

The 19th Century Official Paris Salon Exhibition Digital Museum

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Abstract: - This paper selects the paintings of the 19th Century Official Paris Salon Exhibition collection, housed in the Chi Mei Museum of Taiwan, as the subjects for photographing, scanning, text description, database design, and software programming in order to establish a digital archive of these precious paintings. This research applies the latest information technology to integrate digital archives, and systematically divide their contents into eight major sections, then upload them to the Internet to complete the entire project. Regarding education in particular, on-line learning, tests on paintings, and functional mechanisms of painting are provided for teachers, students, and the public to choose selected courses according to their personal interests, and experience the global-reach of on-line knowledge. By integrating digital archives, a digital museum, and digital learning, this research hopes to effectively utilize resources, enhance educational promotions, further the industry of cultural creativity, realize the goal of true international art, and offer some of Taiwan's cultural resources to the art lovers of the global village. The digitalization of this art collection is beneficial to the Chi Mei Museum in terms of exhibition, publication, collection, teaching, and research, however, the benefits reach far beyond national borders, as people round the world are able to appreciate such cultural assets. In the future, image authorization services may be provided to a digital content industry, as raw digital materials can enhance the concept of value-added, inspire innovations for the promotion of education, and facilitate the development of a knowledge economy.

Key-Words: - Salon, e-books, e-Learning, On-line painting games, Testing, Digital Archives, Digital Museum

1 Introduction

1.1 Research background

In the 21st century, culture is no longer distant and aloof ancient relics locked in a museum [1]. Through innovative value-added, people-oriented design concepts, in conjunction with marketing management and channelling operations, the "industry of cultural creativity" is expected to replace electronic and manufacturing industries as the hottest industry of the 21st century [2,3].

Through proper planning and guidance, the value and beauty of ancient relics, and their incredible histories will awe global visitors, in addition, there are considerable value-added benefits created from peripheral merchandising. Countries around the world have developed strategic marketing for their cultural assets [4], for example, two very successful cases are the Palace of Versailles and Louvre Museum of France. In 2008, more than 8.2 million people visited Louvre

Museum [5]. Fu indicated that eras, the art of story telling, and the collective nature of cultural assets can highlight abundant landscapes and the unique nature of economically developed cities, as well as provide precious resources for the tourism industry [6]. Whether local museum industries are prosperous depends on the cultural levels of the countries and regions [7]. In recent years, museums have increased their visibility in entertainment industries through active competition with other public entertainment facilities, by offering broad, convenient access to their inspirational and entertaining local cultural [8].

Therefore, this study chose the paintings of the French La Porte de la Gloire-19th Century Official Paris Salon Exhibition collection, housed in the Chi Mei Museum, as subjects, and collates the collection into e-books on a website. The aim of this study is to digitize world famous paintings, thereby, increasing Taiwan's professional level in cultural assets preservation, achieve e-education goals by managing digital archives, and convey the history, meaning, and significance of the paintings.

1.2 Research motives

The technological progress in this era of information has greatly affected the lives of the public, and all aspects of society. In addition, museum curator's concepts regarding the handling of collections, management, tasks assigned to staffs, and social responsibility are altered. Moreover, it has affected the development of the communities where museums are located, as well as the actions of visitors. Museums have long adopted digital technology to assist in registration, preservation, and management of collected items, and the rapid development of the Internet has inspired innovative concepts for collections, exhibitions, education, and research of the museum, as well as a new method in knowledge management [9,10]. The Internet is used to convey the knowledge of arts, cultures, sciences, and histories, as well as reducing cultural gaps between cities and rural areas, conducting global cultural exchanges, and extending the inherit services and knowledge of museums to the virtual globe [11], commonly known as "digital museums". Taking museums in Britain [12] as examples, sensing the important roles of museums and art galleries as rich multimedia learning experiences, they proposed a "24 Hour Museum Plan" in 1999. This virtual museum is connected to the curriculum of the national education system, as well as the museum's database, thus, visitors to the "24 Hour Museum" can enter into different museums, and conduct searches of the exhibitions, at their convenience. This fully expresses the intent of the digital museum to provide knowledge and education to society. In Taiwan, the International Council of Museums has established a theme for 2009, named "Museums and Tourism" [6].

