

PREPARING A MULTIMEDIA-BASED GALLERY FOR INSTITUTE OF HIGHER LEARNING:

A case study of Malaysian experience

ELYNA AMIR SARJI, AHMAD RAFI

*Faculty of Creative Multimedia, Multimedia University, Selangor
Darul Ehsan, MALAYSIA
elyna.amir@mmu.edu.my, ahmadrafi.eshaq@mmu.edu.my*

AND

RUZAIMI MAT RANI

*Department of Landscape Architecture, Kulliyah of Architecture and
Environmental Design, International Islamic University Malaysia,
Kuala Lumpur, Malaysia
ruzaimi@iiu.edu.my*

Abstract. While the majority of medium and small sized institutions still rely on their physical or traditional content, it has been observed a pre-disposition usually by major, recently founded or contemporary art institutions to display net-based projects (Buiani, 2001) and to some extent established as a permanent display. This changing of exhibitions has penetrated in many Asian galleries and as a result many schools trying to re-position and present in such a way that it can be easily changed and adapted to host multimedia, Internet, interactive and computer-based content. This funded research project investigates the functions of gallery in IHL in Malaysia. A triangulated study was conducted to understand the potentials and issues faced by galleries in public and private universities focusing on design schools that include art and design, and architecture. This research starts with the understanding of gallery design theories. It is then followed by a qualitative method survey to all galleries in the IHL. This research continues with an in depth study and a survey on Electronic Gallery (e-Gallery), Faculty of Creative Multimedia (FCM), Multimedia University (MMU) to understand between the theories and design ideas. A set of questionnaires was developed based on Mathews (1991) and Stewart's (2002) principles and guidelines on research methods and distributed to visitors throughout a period of time consisting of open-ended, close-ended, Likert Summated Rating Scale and Multiple-choice. This involved a

controlled group of visitors comprises students and staff of the faculty. The results of these studies will be used as a reference to further conduct a wider scope of galleries worldwide towards designing a multimedia-based gallery framework for Institute of Higher Learning.

1. Introduction

Museums and galleries have been a part of society since the early centuries in many different parts of the world. Their vital roles are synonym with the evolvement of traditions, culture, art and crafts, education, industrial growth and technological advancement (Museum of Contemporary Art Chicago, 1996). While their role and function may differ throughout the years and reflect different form and function usage from one culture to another, their main objective will always be as a non-profit making, permanent institution in the service of society and of its development, and open to the public, which acquires, conserves, researches, communicates and exhibits for purpose of study, education and enjoyment. Material evidence of man and his environment dictated in the International Council of Museums (ICOM) 1974 (Matthews 1991) highlighted the importance and interest.

Galleries are normally established in two folds, namely physical and virtual. A physical gallery exhibits subjects found within the physical environments, perceptible especially through the senses and subject to the laws of nature. On the other hand, a virtual gallery exists in the form of artificial intelligence, cyberspace, simulated 3-D environment, and virtual reality. Interest in the concept of learning organisation has grown steadily in education and business (Middlewood & Lumby, 1998) through technology revolution thus leading to the increasing demands on alternatives in learning. Gallery in Institute of Higher Learning for example is one of the potential venues often used as an impetus to associate informal learning.

Art institution has been observed a pre-disposition usually by major, recently founded to display net-based projects (Buiani, 2002). Users visit physical space in the real world and browse cyberspace in virtual world (Wan et al., 2002). With the recent rapid development of information and communication technologies (ICTs), the influences of virtual world, upon the physical world we live in have gradually increased (Huang et al., 2002). He also mentioned that information and telecommunications are changing many aspects of life such as home, office, automobile, and street (Moss & Townsend, 2000). Inevitably, educative institutions and knowledge places are effected with a new co-existed spatial form as a result of the digital combination of physical and virtual space through digital connections. A more comprehensive research is demonstrated by Hsinchu Science-Based

Industrial Park and National Chiao Tung University (Huang et al., 2002) where the project was to build a digital museum to archive history and future content, to promote technological aspects of education and recreation, and to integrate developments of digital researches.

