Campus Virtual Tour: Exploring the Potentials for Malaysian Universities

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ABSTRACT

Many international universities have now shifted from using text and still images to display information to providing virtual tour of the campus in their websites. The tour enables users to explore the selected locations with the images navigable at their own pace. This paper explores the potentials of employing such approach for Malaysian universities. A prototype of a local campus virtual tour was developed to evaluate the effectiveness of the approach. The results of user evaluation reveal that the experience of touring the campus virtually has great potentials as the tour is claimed as cost saving, convenient and can have long and lasting impact on the users.

Keywords: user evaluation, virtual tour, websites

Introduction

The introduction of virtual tour technologies such as Java, QuickTime VR and Virtual Reality Modeling Language (VRML), has enabled the

creation of more dynamic and interactive websites. These technologies are powerful and they allow users to create interactive three-dimensional virtual worlds on the Internet. With the interactive web-based virtual tour, audience can spin the panorama in the virtual tour to experience the environment in much the same way as if they are really there.

Many international universities have taken advantage of these technologies and shifted from using text and still images to display information to providing virtual tour of the campus in their websites. The tour enables users to explore the selected locations with the images navigable at their own pace. For example, the Northern Michigan University (NMU) has provided virtual campus tour in their interactive website which enables users to 'walk-through' the campus (Young, 2007). In addition, Cornell University has also created virtual tour navigation for its campus where users have the options to explore which panoramas in the campus by clicking at the interactive maps given (*Cornell University*, 2008). This new technology has allowed users to explore through the campus without having to go there in person.

However, a brief survey on the websites of ten local universities shows that only Universiti Malaysia Sarawak (UNIMAS) has taken advantage of the interactive virtual tour technology. Other universities are still using the text and still images in providing information for the users. Other methods include corporate video, map tour and audio/video. The following table shows the methods used by the universities to display information.

From the survey, it is found that only Universiti Malaysia Sarawak (UNIMAS) has incorporated the interactive 3-D animated and virtual worlds to enhance the university tour. Narayanan (1998) claimed that such technology has enabled users to experience the real UNIMAS campus environment. What is more important, the visit has a lasting impression on the users. However, the survey results have shown that the interactive virtual tour technology has not been popular among the local universities. Thus, this, this paper intends to find out the potentials of incorporating the technology in the Malaysian universities' websites.

Campus Virtual Tour: Some Prospectives

Virtual tour has become a popular method in publishing a university's information in its websites. As mentioned earlier, many universities in the world have utilised the virtual tour technology as a means for online

Table 1: Methods of Information Display by Universities in Malaysia

University	Methods of Information Display
Universiti Teknologi Malaysia (UTM)	text still images corporate video
Universiti Islam Antarabangsa Malaysia (UIAM)	text still images maps
Universiti Malaya	text still images virtual tour but only static photos
Universiti Kebangsaan Malaysia (UKM)	text still images corporate video
Universiti Sains Islam Malaysia (USIM)	text still images audio video
Universiti Putra Malaysia (UPM)	text still images
Universiti Multimedia (MMU)	text still images maps
Universiti Lim KokWing Malaysia	text still images videos
Universiti Sains Malaysia (USM)	text still images maps
Universiti Malaysia Sarawak (UNIMAS)	text still images virtual tour

users to acquire information. Some of the universities that have taken advantage of this technology are Harvard University, Alfred University, Adelphi University, Cornell University, Hollins University, Milikin University, Northwestern University, University of North Texas and University of Wisconsin. The tour features panoramic exploration of the campus environment to online users and offers them digital environment in real-time experience.

Compared to the usual text and still images on the websites, this technology provides campus map and pictorial tours for users to explore the campus at their own convenience. In addition, the tour can take the place of text and still images in terms of providing the real picture of the campus environment.

The literature on university virtual tour has described the advantage of this technology from many perspectives. First, by having virtual tour on the website, prospective students can obtain some ideas on the campus environment without having to read the text description of the campus. The tour itself can be self-explanatory.

The tour can also be a dual advantage for those who cannot visit the campus for economic or geographic reasons. It can help these users visit the campus without having to go there physically. Thus, they are saved from inconvenient travelling and costs. Because of this reason, virtual tours are now becoming popular among prospective students to focus on the list of possible campus they would visit (Darnieder, 2000).

Another advantage of virtual tour is, it can reduce the fear of the unknown among potential students, especially those from outside the country. By having virtual tour on the websites, universities can help to increase these students' trust and empowerment by giving them the chance to explore any locations in the campus on their own. This is also the reason why universities that are listed with virtual tours received more viewers compared to those without (*How effective are virtual tours?*, 2003).

In addition to enabling users to explore the campus with panoramic images in a better, clearer and more interesting and comprehensive way, virtual tours give them a sense of freedom as they can choose to visit the campus anytime, anywhere at their own pace. Some universities, such as University of North Carolina, even provide a 'tourist guide' in the tour to help the users anytime they 'visit' the campus.

The development of virtual tour is not only beneficial to the potential students, but also to the university's prospective stakeholders, customers and partners. For example, a potential contractor can obtain some ideas on the campus by locating resources and buildings through the tour. They are able to do some initial evaluations prior to the actual visit to the campus.

Having discussed the advantages of this virtual tour technology, the writers believe that the local universities need to extend information beyond the two-dimensional confines, i.e text and still images. A small scale

study on examining the potentials of utilising the virtual technology in universities' websites, was thus, carried out.

The Study

The main objective of this study was to find out the potentials of incorporating virtual tour in the Malaysian universities' websites. Specifically, it intends to find out 1) the users' evaluation on the use of virtual tour in exploring the campus, and 2) the users' suggestions on the aspects that they would like to see or have in the virtual tour.

