings. So, this is the key of reconstructive techniques to make the digital models look like more alive, more realistic, and then more visible than before.

On the whole, two digital models finally reconstructed and made based on the chronological transformations of this traditional house by two periods, 2002 and 1919 respectively. As to the application on the interpretation of an architectural history, this paper has shown that the digital models reconstructed from digital contents collected and then re-made are very useful for the presentation of an architectural history as the history interpreted, but rather more alive, more realistic and more visible.