In the context of teaching and learning, keeping and managing content assets are becoming more complex particularly when the numbers of information are increasing and the need for effective usage becomes more apparent (Rafi, Nam & Woo, 2004). This particularly applies to the Faculty of Creative Multimedia, a design school at the Multimedia University in Cyberjaya where it pioneered using new media as a means of expression in design within this region of the world. Rafi, et al. (2004) also stated that the course specialization are project-based, allowing students to explore and innovate, using new media deliveries in their projects, exercises and work submissions. Through the use of student-centred teaching methodology combined with technology, students are able to develop their design approach using technology-based tools. All these activities need a specialised space such as the electronic gallery that is able to adapt new media content in education. Information and knowledge in a digitally collected environment pose as a vital requirement to facilitate multimedia teachings and activities such as archiving, presentations and exhibitions, discourses and tutorials, demonstrations and others. A common platform is needed as a 'container' of multimedia art activities in Institute of Higher Learning in Malaysia (Elyna & Rafi, 2005) that forms the basis of this paper. This research continues with the discussion from the experiment that is carried out in this research. The focus areas include (1) General Background Issues, (2) Space and Function, (3) Exhibition Tools and Multimedia Devices, (4) Exhibition Content and (5) Human Interaction.

2. Research on Galleries in Institute of Higher Learning

In many ways electronic gallery for Institute of Higher Learning particularly in Malaysia is continuously change the direction towards computer- and multimedia-rich content display. In order to get clearer information on the level of utilisations and the changes of gallery content, this research conducted a survey to all universities across Malaysia focusing on galleries in art and design, and architecture faculties. The study starts with one data-collection from observation and interviews. In the observation session, information is recorded without any interaction with the users and curators. Interviews are carried out with personal interviews of the users (visitors) and the curators. The interview questionnaires were developed based on Steward's (2002) model and captured through audio and visual recording, and written information. Eleven public and eight private universities

registered under the Malaysian Ministry of Education are considered and only galleries attached to a Built Environment or Art and Design faculty are selected for this research. Interview questions were then set before conducted on one to one basis at each venue.

2.1. INTERVIEW QUESTIONS

The Interview Questions are divided into five key areas which are Background Information, Space and Function, Exhibition Tools and Multimedia Device, Gallery Content and Human Interaction.

- A. Background Information
 - i. General information
 - ii. Type of visitors and purpose of visits
 - iii. Promotional tool
 - iv. Curatorial board
 - v. Gallery future

- B. Space and Function
 - i. Space and layout concept
 - ii. Flexibility concept
 - iii. Analogue and digital concept
 - iv. Amenities and technical spaces

- C. Exhibition Tools and Multimedia Device
 - i. Types of exhibition tools and multimedia device
 - ii. Mode of exhibition
 - iii. Objective of tools communication

- D. Gallery Content
 - i. Type of content
 - ii. Function and objective of content
 - iii. Targeted group of visitors and expectation

- E. Human Interaction
 - i. Human and space
 - ii. Human and tools
 - iii. Human and content
 - iv. Human and human
 - v. Interactivity

2.2. OBSERVATION METHOD

According to Matthew (1991), various observation techniques can be employed to get useful information about people's behaviour in a specific environment, patterns of behaviour and use, space requirements and relationships, and use of furniture and equipment. The method follows the structure of identifying kinds of information needed, various types of users and setting involved, and which ones to be observed.

2.3. SURVEY RESULTS

Interview sessions and observation exercises were conducted with related personnel at selected galleries in Institutes of Higher Learning. Data was collected and recorded through written notes, audio recording and image capturing. All information were analyzed, evaluated and compared before suggesting a theoretical framework. From the survey, all universities agreed that the presence and location of a gallery in a university campus is extremely important to ensure positive growth within the education and academic sector and good accessibility to students, staff and the general public. The establishment of electronic galleries attached to art and design faculty are closely related to the evolvement of the faculty. These were developed on the basis that it is part of the required space to fully exhibit analogue and digital artworks. The key objective is to cater contemporary art that covers all types of artwork ranging from fine arts, media arts and installations, multimedia exhibitions, award winning competitions to permanent collection. These galleries in fact became the node to the faculty and university in general.