Therefore, this study establishes a digital museum of the "La Porte de la Gloire-19th Century Official Paris Salon Exhibition" in collaboration with the Chi Mei Museum, and utilizes the Internet and IT technology to establish an educational website, which includes cultural, artistic, and technological content. This exhibition is divided into eight major sections, as based on the different schools of painting. A total of 64 paintings and sculptures from the Foundation are exhibited. The launch of this digital museum will increase exposure of the Chi Mei Museum, and provide reference for elementary school curriculum in teaching design. Through website presentations and teaching design related subjects, the rich resources of a digital museum can be further applied to the curriculum of elementary schools.

1.3 Research purposes

By using multimedia animation technology, the paintings of French La Porte de la Gloire-19th Century Official Paris Salon Exhibition are digitally presented, and through modern innovative design, connects elements of these ancient paintings with modern digital aesthetics, which allows close contact with modern life. The public may be closer to the paintings, and the paintings will serve as a source of inspiration for creation. Through the Internet, famous paintings are no longer ancient relics, locked away in distant museums, but inspirations of touch and creativity.

This study aims to design and establish a digital museum that integrates the three major frameworks of a digital museum, namely a digital archive, a digital exhibition, and on-line teaching, in order to offer diversified functions for the preservation of international art and culture, the dissemination of cultural legacies and knowledge, and promoting international art tourism.

2 Literature Review

George [13] indicated that the value of a digital museum is to extend and support multiple functions of the conventional museum in exhibitions, scientific education, and academic study, through the establishment of digital contents of infinite imagination, creation, and communication, which is in no way limited by time or space. Song [14] defined the nature of digitalization, in terms of digital museums, as "The effects of exhibitions, collections, education, and research of museum functions can be presented to visitors by means of digitalization, in a digital museum." Museums must effectively proceed with the systematic digitalization of their collections, exhibitions, research works, and educational presentations by establishing a detailed database. After digitalization, professionals in fields of exhibitions, research, and educational promotions can edit the data to provide multimedia presentations, which are displayed on the Internet, and accessed at the user's convenience, without regard for time or space limitations. Users can browse a website in an interactive manner, viewing digital multimedia presentations of important works of the museum, thus, achieving the ultimate goal of global exposure.

The framework of a digital museum includes a digital archive (accumulation, preservation, and research), a digital exhibition (exhibition, leisure), and on-line teaching functions (education, dissemination). Conventional museums are unable to design an exhibition hall that could satisfy all

users in order to attract a wide variety of visitors, while a virtual museum is capable of providing an array of diversified opportunities that can satisfy individual needs and desires [8]. The merits of a digital museum include [15,16]:

- (1) Provides instant access to the storage and management of collections;
- (2) Sets no restrictions in terms of browsing time;
- (3) Allows browsers to view multiple items, with different levels of detail, whereas, an actual museum must restrict visitor's distance from the artworks, as well as the number of visitors;
- (4) Allows browsers to interact with artworks without concern of damages;
- (5) Exhibits artworks with special guidance, without the need to occupy an actual fixed space; thus, guidance options can reflect areas of special interests, whereas, in an actual museum, artworks are displayed in different halls, and guided tours are generic in content;
- (6) Transforms abstract data into virtual arts;
- (7) Combines artworks of different museums into virtual guided tours, which overcomes problems of information transformation.

