Design of Mobile Tourism Contents service in Northern Gyeongbuk Province, Korea

Sang-heon Kim[1] , Hee-soo Choi[2]

[1]Hankuk University of Foreign Studies, ImunRo 107, Seoul, Korea
[2]Sangmyung University, 7 Hongji-dong, Jongno-gu, Seoul, Korea
shkim@gcrc.kr, choice@smu.ac.kr

Abstract. Many countries around the world are developing their tourist contents. The Gyeongbuk region in Korea is developing and servicing its tourist contents, too, but there are some inconveniences associated with these assets. One way to overcome these difficulties is by servicing mobile assets based on structuring of flow-line of touring, stories and various forms of historical and cultural resources. That way, the service can help tourists easily acquire information on tourist attractions, reduce entrance fees, and thus promote the local competitiveness of the tourism industry. In addition, maintaining the services as objects of urban computing can contribute to expansion of the base of urban computing.

Keywords: Mobile, Tourism Contents, Ubiquitous, Urban Computing

1. Necessity of developing tourism contents

Tourism contents are defined as locations utilized for tourism, such as museums, cultural heritage sites, historical sites, etc. But it can also define programs designed to help tourists enjoy their visit. Prominent examples include guided tours, touring programs, festivals and other events, etc. Regions of historical and cultural importance can be excellent tourist contents on their own, but current visitors often need organized programs to help them to understand the past and draw meaningful knowledge from them.

Tourism is a method to promote local competitiveness. Thus efforts are being made to develop tourist contents based on characteristics of the areas concerned.1 There was a news story that stated that, in 2004, the number of international tourists that had visited New York City surpassed the number of international tourists that had visited Florida, a state long recognized overseas as a major tourist attraction.2 This story shows the increasing importance of tourism in terms of local competitiveness.

---

[1] Ji-Yeon Choi, Yik-Su Lee: assets Development of Urban Tourism Using Old Maps. THE KCA THESIS JOURNAL. Vol.7-10, (2007)
[2] http://www.tia.org/pressmedia/pressrec.asp

So, it is vital for the regions trying to promote tourism to develop their historical and cultural assets into more attractive resources for tourism and to construct unique assets of their own to promote tourism. It goes without saying that regions with historical and cultural importance would find it easier to attract tourists in contrast to regions that lack historically and culturally important assets. These assets allow tourists to have experiences that they cannot enjoy in regions that lack attractions.

This study examines the efforts to offer systemized tourism contents service by the Gyeongbuk region, a Province rich in historical and cultural resources. This region was selected because it possesses an abundance of historical and cultural heritage sites and is exemplary in its efforts to develop tourism contents.

2. The present condition of tourism contents service in Gyeongbuk area

Northern Gyeongbuk Province is often called a Confucian cultural area because traces of Confucian culture are more abundant here than in any other region in Korea.3 This region is where great scholar-officials of the Chosun Dynasty, like Yi Whang, who is known as Toegye, chancellor Ryu Sung-Nyong and Kim Sung-Il, who lived most of their lives their and the many students of various Confucian schools. Thus, the area has many historical sites and remains related to these scholars and their students. Likewise, customs related to weddings, funerals, ancestor worship, etc are observed more devoutly in the area than in other regions. Furthermore, large families with long paternal lineages are prevalent in this region.

The region also possesses an abundance of written records that the Confucian culture of the Chosun Dynasty left behind.4 But the records were written in Chinese script, and then used in everyday life by the cultured class, so contemporary Koreans find it difficult to understand these records. These records are being combined into a database by the Korean Studies Advancement Center. Likewise, information on the historical sites of this region is also being recorded into the database. The database is accessible online.

As these records are written in Chinese script, some of them have been converted into assets easily understood by contemporary people, like stories of the lives of scholars, Confucian rituals, culture, etc. of the Chosun period. These assets are mostly related to influential scholars or upper class families in the Confucian area.

These assets are primarily provided to inform the public of the Confucian culture. An additional purpose is to utilize the assets in the cultural industry, an effort encouraged by the municipal governments of the region.