Figure 1. Interior view of Galeri Seni, Universiti Teknologi Mara (UiTM) Art Gallery

It is also found that space and function is the key factor that determines the content of display. Lack of space or minimum space hinders the idea of building a gallery even though the need and necessity is clear. The space concept and theme is determined by the faculty needs and objective. Space utilization is often multipurpose and flexible to allow different functions and

usage. Analogue and digital approach is also a choice made based on the display content and technology available (Figure 1).

From the study, it is clear that multimedia tools were introduced to enhance existing equipments of conventional display such as wall panels, exhibition cases, partitions and others. Digital content and modes of display also require multimedia tools as a vehicle in delivering the substance and message. The availability of technology and expertise contribute towards introducing new digital instruments and content to these galleries. Synchronization with the faculty's syllabus also determines the need for advancement of multimedia tools to facilitate student's art content and projects. Gallery content is the most vital part that formulates and moulds the concept and theme. It determines the aim and direction of a gallery on substance for analogue or digital exhibitions, presentations and demonstrations, education purposes and R&D works, art activities and public viewings, and numerous other activities to be conducted. With a specific content a gallery is unique and distinguished. Choice of content is also important to provide suitable material to the targeted audience. University galleries would be the main adopter of content for the education sector and knowledge sharing activities (Figure 2).



Figure 2. Interior image of AdiWarna Gallery, Universiti Sains Malaysia (USM)

Human interaction and the way human behave in a gallery depends on the size, space and function of a gallery, exhibition and multimedia tools to assist visitors in extracting information laid for them, and types of display and content to be conceived. The nature of the setting determines the mode of informal and formal behaviour. Most galleries in the university setting were not fully utilized to the extent that content can be immersive, experimental and interactive. These were displayed as touch screen-based interactivity, linear storytelling presentation (e.g. video and animation) Comfort, concentration and comprehension are amongst preferred key factors found in the survey (Figure 3).



Figure 3. Exterior exhibition of Universiti Malaysia Sarawak (UNIMAS) Art Gallery

3. Study of e-Gallery

This research continues with an in-depth study and a survey on Electronic Gallery (e-Gallery), Faculty of Creative Multimedia (FCM), Multimedia University (MMU) to understand between the theories and design ideas. A set of questionnaires was developed based on Mathews (1991) and Stewart's (2002) principles and guidelines on research methods and distributed to visitors throughout a period of time consisting of open-ended, close-ended, Likert scale and Multiple-choice. This involved a controlled group of visitors comprises students and staff of the faculty. Thirty respondents are faculty members while another forty represents local and international visitors. A shorter version of questionnaires was also prepared which involved one hundred fifty of secondary and college students. The questions are divided into these categories based on the five main areas of interest.

A. Background Information (Factual Inquiry of Demographic Items)

- i. Age.
- ii. Gender.
- iii. Occupation.
- iv. Art background.
- v. Number of visits to e-Gallery.
- vi. Visits to other galleries.
- vii. Purpose of visit to e-Gallery.

This section aims to investigate general matters that would conclude categories of visitor that utilize the gallery, their objective and re-occurrence of visits, as well as their background and level of knowledge in art and related multimedia field.

B. Space and Function

- i. Physical layout and space planning of the gallery.

- ii. Open planning concept and multi function space.
- iii. Comfortable browsing space.
- iv. Level of concentration.
- v. Analogue exhibition area.
- vi. Digital exhibition area.
- vii. Space adequacy.
- viii. Activities and function of the allocated space.

The questions were related to space and the functions or activities that taken place in the designated area. Inquiries are made to examine the space planning and interior layouts of the gallery inclusive of the furniture, infrastructure and technical, multimedia machines and tools layout, human interactivity and flow layout.

C. Exhibition Tools and Multimedia Device

- i. Appropriate exhibition tools for a digital gallery.
- ii. Adequate display tools for analogue exhibition.
- iii. Adequate display tools for digital exhibition.
- iv. Audio and visual aid.
- v. Lighting aid.
- vi. Exhibition panels.
- vii. Interactivity mode and concept.
- viii. Digital differences from conventional gallery.

