Introduction

Tourism is one of the most important and fastest growing industries all over the world. The tourism bureau of R.O.C predicted that tourism revenue could reach 550 billion NTD in 2012 and account for 4% of GDP. According to the 2011 report from tourism bureau of R.O.C, the percentage of domestic traveling increases about 1.5% annually and people are willing to spend more money and time in domestic traveling, showing that the tourism industry now in Taiwan is at the booming stage.

In addition, the mobile phone industry is also advancing rapidly. Since Apple announced iPhone in 2008, it has changed the development rules of mobile phones related industries. Furthermore, the Market Intelligence and Consulting Institute (MIC) predicts that the number of smartphone users in Taiwan would reach 15 million in 2015. The popularity of smartphone has created a new market place for mobile/smartphone applications (apps). After all, smartphone becomes so smart and valuable because of apps.

Due to the booming trend of tourism industry and the profitable potentials of apps, there are more and more developers trying to develop tourism apps. In addition to the individuals and corporate developers, even Taiwan government is trying to develop tourism apps for attracting people to visit Taiwan. However, those mobile tourism apps are developed by developers, not from app users' point of view. This study aimed to design apps from users' viewpoints and identify design guidelines of mobile tourism apps from users. We hope this work could bridge the gap of viewpoints between users and developers. After all, tourism related apps need to be user-oriented and fit users' needs.

Literature Review

Smartphone

According to a Nielsen's market research for 2012, in Taiwan the smartphone users contribute about 50% of mobile phone market revenue. A 2010 report from the Market Intelligence and Consulting Institute (MIC) predicted that the number of smartphone users would reach 15 million in 2015, and the number of smartphone users would increase steadily. In order to satisfy the increased number of smartphone users, Taiwan government tried to build 2,000 Wi-Fi hot spots all over Taiwan. These Wi-Fi hot spots

would be placed at train stations and post offices all over the country for providing free wireless Internet connection service. This policy would be big help for smartphone users and might be one of the key factors encouraging people to use smartphones.

Mobile Application

The rise of smartphone market leads to the birth of a new battle field-the mobile app market. The mobile apps could be considered as the core value of smartphone. With mobile apps, the smartphone could provide several functions. User desired functions offered by mobile apps are indeed the enabling factor making the mobile phone not just a phone but a smartphone. In addition, with the help of the universality of smartphone standards, individual developers could write or develop interesting mobile apps by their own. For company or organization, they may consider the use of mobile apps as a unique way to serve their customers (Pitt, Parent, Junglas, Chan, & Spyropoulou, 2011).

U-Commerce and U-Construct

With smartphone, mobile apps, and the wireless Internet, the people and society are being pushed into another level: U-commerce. U-commerce can be considered as "the use of ubiquitous networks to support personalized and uninterrupted communications and transactions between a firm and its various stakeholders to provide a level of value over, above, and beyond traditional commerce" (Junglas & Watson, 2006). There are four U-constructs identified, including: ubiquity, uniqueness, universality, and unison. There are different characteristics for each u-construct. From the extended idea of m-commerce, Junglas and Watson (2006) argued that ubiquity is composed of reachability, accessibility and portability. Ubiquity focuses on the idea of connecting to people and accessing the network through mobile devices, anytime, anywhere. Uniqueness, which consists of localization, identification and portability, represents the drive that could precisely identify the person and provide customized services. Universality is the combination of mobile networks and mobile devices. Universality could stimulate mobile industry to adopt the same standard and lead the society into a real "global village". The last one is unison which incorporated the idea of mobile apps and data synchronization. Unison focuses on the consistency of information that means with technology assistance such as PDA and desktop, people may want the data to be synchronized automatically; when