---

[3] Seong Yun Kim: The Confucianism cultural sphere of YoungNam and deployment of Local school -centering around Local feature of Youngnam school`s thought system and cultural aspect appeared in its transfer process in AnDong, SangJu, SeongJu sphere. The Journal of Choson Dynasty History. Vol.37, (2006)

[4] Korean Studies Advancement Center located in the area has about 340,000 items of written records related to its Confucian culture in its archives.

The Gyeongbuk region is promoting various cultural assets based on these characteristics. A prominent example is the festivals prepared to help local businesses. Andong, a central city of the Confucian culture of the region holds an International Mask Dance Festival biennially, attracting many domestic and foreign tourists. The festival seeks to draw visitors to Hahoe village through the Hahoe mask dance, the foremost cultural treasure in the region and a UNESCO World Heritage.5 However, it has the disadvantage of attracting visitors for only short periods of time to the area.

Recently the guide system using QR (Quick response) codes has been introduced into Hahoe village. It is used to provide visitors with information on various historical sites via a QR code. It's a more evolved guide system than the previous one that only provided audio information. Visitors need nothing more than their cell phones to access the information. But it has the inconvenience of users having to scan QR codes to access the information.

Additionally, a assets museum was established to attract visitors. The traditional Cultural assets Museum in Andong is unprecedented in that it has no historical artifacts on display. Visitors experience the traditional culture of Andong by cutting-edge multimedia, like VR videos and multi-touch media tables. However, it also has the disadvantage of only being accessible by visiting the museum. Another disadvantage is that the assets are limited to those related to Andong.

Cultural assets reflect the regions characteristics as fully as possible. The Korean Studies Advancement Center in Andong provides information on historical sites in the Confucian cultural region via "Confucian net"(http://www.ugyo.net). This service is based on an electronic map of the Confucian culture, but it has the disadvantage that users have to access online. So visitors in the region also have to access the website online to get the information. These limitations caused the service to play a limited role in promoting tourism in the region. This is the reason there should be alternative methods to offer tourism contents of the local Confucian culture.

So the conventional tourism contents services can be summarized as consisting of festivals lasting for rather short periods of time a year, online assets only accessible by visiting the region, and digital assets accessible by scanning QR codes. These services, to a certain extent, contribute to tourism in the region, but need some improvement as urban tourism contents to draw visitors or potential visitors

3. Problems with current tourism contents services of Gyeongbuk Confucian cultural area

As shown previously, various tourism contents services are being provided in Gyeongbuk Province. Nevertheless, it's not evident that the tourism services are effective in the region, except for the some well-known regions. Other than the Hahoe village in Andong, famous for its picturesque scenery and the matchless Hahoe mask dance, and Dakshil village, widely known in Korea as a movie set location of, much of the region doesn't have many tourist attractions.

---

5 Total of 1,070,000 visited the festival in 2011 and the festival is estimated to have created the economic effect of nearly 80 million US Dollars.

One of the reasons is that there seems to be no organically structured tourism contents reflecting the regions historical and cultural characteristics. The degree of organic structuredness of the assets can be determined by whether the information demands of tourists are properly met and how much intimately connected objects comprising of tourism resources are.

Most tourism contents currently exhibited in the Gyeongbuk Confucian cultural region is limited to physical explanations of the historical sites. For example, if you visit Choonghyodang in Hahoe village, you are only told that the old house is the family house of Ryu Sung-Nyong, a reputed scholar-official of the Chosun Dynasty, and when it was built and who wrote the signboard mounted up the upper front of the house. The assets are of episodic interest to tourists and don't lead the visitors to tour the other sites around the house or to revisit the house. One result is that tourist's crowd into the limited number of well-known tourist attractions.