The appropriateness of exhibition tools in a gallery was studied to distinguish adequate display tools for analogue and digital displays. Supporting tools and materials were examined for each activity in each gallery.

D. Gallery Content

- i. Suitable content for a gallery which is attached to an institution.
- ii. Suitable content for an art, design and multimedia Gallery.
- iii. Suitable content for a digital gallery.
- iv. Adequate display content for other activities such as exhibition, presentation, archiving, classes, discussions, critique session, interactivity activity and workshop.
- v. Frequency of change in the exhibition content.
- vi. Allocation for Permanent and Temporary display area.

Gallery contents were analyzed on the direction, aim and objective of the gallery. This includes the targeted audience, the information and knowledge to be delivered, the placement of the content in the allocated space and the importance of the content.

E. Human Interaction

- i. Experience when visiting the e-Gallery.
- ii. Experience in regards to what the gallery can offer.

- iii. Atmosphere while browsing through the artefacts.
- iv. User friendly digital interface, content and exhibition tools.
- v. Atmosphere while viewing the short screening presentations and demonstration.
- vi. Interaction with other visitors.
- vii. Interaction with the analogue exhibition.
- viii. Interaction with the digital exhibition.
- ix. Stimulating environment to initiate art and design discourse.
- x. Knowledge and experience gained.

The study also included the understanding of interaction that happened between the four components. It consists of visitor's experience in the gallery, their aim and purpose of visiting and their target and expectation of what the gallery has to offer.

F. Overall

- i. What determines a good e-Gallery?
- ii. How to effectively promote e-Gallery?
- iii. The importance and role of curator in e-gallery
- iv. The expectation of content after visiting e-Gallery.
- v. Whether e-Gallery should be the centre point of exhibition and knowledge sharing in the university as well as promoting the school.

The open-ended questions were also considered, as it was crucial to identify the problems, opinions and suggestions to the overall planning from the user perspectives.

G. Open-ended Questions

- i. Have they been to other galleries?
- ii. What is the purpose of visit to e-Gallery?
- iii. Suggestions on further activities in e-Gallery.
- iv. Users understanding on any interactive concept.
- v. Examples of interactive idea gained from other galleries.
- vi. Suggestions on other content for e-Gallery.
- vii. Individual idea on what makes a good gallery.
- viii. Ideas of promoting e-Gallery.
- ix. Expectations on a digital and multimedia-based gallery.
- x. User's opinion e-Gallery as a hub to faculty and university.
- xi. User's opinion on e-Gallery as the centre point to institute of higher learning.

3.1. RESULTS

The main objective of investigating e-Gallery was to gather information that was then be analysed and used to identify issues, problems, advantages, disadvantages, potentials and areas of prospective contributions. Therefore it

is important to seek and study a working and operating prototype design to correspond to theory and ideology of an electronic space or container. E-gallery has been inspired to develop digital art, art installation, and multimedia-rich content due to the nature of the multimedia-based courses in the faculty. This demands the faculty to find a solution within a limited space that is flexible to accommodate such exhibits and space that can be used for education exchange (i.e. informal learning) (Figure 4).



Figure 4. An overall view of e-Gallery, Multimedia University (MMU)

The results shown that most visitors are from the active working group (age from 20 to 30 years old) category in which majority of them is from local and international education establishments and related industries. While some of them expected frequent changes of the content, most visitors agreed that e-Gallery should be treated as the node to the faculty and university.

In terms of the space and function, the e-Gallery generally provided a comfortable exhibit, space layout and directed users to focus on specific artworks to draw attention in particular the multimedia and interactive-based exhibitions. Fifty percent suggested that the space is quite limited to offer more digital exhibits.

Majority of the visitors agreed the facilities are adequate to cater different groups at one time. They highlighted that multimedia content draws most of the viewers' attention with the right choice of computer tool. Even though many have not had experienced in visiting similar concept of e-Gallery, they strongly recommended that this is useful for informal education and not just limited to exhibitions. Further suggestions from the visitors are towards enhancing interactive content of award winning artworks.