Museums play an important role in passing the details of human civilization, history, and knowledge. In the recent years of advances in digital information technology, and the convenient access of the Internet, methods of handling information and instant communication have changed. The patterns of lives, social organizations, and knowledge usage have also changed. The benefits of digital information technology are the abilities in presenting existing knowledge, preserved in large volumes, maintaining its current state, easy access, and available over the long-term. Through the Internet, a large volume of digitalized information can be instantly delivered around the world to achieve the goal of global knowledge sharing [17]. The idea of the digital museum derives from changes of external environments, and the progress of information technology. In order to provide more diversified services, conventional museums have begun to combine the audio/video entertainment effects of digital technology with the disseminating power of the Internet, which together, develop the multifaceted "digital museum". In the summary of the National Digital Archives Program, a "digital museum" is defined as a virtual museum, lacking an actual entity that requires space. It has the complete functions of exhibitions, collections, educational faucets, and the research works of a conventional museum, presented through the Internet, in the form of digitalized images of information and objects,

including all kinds of objects, samples, documents, scanned in high resolution photos, which apply simulation technology to create 3-D virtual models, and completing the digitalization process, placed in storage on the Internet [18].

"Multimedia teaching" is the essence of "e-learning". Museum staffs are constantly making efforts to design exhibitions that present cultural and historical relics, as well as guided tours for visitors that are transformed into a combination of appropriate media for presentation, which require professional multimedia teaching skills. In addition, the common ability of "story telling" is indispensable [19]. Lai [19] proposed an "SCCSI" model, the development process of which includes:

- Subject
- Context
- Content
- System
- Implementation

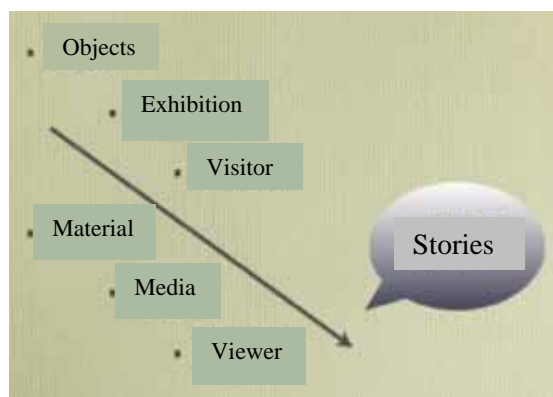


Fig.1 SCCSI model [19]

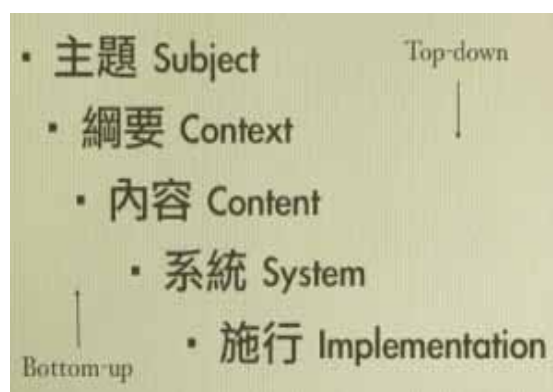


Fig.2 SCCSI development process [19]

Lai suggested that "content" is key, the method of multimedia presentation; and the information being delivered, as the old saying goes "Good for all ages, vivid and vigorous, beautiful and delightful..." This is the most fundamental aspect for earning an A rating from viewers. To earn an A+ rating, a "top-down" exploration, such as the attractiveness of the

theme, and a spirited delivery of the twists and turns of the historical plots (context) told by talented story-tellers, must be added to the development processes of the works.

2.1 Closing the distance between public and cultural creativity

Although Taiwan history includes occupation by Holland, Spain, and Japan, there are few foreign objects stored and exhibited in Taiwan. Therefore, this study selected the “La Porte de la Gloire-19th Century Official Paris Salon Exhibition” collection, housed in the Chi Mei Museum as the theme, and applied digital technology to develop digitalized contents of the history, culture, and arts of 19th century France. The materials presented by multimedia animation can be used for learning preparation, guidance prior to visits, reviews, and extended reading after visiting. The teaching contents required can be obtained at each learning stage through digitalized tools that offer a broad range of applications for e-learning, which resolve all limitations of location, including an interactive CD-ROM version for teaching facilities that cannot access the Internet, or lack sufficient bandwidth. E-learning can be conducted anytime and anywhere, and when visuals and interesting stories are integrated with an appreciation of cultural and historical objects, teaching activity are more fulfilling, interesting, and facilitate the self motivation of learners.