One of the most important elements in sightseeing is the flow-line of touring. Tourists visiting this region tend to plan on staying in the region for more than one day, intending to visit more than one tourist attraction. The problem arises that means are limited to lead the tourists to visit attractions sequentially. For example, tourists visiting the city of Andong tend to want to visit not just Hahoe village, but also others sites connected to the village in cultural and historical terms. However, the tourism contents currently serviced don't offer sufficient information needed to do t his. Likewise, information provided on the restaurants and accommodations in the area, vital to sightseeing, is not sufficient.[6]

Another reason is a s hortage of interconnected stories. Tourists want stories to relate to, connecting the experience to their inherent human interests. For example, visitors to Dosan Seowon may want to hear stories about Yi Whang, who spent a long time through various periods teaching many students. They may want to know about how he taught his students; whether some interesting episodes were available about the bedrooms and study rooms they stayed in, etc, from the detailed and interesting stories. However, visitors are provided only with matter-of-factual fragmented pieces of information about the main building of the complex, like schoolrooms, the place where scholar worship were performed, the rooms used for storing books and wood plates used for printing, etc.

The final reason is the loosely structured historical and cultural resources. The resources are varied, including wood plates, anthologies, manuscripts, diaries, artifacts and sites related to historical figures, etc. But these resources are loosely scattered, preventing them from attracting the interests of visitors. Separate museums and exhibits showing some of the resources don't relate to visitor's needs.

For these reasons, rich tourism contents of this Confucian region are not fully utilized as urban tourism contents. So some alternative methods are desperately needed.

---

[6] Information on tourist attractions, restaurant, accommodations, etc. are being serviced separately on their own.

4. Plans for developing mobile tourism contents service for Gyeongbuk Confucian cultural area

The question that needs most attention is how to develop the assets in line with various historical and cultural resources in the region. Recently, the information service method utilizing seamless display techniques drew the attention of many scholars. Seamless display techniques are the methods that make it possible for visitors to see the displays without getting out of the context. It seems that tourism contents service should also take advantage of this trend.

For example, tourists who visit Dosan Seowon first, get elementary information about what the purposes were of the institution. Then they get to know about Yi Whang, the central figure of the institution. But the process virtually stops there. The information they acquired about Dosan Seowon and Yi Whang could have been connected to the information about historical sites and cultural artifacts related to scholars and officials the Seowon produced, or, alternatively, to t information about the family house of Yi Whang, the forest trail he frequented, etc, for more interesting assets service to be possible. This is shown in the following figure

Fig. 1. A case of tourism contents service flow taking account of the contextual information
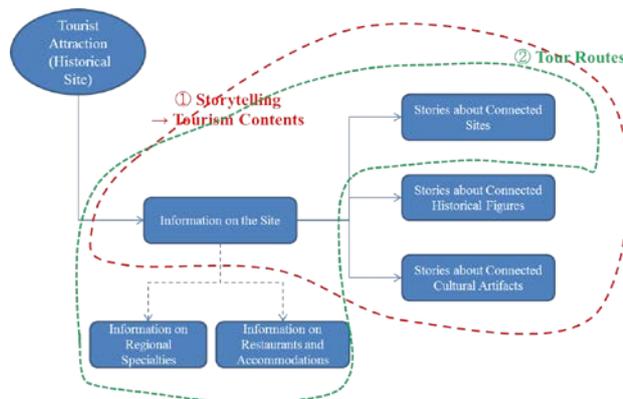
When combined with the information on historical and cultural resources or restaurants and accommodations in the area, the services can be more satisfying for tourists. The services should go in the direction of using more Information Technologies because they are currently the most convenient way of utilizing tangible or intangible historical and cultural resources. For that to be possible, the question of which method is to be used is of primary importance. The difficulty of servicing tourism contents and taking account of context is caused by the situation where offline exhibits, tour guide information, assets to be experienced are all so arranged that they could be seen and listened only on site. Meanwhile, internet service, though without the limitations, can only be accessed by visitors that are bothered by the inconvenience of accessing online every time they need the service.