The respondents suggested that the e-Gallery should maintain the focus on creative multimedia, and art and design showcases. This would add the advantage of establishing the gallery within the faculty to portray art and

design education. Having continuous large number of visits locally and internationally, the content of the gallery plays an important part especially visitors from the education sectors. In this case, 51% preferred that the content to be changed monthly whereas 40% feel that it should be done according to specific events and themes. They also suggested that there should be a permanent and temporary digital content exhibition (77%).

This case study has shown that there was a clear relationship (81%) between human and space, tool, human and content. The first impression as the visitors entered the gallery sustained the focus on interest and allowed the individual personal interaction. 59% in this case agreed that they were able to interact and use multimedia tools comfortably. In the e-Gallery, the respondents (69%) agreed that the environment allowed peer-to-peer interaction comfortably with different experiences consisting of 53% (Figure 5).



Figure 5. Multimedia projection in e-Gallery, Multimedia University (MMU)

4. Conclusion

This paper has presented an initial study on the role of galleries in institutes of higher learning (IHL). While this study has some limitations (within the context of Malaysia), the demand to further extent into a larger context is required towards suggesting a conceptual framework for 'e-gallery' in IHL. Galleries in IHL especially in Asia are experiencing changes in their concept, purpose, design, content implementation, structure and management. This is the effect of changes in the built environment of campuses, university programme and structure where they are adapting latest technological advances in areas of multimedia, and information and communication technology (ICT) as teaching and learning modules. Interactive media and immersive content presents a new dimension and

approach at experiencing the exhibits in the galleries. Challenges for the content of the galleries include multimedia archiving methods, cross-referencing, and flexibility of exchanging and exhibiting information, adapting new convergence of technology and distributing the information to larger audiences.

Acknowledgements

The authors acknowledge the financial support and research facilities given by Multimedia University and participation by all Institutes of Higher Learning (IHL) in Malaysia. Thank you also to Dr. Neo Mai for final editing and other colleagues who always give us a good support in getting this work done.

References

- BUIANI, R., 2001. *Virtual exhibitions: How to put the gallery online?* International Conference on Generative Art, GA2001, Milan, Italy
- ELYNA, A. S. AND RAFI, A., 2005. Electronic Gallery as a Generative Space towards the Contribution to Art and Design Students and the Learning Environment, *Proceedings of the 8th Generative Art Conference GA2005*, Milan, Italy
- HUANG, C. H. ET AL., 2002. *Some Phenomena of Spatial Interaction in the Networked Spaces*, Proceedings of the 7th International Conference on Computer Aided Architectural Design Research in Asia (CAADRIA), Prentice Hall, pp. 39-47
- MATTHEWS, G., 1991. *Museum and Art Galleries*, Butterworth Architecture
- MIDDLEWOOD, D. AND LUMBY, J., 1998. *Human Resource Management in Schools and College*, Paul Chapman Publishing, LTD
- MOSS, M. L. AND TOWNSEND, A. M., 2000. How telecommunications Systems are Transforming Urban Spaces, *In Whiler et al. (eds), Cities in the telecommunications age: the fracturing of geographies*, Routledge, London, pp. 31-41
- MUSEUM OF CONTEMPORARY ART CHICAGO, 1996. *Collective Vision*. MCA Publishing
- RAFI, A., NAM T.H., AND WOO K. J., 2004. Innovative Browser: A Real-Time Digital Content Display Software using VR Technology. *In Proceedings of the Developments in Design & Decision Support Systems in Architecture and Urban Planning, The Netherlands*, pp. 177-191
- STEWART, T. D., 2002. *Principles of research communication*, Allyn and Bacon
- WAN, P. H. ET AL., 2002. The Co-existence between Physical Space and Cyberspace, *Proceedings of the 20th Conference on Education in Computer Aided Architectural Design in Europe*, Warsaw, Poland, pp. 597-602
- WU Y.L., LIU, Y. T., HUANG, Y.S., WU, P., WONG, C.H. WANG, T.H., GAO, W., AND SHIH, W.L., 2004. New Interaction of Digital Exhibition - Figures and Spaces, Proceedings of the 9th CAADRIA International Conference, Seoul Korea 28-30 April 2004, pp. 731-740