Innovative “digital exhibition” models can create opportunities to provide services outside the museum; other benefits of a digital museum address common shortfalls of actual museums; visitors may not have the time, the energy, or the ability to attend the museum in person to view an exhibition. A digital museum can provide relevant information of guidance and descriptions of exhibited items, providing visitors with a better understanding of the exhibited items. Digitalization is a natural trend for museums, which greatly increases the number of visitors from a local to the global stage. In the future, most collections in museums will be digitalized for easier access, while the actual objects remain under protective and controlled conditions [20], which is critical to some items housed in museums. Lin [21] indicated that in the face of competition in the entertainment industry, in addition to enhancing their original functions of education and exhibition, museums must be able to take care of the leisure requirements of a contemporary audience.

2.2 Digital archives

The digitalization of archives can effectively enhance the accumulation, the passage, and application of knowledge, which are key fundamentals of a knowledge economy [22]. The National Science Council of Taiwan began to promote the “digital museum” plan in the project of “Welcome the new millennium – cross-century technology development with a focus on human care”, in May 1998, to reinforce the research and development of the humanities and social sciences, as well as tasks in scientific education. Its main goal is to establish a “digital museum” for developing educational content over the Internet, with a museum of multiple themes to expand the knowledge and philosophical value of humanity [23]. The establishment and promotion of culture, art, and scientific related educational websites will allow the public to search, browse, and study the information anytime and anywhere, enriching the lives of remote learners, and promoting life-long learning [24]. In addition, through this promotion of digital archives, it is anticipated that this will stimulate the development industries of multimedia digital technologies [25].

Therefore, in addition to the collection of important cultural and historical artifacts and preserving traditional cultures, additional expectation is placed on the common application of the archives. This study presents the paintings of “La Porte de la Gloire-19th Century Official Paris Salon Exhibition” collection, which is housed in the Chi Mei Museum, in a digitalized format. This paper presents Taiwan’s new international cultural service, innovative digital business opportunities, and international cultural exchange. It also represents Taiwan’s rich and diversified cultural content of international art and paintings, establishing a public information sharing system of cultural archives accessible to the public, and fosters the development of community culture. Through the promotion of digital archives, the Industrial Development Bureau [26] aiming to construct a public content market, encourages the development of a content industry, cultural industry, value-added industry, software industry, and creativity industry, and stimulates research and development of relevant application technology.

2.3 Digital business opportunity

In the cultural creativity industry, the media industries of TV, movies, music, animation, and games are considered the main components of the industry’s structure. The cultural commodities

produced by the industry dominate a generation of contemporary cultural codes, of stunning economic values [27]. According to the “Copyright Industries in the U.S. Economy: The 2006 Report”, as published by the International Intellectual Property Alliance in January 2007, the increased value of America’s copyright industry in 2005 was estimated at US\$1.3881 trillion, accounting for 11.12% of the overall GDP. Its contribution to economic growth reaches as high as 23.78%. Cultural commodities not only surpass other conventional industries, but also provide 11 million employment opportunities [28]. The Singapore government proposed a Media 21 Plan in 2002 to promote industries of cultural creativity, and intended to develop Singapore into a city known for creativity. In 2006, it further announced an investment of an estimated 0.6 billion USD, over ten years, in order to support efforts in nurturing a digital media industry [27,29].

According to the 2005 estimation of the Government Information Office (GIO) [30], by 2008, digital reading habits in Taiwan were formed, and over 60% of the population was active in digital reading and digital publishing value, which accounted for 20% of the overall publishing value in 2008. GIO proposed a “Development Plan for the Publishing Industry” in 2007, urging the publishing industry to utilize the advantages of Taiwan’s information technology to develop digital publishing, and expected a 12% growth of the value of digital publishing by 2009 [31].

