The Development of Mobile APPS for SHTM Students' Assessment of Tourist Attractions

By Dr. Walter S. L. Fung

Teaching Fellow

Department of Computing

Hong Kong Polytechnic University

Dec 31, 2015

Table of			
Content			
i			
1. Introduction	••		
1			
2. The Hong Kong Museum of			
History2			
3. The APPS Navigation by			
users3			
4. The Computer Program			
Development5			
5. Future Development and			
Conclusion7			
References			
7			
Appendix A : Sample Navigation by Sample User on the museum (1,2			
)8			
Appendix B (Qualitative Review by student Ms. Rita Tang			
)10			
Appendix C (IOS program folders and partial coding			
)11			
Figure 1. Viewing the Galleries for Permanent			
Exhibition2			
(Hong Kong Museum of History, 2015)			
Figure 2 (Museum Icon			
)			

Figure 3 (First Page

)
Figure 4 (other museums
)4
Figure 5 (other museums
)4
Figure 6 (other museums
)4
Figure 7 (the G1 to G8 zone
)5
Figure 8 (example of G1
)5
Figure 9 (G1 exhibitions
)6
Figure 10 (G1 voice
recording6
Figure 11 (G1 exhibitions
)6
Figure 12 (G1 exhibitions
)6

1. Introduction

The project is a collaboration between discipline technology and tourism with intention to explore the possible use of mobile applications for the purpose of teaching and learning in cultural tourism. Over time students used to be requested to visit a cultural site, either a heritage, a museum, or other places, as part of assessment. Traditionally students brings digital cameras, pen, paper notebooks, when they spend the day (or half day) on site. All these will be extracted later, with photos downloaded, and scripts be extracted, in order to draft a formal report for purpose of academic assessment. With advancement of digital technology, a mobile device can replace a digital camera, paper, pen, and even, voice or video recorder. One device is enough for all purpose of the site visit. An Apple smartphone (iPhone family) using IOS operating system is adopted, and computer programs are developed to guide the student who may visit the Hong Kong Museum of History (香港歷史博物館) located in 100 Chatham Road South, Tsim Sha Tsui, Kowloon. This report finalizes the design and usage of the computer applications (APPS) and allow some students to feedback their opinions.

2. The Hong Kong Museum of History

The Hong Kong Museum of History was established in July 1975 and is located in the city's museum zone in Tsim Sha Tsui. Its neighbors are Science Museum, the Hong Kong Polytechnic University, Hotel Icon, and other commercial buildings. Exhibitions are divided into Permanent, Current, Virtual, and Past. For the purpose of this project the Permanent Exhibition areas are chosen for its being more fixed and seldom change. Figure 1 shows the Permanent Exhibition and galleries which spread over a few floors (Hong Kong Museum of History, 2015). The design of the APPS in this project assumes student visitors enter from G1, and follow the chronological suggestions to G8, and then exit. Starting from G1 which have exhibitions showing the Hong Kong from hundreds of millions years ago when earth virtually had no life form, then going through G2 pre-human or prehistoric of Hong Kong, to the Dynasties of

thousands of years from G3, until G8 when Hong Kong returns back to China (People Republic of China) from the British government in 1st July 1997.



Figure 1. Viewing the Galleries for Permanent Exhibition (Hong Kong Museum of History, 2015)

3. The APPS Navigation by users

The APPS is based on Apple IOS format and it can run on either Apple iPhone 5, iPhone 6, iPod Touch, or iPad families. Figure 2 shows the first screen of an ordinary user with the Icon "Museum" sitting at the left hand side of the screen (iPhone 6). By clicking on the Icon the first screen will appear as shown on Figure 2. It looks just like one of the Apps on the user interface. The installation will be minimal effort for most users.

The design assumes it will grow into further development that the teaching institutes will further develop additional heritage or sites or museum. From Figure 3 the other museum such as the Flagstaff House Museum of Tea, the Hong Kong File Archive, the Hong Kong Heritage Museum, the Hong Kong Museum of Art are included (but there are no detailed contents being developed at this early stage).



Figure 2 (Museum Icon)



Figure 3 (First Page)

Figure 4, 5 and 6 further shows the other Hong Kong museums of heritages that they are on the target lists of future development such as the Railway Museum on Figure 4, the Hong Kong Space Museum on Figure 5, and the Sam Tung UK Museum on Figure 6. The APPS being developed is for the Hong Kong Museum of History which is the second entrance on Figure 3. From there user can simply click on the museum to activate its usage directly.



Figure 4 (other museums)



Figure 5 (other museums)



Figure 6 (other museums)

Figure 7 shows the actual galleries of G1 to G8 as mentioned in Figure 1. The galleries themselves have label from 1 to 8 showing the G1 to G8 zones. The right hand side star marking are done by one of the users who has rated the who zone (G1 to G8) as scale one to 5, representing the assessment he or she believes on the design, setup, operations, and quality of the zone. One is the lowest while five is the highest in the design. Figure 8 shows the screen after user enter into G1 the Natural Environment with one of the first artifact and its description. The user use a self-descriptive label (1wfn1) which is only meaningful for the user. As noted the use can take video, picture, adding text, or adding voice recording as shown in the bottom buttons. Nonetheless the History museum does not permit taking video thus we are seeing mostly pictures in this report. Figure 9, 10, 11, 12 shows other user engagement, with Figure 32 shows an example of voice recording.



Figure 7 (the G1 to G8 zone)





Figure 11 (G1 voice recording)





Figure 12 (G1 exhibitions)

The user will navigate the museum thereafter from G2 to G8 with the whole journey taking up some 2.5 to 4 hours, depending on the details of visit, and time to spend on making video, taking pictures, notes, or voice recording. Appendix A shows the rest of travel by sample users. Appendix B shows a qualitative assessment by a student of City University of Hong Kong, Year 1 in Architecture, Ms. Rita Tang, on its evaluation of the APPS after spending 3 hours in the History Museum.