Methodology

The study was divided into two phases. The first phase was the development of a prototype of a campus virtual tour. The second phase was the users' evaluation on the campus virtual tour. It is this second phase that would look into the potential of this technology on the university's website.

Phase 1: The Development of Virtual Tour Prototype

The writers decided to choose the Jengka Campus of Universiti Teknologi MARA Pahang as the location for the virtual tour. This is because, the campus is considered by many as one of the remotest campus built in the country. Not many people have heard of its existence, let alone visited it. Thus, the writers feel that online users might be able to give some genuine feedback about the place as some of them might have not visited it.

Once the prototype was developed, it was uploaded onto the campus' website. Figure 1 illustrates the interface of the virtual tour once it is uploaded onto the website. However, it is important to note that, it is not the objective of this paper to describe the development process of the prototype. Thus, the process will not be described at all here.

Phase 2: Users' Evaluation

After the prototype has been uploaded, an announcement was made on the campus website regarding the existence of the campus virtual tour. Users were invited to try out the tour and evaluate it after the tour.
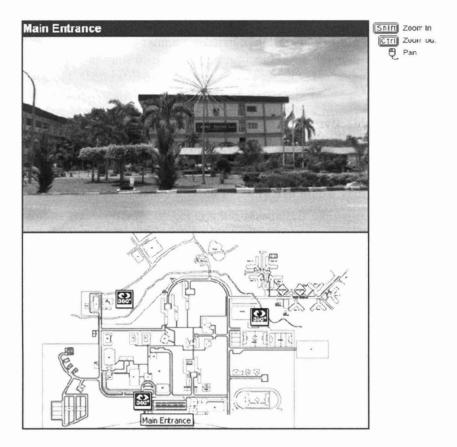
Figure 1: The Virtual Tour Interface, Including the Interactive Map

An online questionnaire was prepared as an evaluation instrument to evaluate the potentials of the virtual tour. It contains three open-ended questions on users' demographic background, six simple statements on users' evaluation on the benefits of the campus virtual tour (with 5-point Lickert scale of 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree and 5 = Strongly Agree), and one open question on the aspects of the virtual tour they would like to be improved on.

Findings and Discussion

The survey questionnaire data of a six-month period after the prototype was uploaded were collected and analysed. 54 users evaluated the virtual tour. The following table shows the demographic background of the users.

Table 2: Users' Background

Users	Number
Prospective Students	18
Alumni	13
Parents	11
Business & Industry	6
Current Students	3
Staff	3
Total	54

Out of the 54 users, 14 of them did not know where the campus is located and 20 users had not been to the campus before. Thus, it can be assumed that these users did not have any idea on how the environment of the campus was really like.

The data show that prospective students formed the largest group of users who were interested in the virtual tour (33.3%). This is probably due to their curiosity on how their life would be like in this place if they were to become part of the campus life.

The alumni group formed the second largest group of users (24.1%). One of the reasons for their interest in the tour is probably due to their connection to the campus in the past. They are probably interested to know what is going on in the campus, and would like to have up-to-date information regarding their alma mater.

Parents also seemed to be interested in the tour since they would like to know the place that their children would be living during their study. Quite a high percentage formed by the parents (20.4%) show that virtual tour is also important for this group of users.

Users from business and industry also formed quite a significant number (11.1%). They might find this virtual tour useful as they can get an overall picture of the campus before any business or projects can be proposed.

Current students and staff formed the smallest group of users (5.6% each). This is not surprising as these groups of people needed the least information regarding the campus as they were already part of the campus community.

As for the user evaluation, the results show an overwhelming positive response. As shown in Table 3, the overall mean is between 3.97 to 4.48. This shows that the virtual tour has great potentials to be used as a

Table 3: Users' Evaluation on Campus Virtual Tour

Statement	Mean
The campus virtual tour has enabled me to get to know the campus.	4.09
The virtual tour is a way to promote the campus to the public.	3.97
I can visit the campus at my own convenience.	4.48
The virtual tour can save my money and time.	4.32
I prefer to view the campus with the campus virtual tour instead of still images.	4.48
The virtual tour is exciting and interesting.	4.32

means of providing information in the campus website besides texts and still images.

The open question on the aspects that users would like to have on the virtual tour implies that this technology has great potentials to be applied on the campus website. Some suggestions include enhancing the tour by providing more advanced features such as embedding sound so as to make the tour more realistic and exciting. Users who may have experienced virtual tour suggested advanced features like having a virtual tourist guide like the one provided by the University of North Carolina to help and guide them while they explore the campus.

Conclusion

This paper has presented an alternative way of presenting information on a university's website. A review on the current Malaysian universities' websites reveals that they only contain information in the forms of texts and still images. Thus, with the development of virtual tour, the writers feel that universities need to extend information beyond these two-dimensional confines. With the tour on the websites, audience can experience digital environment in real-time, thus, able to explore the campus environment as if they are actually there. This can help prospective and current students, visitors, faculty and staff in locating resources and buildings, and evaluate the tour as they want, without requiring assistance.

The survey has shown the potentials of incorporating the virtual tour on the local universities' websites. Not only can this promote the universities to a wider audience, the proposition to use the tour is also for universities to stay on the cutting edge of the information technology. Universities should take the advantage of the fact that internet is now

one of the main tools to publish college information. Having virtual tour on the website can promote potential students' and visitors' interest in the university. As claimed Dezember (2002), 70% of all college-bound high-school juniors began their college search on the web and virtual tours came second only to actual campus visits luring the students.

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