Dean Song-shan Wang, of the Graduate School of Museum Studies of the Taipei National University of the Arts, indicated that the development of the tourism industry must rely on the support of sufficient cultural content to achieve long-term development, which is the reason for countries around the world to actively promote cultural legacy and museum tourism [6].

2.4 Digitalization of French Salon

In 1725, the King of France, Louis XIV held the first academic artists exhibition in the square hall of the Louvre, Paris, and named it Salon Carré. Since then, the Salon has become the term for an exhibition. Beginning in 1791, France regularly held official art exhibitions, the so-called “Salon”. At that time, all artists actively participated in this official Salon, which was regarded as a standard to measure the talent of artists. Once an artist was chosen to enter the official Salon, fame and status was almost guaranteed, in addition to offering security in the future. Thus, it became an honor to be elected to enter the Salon. This study applies

digital technology to the artworks and information of the French Salon collected in the Chi Mei Museum. All data were digitalized and stored for better management, and important paintings, art works, and cultural assets were shared with the public. This would also provide a convenient access for academia as more art and cultural assets are accumulated, art and cultural vitality is thus created.

3 Research Method

This study visited the Chi Mei Museum and collected paintings, written and historical works, entered into discussions with researchers of the Chi Mei Foundation, developed research tools, established a website, with on-line learning and testing systems, as well as an on-line painting game zone. Flash was used for integrating voice effects, animation, and interactive functions. A vector graphics tool, in Flash, can provide clean and sharp vision and anti-aliasing function, allowing smooth edges for any character or image. Photoshop was used to present the details, and then integrated with Flash. Dreamweaver was used for creating web pages. The contents were presented in an e-book format in order that browsers could provide a sense

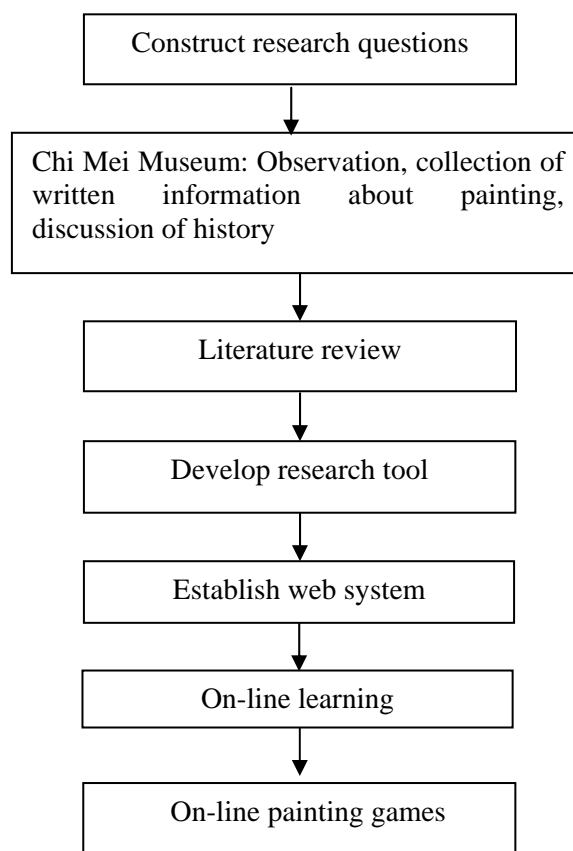


Fig.3 Research Flow Chart

of interaction. There are testing and painting zones specially designed to raise interest in learning and reading. The testing zone allows browsers to understand the e-book contents through a number of interactive questions and answers, and the painting zone allows users to color the paintings. The research flow chart is shown in Fig.3. By using the open features of the Internet to integrate rich resources on the website, plus the interaction of participants, it is helpful for learners.

This study chose a design model suitable for all members to browse a digital museum. Since there are cultural and historical background stories behind the 19th century French Salon Exhibition, in the family appreciation section, simple, understandable words are used to present the culture and history of

this foreign country so that children can enjoy reading. Some actions and costumes of Chi Mei Museum’s mascots “Chi Chi” and “Mei Mei” are presented on the webpage to make the display more interesting and lively, which attract viewer’s curiosity and interest.