What is needed is a service plan providing contextual information on the objects of sightseeing without burdensome operations. The "ubiquitous" concept can be

profitably applied here. The best candidate would be mobile technologies, but mobile technologies need two forms of infrastructure: network and devices. Korea is currently serviced by nationwide 3G mobile networks and is partially serviced by 4G LTE networks. With Wi-Fi networks serviced throughout the country, network infrastructure is not a problem. The increase of smart phones in Korea is unsurpassed, so the devices for the services cannot be a problem.[7] With the infrastructure safely secured, it can be said that preparing the services of mobile tourism contents for successful user experience is almost complete.

Some additional technologies are needed to service the satisfying mobile tourism contents. For tourists to access the assets without further operations, location-based technologies should be used to identify the location of the users and offer the information the users may need on site. Information on tourist attractions is a type of information on historical cultural resources, so it should be managed through urban computing. Maintaining historical cultural resources as a subcategory of objects of urban computing enable them to be managed on whole city networks without additional network building for the separate service.[8] The service plan applying the concept is shown below.

Fig. 2. Service Plan for Mobile Tourism Contents

5. Significance of mobile tourism contents service development

The mobile tourism contents are worthy of note for two reasons. First, it shows the importance of urban tourism contents. This is because urban tourism contents, in particular, combined with the historical and cultural resources in the areas concerned,

---

[7] May 2012, Korea's smartphone users over half of the total mobile phone users subscribers are using approximately 2,700 million.

[8] Jang, Yong Gu, Lee, Woo Sik, Kim, Hyung Su: Management Plan of Urban Object IDentification through Status-Analysis of Existing Object Management Code. The Journal of GIS Association of Korea. Vol.16, No.1, pp.51-64, (2008); Shim, Kwang-Hyun: Cultural Political Interaction of Urban Space and Media Space in the Age of Ubiquitous Computing. Studies in Urban Humanities. Vol.1-1, (2009)

can contribute to providing differentiated tourism services and so can be utilized as the basis for promoting the tourism industry in the area. Historical and cultural resources are, in definition, unique in their assets and thus can be a strong asset to secure the competitiveness of the tourism industry in the area. If the services are widely available, tourists will acquire information they're interested in without little effort and have a more interesting and meaningful experience from the tours compared to relying only on human tour guides.

Next, the case is significant in terms of urban computing. Conventional urban computing tends to be built in the direction of promoting conveniences enjoyable to the locals and administrators. This is revealed by the fact that the objects of urban computing usually consist of utilities, roads, buildings, raw materials, fire services, sewage system, etc. However, maintaining objects of tourism contents in the database in the form of historical and cultural resources not only facilitates the maintenance of the objects, but also contributes to expanding the range of urban computing by serving the demands of visitors as well as those of locals. In this aspect, creating mobile tourism contents can be particularly significant for urban computing as well as for the tourism industry.

References

1. Seong Yun Kim: The Confucianism cultural sphere of Youngnam and deployment of Local school -centering around Local feature of Youngnam school`s thought system and cultural aspect appeared in its transfer process in AnDong, SangJu, SeongJu sphere. The Journal of Choson Dynasty History. Vol.37, (2006)
2. Ji-Yeon Choi, Yik-Su Lee: Contents Development of Urban Tourism Using Old Maps. THE KCA THESIS JOURNAL. Vol.7-10, (2007)
3. Jang, Yong Gu, Lee, Woo Sik, Kim, Hyung Su: Management Plan of Urban Object IDentification through Status-Analysis of Existing Object Management Code. The Journal of GIS Association of Korea. Vol.16, No.1, pp.51-64, (2008)
4. Shim, Kwang-Hyun: Cultural Political Interaction of Urban Space and Media Space in the Age of Ubiquitous Computing.   Studies in Urban Humanities. Vol.1-1, (2009)
5. Sang Kwan Nam, Yoon Seuk Oh, Seung Ki Ryu, Hyuk Jong Kwon: An Application of GRID Architecture on a Part of Urban Facilities Management Based on U-GIS. Journal of the Korean Association of Geographic Information Studies. Vol.12 No.4, (2009)