4. The Computer Program development

There have been 3 student programmers involved in the development of the program, which does not yield very satisfactory progress over the last 2 years. The understanding of the specification, the learning curve of IOS programming as well as tourism concepts, even the health of the student, all yield difficulty toward the smooth development of the project. Appendix C shows some examples of the folders and coding (partial) for the APPS in this report.

5. Future Development and Conclusion

Up to this moment there are still no curriculum or subject specific computer mobile APPS for tourism, as assessment tool. This project has successfully developed a sample APPS for this purpose and found useful. Chances exist that this program become a template based so the development by individual school / teacher can be more dynamic and need not involve programmer. The development cycle should target within 3 month so teachers can change the assessment site and content more rapidly.

References

Hong Kong Museum of History (2015), from web site http://hk.history.museum



Appendix A : Sample Navigation by Sample User on the museum (1)



Appendix A : Sample Navigation by Sample User on the museum (2)

Appendix B (Qualitative Review by student Ms. Rita Tang)

Here below are some comments based on the museum and the mobile application:

For the museum part, there is not much to pick on, however I think the route should be clearer for visitors to walk along. The designer is obviously want the visitors to experience the history in chronological order. But when I was visiting the museum, I found that I was not following the correct order: I walked through area 3 and then go back to area 1. It is important that to make sure the visitor to walk along in a predesigned order. Define a clearer path or add more guidelines should be done. What's awesome about the museum is that visitors can have an enjoyment of senses: see the decorations and read the text, listen to the sound effects as well as touch some of the exhibits. It enables visitors to place themselves into the history. I personally like the theatre in Area 1. The setting of the theatre is realistic and I appreciate the lighting effect the most. The red light bleed out between rocks and the glasses on the floor reflect the light perfectly, and of course the light tube on the ground helps a lot too. It can certainly bring the audience into a mood which fits the video. What an impressive show but the quality of some clips should be improved in order to make it a perfect work.

And for the mobile application, I think it is useful and user-friendly to the users. The concept is great: an all-in-one digital tool to help students for collecting information while visiting to museum. While I think some of the details should be improved to make it a better app. First, I think an "Edit" button should be added in case the users input the wrong word/information, so that it will not confuse themselves when drafting a

report. Second, it is about the photo-taking function, I think there should be a button for retaking the picture. The existing "cross" can be replaced by a "tick" and "cross" symbol, while "tick" means confirm and continue; "cross" means delete and retake the photo. It would be easier for the user to retake the photo without doing the whole process all over again. Third, I found that it was a bit difficult to follow the pre-defined sections on the app. Therefore, I am thinking whether cancel this function will be better. Instead, let the user do the labelling of different colors by themselves. I think this would be easier for them to organize their own notes.

And here is something a bit off topic. I think the app is useful for students to collect information/ different kind of materials, but I don't think it should be limited to museums only. For instance, a civil engineering student going on a field trip and he is requested to finish a field-trip report containing drawings and analysis. This app can definitely help him by taking photos of rocks, recording the noises nearby and jotting down the notes. However, it is just a thought popped up in my mind, it's okay if you find this is not suitable for the project.

Shared Folder	Shared Folder
.h .h .m	.h
CreateHTMLFile.h CreateHTMLFile.m GalleryNoteViewCo GalleryNoteViewCo museum museum.xcodeproj ntroller.h ntroller.m	AppDelegate.h AppDelegate.m Base.lproj Controller Helper
museum.xxworksp museumiests Note.n Note.m Podfile Podfile.lock ace	PLIST .M
	Images.xcassets Info.plist main.m Model ssets
Pods README md simple-drum- Ulimane-Crop b Ulimane-Crop m Ulimane-Besize b	
beat.way	
Ullmage+Resize.m ViewUtils.h ViewUtils.m	
//	//
// Photo.m	
// museum	#import "Museum.h"
// Created by Dill Ling on 05/10/14	
// Created by Bill Ling on 25/10/14.	@implementation Museum
// Copyright (c) 2014 Ling Kai Piu, Bill. All rights reserved.	
//	· (i)
	+ (void)migrate {
"import "Dhoto h"	[BROrm executeUpdate:
#Import Photo.n	@"CREATE TABLE IF NOT EXISTS museum ("
	"identifier INTECED DDIMADY VEV
@implementation Photo	Identifier INTEGER FRIMART RET
	AUTOINCREMENT, "
(void)migrata ("chi_name TEXT, "
	"eng. name TEXT."
[BROrm executeUpdate:	
@"CREATE TABLE IF NOT EXISTS photo ("	"img_src TEXT);" withArgumentsInArray:NULL];
"identifier INTEGER PRIMARY KEY AUTOINCREMENT,	}
"	
photo_src lEx1,	+ (INSSUTING ^)get LadieName {
"check_point_identifier INTEGER);"	return @"museum";
withArgumentsInArray:NULL];	}
}	
(MSString *)gotTableNerra	- (NSInteger)numberOfCheckPoints {
+ (INSOLITING ")get1ableName {	return [[self hasOneOrMany:@"CheckPoint"] count];
return @"photo";	}
}	,
- (Check Point *) check Point (- (NSArray *)checkPoints {
	return [[self hasOneOrManv:@"CheckPoint"] findManv]:
return (CheckPoint *)[[BROrmWrapper	
factoryForClassName:@"CheckPoint"]	Ĵ
findOne:self[@"check_point_identifier"]];	
3	
د ا	Øend
	wond
@end	

Appendix C (IOS program folders and partial coding)