The website framework is shown in Fig.4. There are eight major sections shown on the front page, “Inspiration of mythology and ancient times”, “Religion”, “Modern history”, “Literature”, “Portraits”, “Country life”, “City life”, and “Scenery” (Fig.5). The Chi Mei Museum’s mascots “Chi Chi” and “Mei Mei” are placed in the upper left and both left and right of the front page to present a more interesting and lively display (Fig.6).

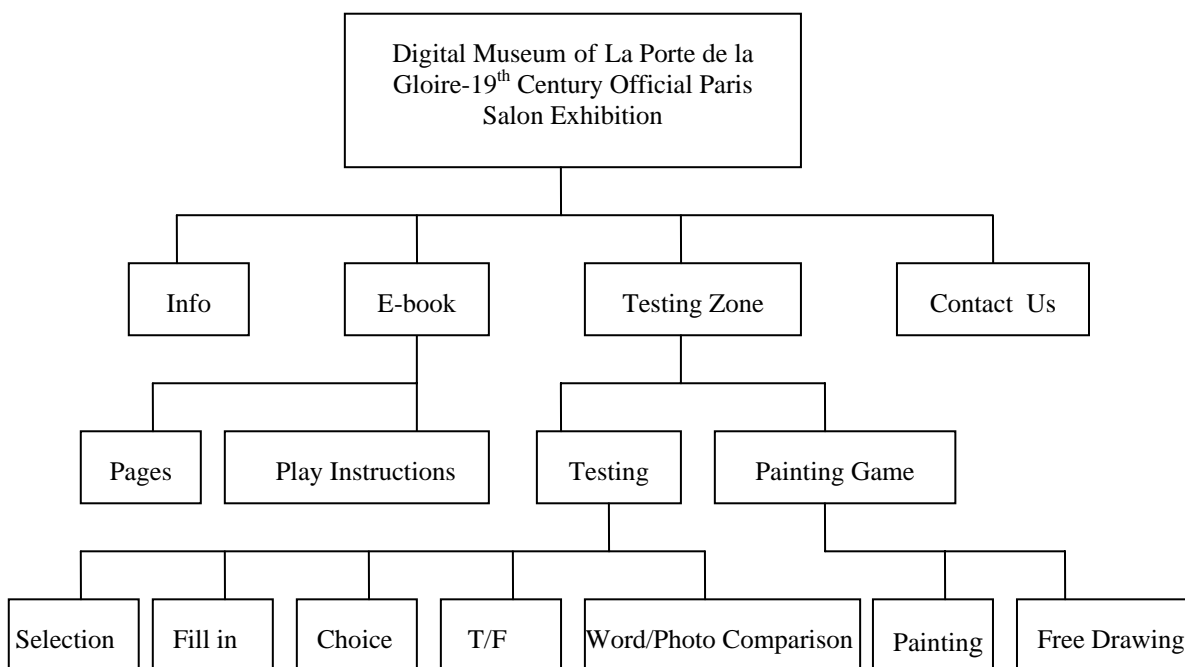


Fig.4 Website Framework



Fig.5 Eight major sections on the screen



Fig.6 E-books in the digital museum

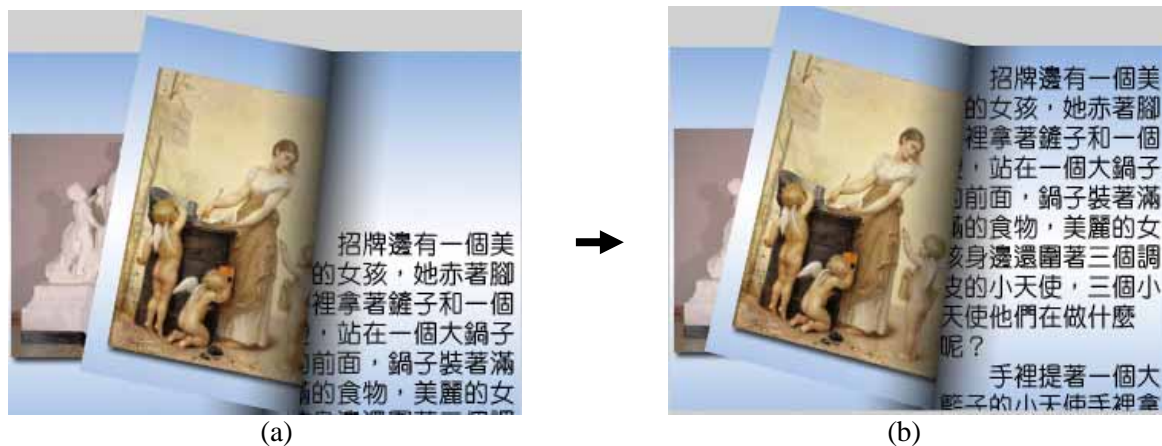


Fig.7 The scrolling up playing of Le Menu de l'amour

By flipping pages on the computer screen, visitors can read the contents of an e-book. After the selection of an e-book, the images and words are enlarged, and pages are turned by mouse clicks. In this virtual reality, visitors feel as if they are reading a real book. Text description is presented with words and terms that are understandable to the level of elementary school students in order to help readers understand the meanings of the painting. The page on the left shows the painting. The contents on the right page are displayed in a dynamic scroll up motion, which is a highly interactive method. Fig. 7(a)(b) shows the scroll up playing of Le Menu de l'amour.



Fig.9 Free Drawing Zone

4 Painting Game

The Painting Zone (Fig.8) and Free Drawing Zone (Fig.9) have color plates, fine and thick brushes to choose from for practicing color painting. This can reduce the use of paper and color paint, and is more environmentally friendly.



Fig.8 Painting Zone

5 Testing

The questions in the Testing Zone are designed based on the contents and stories of the paintings, the background of the French Salon Exhibition, and relevant information about the Chi Mei Museum. There are: text tests, select text, and photo matching with the subject (Fig.10); tests to input correct



Fig.10 Pull and select text and photo matching the subject

