An Interactive Storytelling System for the Pearl of the Desert Exhibit

Computer technology brings flexibility and more interactive into museum exhibition. The characteristic of computer multimedia can present audio, video, graphic, animation as well as text with well-designed program structure. Recently, most of the museums created a multimedia-based learning environment using new computer technology. The goal is to set up new directions of exhibition for visitors to explore, to enjoy, to be inspired as well as to improve their knowledge. This paper proposes an interactive storytelling system which reveals the art collections of the Tunhuang and its historical information based on film theory and computer technology. The collection of visitors’ motion as they interacted with computers is also investigated.

Tunhuang art is one of the most famous artistic works in Central Asia in which Buddha statues are carved and painted. It consists of Tunhuang Grottoes from 4th to the 14th centuries. From the historical view, in the past thousands of years, many stories about these caves in Tunhuang were described in books or magazines. An interesting story as “story about the 17th cave in Tunhuang” would be described briefly as following:

*Time*: 1900
*Place*: Tunhuang
*Cast*: Wang Juan-Lu who is a taoist

Wang Juan-Lu was assigned to take care of the caves in Tunhuang by Chin Dynasty government. His duty was to maintain the painting wall and clean the sandy ground. One day, as he cleaned the 16th caves, the wall crashed suddenly. He found another caves where many important manuscripts of literature, linguistics, philosophy, population, religion, science, medicine, economy, society and so on were collected.

He reported to the Chin Dynasty government. However the officers ignored that with negative attitude. Finally, Wang Juan-Lu traded most of the manuscripts with foreigners under the table.

In order to present the historical information and art collections, National Museum of Natural Science in Taiwan conducts an exhibition called “The pearl of the Desert: The caves of Tunhuang Exhibition” in 1999. This exhibition combines the historical background of Tunhuang with beauty of arts. With the goal of understanding, computer played an important role as an art works presenter, an interpreter as well as a story-teller. The outcome is to entertain the visitors, to enrich the visitors’ knowledge, to inspire their emotion and also to meet their variety needs.

The computer project was well-designed with Interactive storytelling construction. Based on film theory, time, place and cast with animation text were shown on the first scene. Next, the cast Wang Juan-Lu appears and is introduced by himself with speech and animation. The audience are asked to sweep the dust by clicking the mouse on the monitor. The cursor is also
designed to look like a broom. Some incredible feedback such as spiders, rats, and interesting
dialogs appears on the screen as the mouse is clicked. Certainly, the wall would crash as the
audience click certain area on the screen. After the wall crashed, Wang Juan-Lu is moved near
the wall with curiosity and a new cave with lots of manuscripts can be found. After that, he
would ask audience some questions about the information of this new cave in dialog-inquiry
mode. Some manuscripts and art works then can be retrieved in detail with its moving and
zooming images on the computer screen.

Actually, computer not only provides a good solution to preserve the objects in the
exhibition, but also provides the image as clear and real to satisfy individual interests and needs.

**Keywords :** Interactive storytelling, multimedia, art collections