answer to the description of the painting (Fig.11); tests to select two identical photos (Fig.12); tests to select art pieces corresponding with the subject (Fig.13); multiple choice matching a subject (Fig.14). Fig.15 shows the test results provided after a test, which include the total number of correct and incorrect answers, total scores, and correct answers in order see the mistakes, remain curious, and are encouraged to take on the challenge again by returning back to the e-book to go through the eight major sections again in more detail.



Fig.11 Input correct answer to the description of the painting



Fig.14 Multiple choice



Fig.15 Test results



Fig.12 Select two identical photos



Fig.13 Select art pieces corresponding with the subject

6 Conclusions

Digital archives assume the functions of storage and preservation of museum pieces, and digital exhibition is the museum's display. With digital archives and a well-organized exhibition theme to convey ideology, presented on the Internet to extend accessibility beyond a real exhibition, and the information can be systematically presented to visitors to achieve the goal of entertainment as well as education.

This study developed an interesting art appreciation, learning website through the technology of the Internet and a virtual e-book. The artworks are from the "La Porte de la Gloire-19th Century Official Paris Salon Exhibition" in the Chi Mei Museum. Learners and viewers can become more interested in art, while also acquiring knowledge on foreign cultures, history, and art during the reading process. The websites design allows users to log on anytime to visit, view, or learn and experience the Salon Carré in the 19th century Louvre in Paris.

Difficult and formal learning sheets and homework would decrease the student's interest in visiting museums, and thus, restrain their interests in

learning art. Through digital museums, school education will be more fulfilling and diversified. It is hoped that this digital Salon museum can become a regular paradise for people to explore knowledge, and users can obtain abundant art resources to cultivate art and literature appreciation.

Acknowledgement

The author(s) would like to thank National Chiayi University, Chi Mei Museum, Chi Mei Foundation, Wen-Shan Lin, Bao-ching Chiou, Chia-hsin Liu, Tian-you Li, and Sheng-kai Lin.

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