2Cebu: A Travel Guide Web Application for Assisting Tourists in the Province of Cebu

Dan Junniel D. Gealon, Lesly Jean D. Go, Gran G. Sabandal, Angie M. Ceniza, John Rex A. Paña

ABSTRACT--- *The province of Cebu is an ideal destination for tourists whether local or international, making it one of the most sought vacation spots in the country. Its variety of tourist spots indicate that Cebu has a lot to offer that tourists ought to discover. Since so much about Cebu has made the rounds in a variety of media, it is in this aspect that information gathering has been confusing and inefficient. The goal is to provide tourists up-to-date and accurate information in a centralized platform. For this study, a web-based application was developed which provided all necessary information and tools that can be used by tourists to plan and organize their trip, locate tourist spots and visit the areas in the province of Cebu. The satisfactory result of 3.9 for User Acceptance Testing show that it has met the goal of creating a travel-guide web application. The system creates more opportunities for Cebu's tourism industry to expand their reach and engagement to local and foreign tourists alike.*

KEYWORDS Travel guide, web application, information system, tourist-guide web application

1. INTRODUCTION

Cebu Province is located in Central Visayas - Philippines, which is in the center of the Philippine archipelago. The province of Cebu is remarkable for the abundance of its diverse historical and natural resources and has a unique blend of a rich cultural milieu. Cebu tourism industry has become a major economic upswing and continually drives the economic growth for several decades in the Visayan archipelago, making Cebu second to Manila in terms of economic development. According to the Department of Tourism (DOT) 7, Cebu is recognized in terms of receiving the biggest volume of tourist arrivals in Central Visayas region which stood at 4.39 million (10.68 % growth) from January to October of 2016. Despite Cebu being one of the most sought vacation spots in the country, the provincial government's tourism website does not provide a comprehensive content of Cebu's tourist spots and a lack of interaction between the website and the tourist does not allow the latter to experience a responsive manner of discovering what the island has to offer. However, in the incapability of the local government to do so, there was still a way to bring Cebu into the spotlight.

The campaign "It's More Fun in the Philippines" last 2012, now known as "Experience The Philippines", was launched by the Department of Tourism (DOT) with the aim to invite tourists in the country which produced a series of advertisements, videos and posters that encouraged them to experience the country for themselves. In fact, a program that exclusively promotes Cebu launched in the same year called "Suroy Suroy Sugbo." It does not only promote tourist destinations, Cebuano products and culture but the idea that Cebu is a wonderful and fun place for tourists and locals alike. However, recent tourists who are planning to visit Cebu rely mostly on social media, friend's recommendations, blogs, etc. to access information regarding the tourist spots available in the province of Cebu. At times, tourists face problems in finding all the information available in a single application, as most of the services are not in a centralized platform. The use of technology would be helpful to create a dedicated app that caters to the need of the client, most especially in this case—the tourists.

In this paper, a travel-guide web application for assisting tourists in the province of Cebu called "2Cebu" was presented. This study gives a one-stop location and a centralized platform based on web services which provides all necessary information and tools that can be used by tourists to plan and organize their trip, locate tourist spots and visit the areas in the province of Cebu. This will be beneficial not only to local and foreign tourists but also to promote the growing industry of tourism in Cebu.

2. RELATED SYSTEMS

This section considers some of the related systems.

2.1 GeOasis: A knowledge-based georeferenced tourist assistant

This study is a knowledge-based system in assisting tourists in giving them the right information while they are having their trip. In a specific region, while the tourist moves around that area, GeOasis give the user information relative to tourist Points of Interest (POI) of this region. The researchers incorporated a GPS navigator technology giving the GeOasis the ability to locate the route, the current position and the pace of the user; allowing GeOasis to estimate the availability of time and the places that creates the route [1].

2.2 Implementation of Location Base Service on Tourism Places in West Nusa Tenggara by Using Smartphone

Another related system from Indonesia by Gunawan & Purnama [2], the developers build application that aid users in accessing information on the tourist spots located in West Nusa Tenggara, Indonesia; it is one of the provinces in Indonesia and second tourist destination next to Bali. With

Dan Junniel D. Gealon, Department of Computer and Information Science University of San Carlos, Philippines. (gealond@gmail.com)

Lesly Jean D. Go, Department of Computer and Information Science University of San Carlos, Philippines. (leslyjeang123@gmail.com)

Gran G. Sabandal, Department of Computer and Information Science University of San Carlos, Philippines. (ggsabandal@usc.edu.ph)

Angie M. Ceniza, Department of Computer and Information Science University of San Carlos, Philippines. (amceniza@usc.edu. Ph)

John Rex A. Paña, Department of Computer and Information Science University of San Carlos, Philippines. (jrpana@usc.edu. Ph)

an area about 19,708.79 km2, the application serves as provider of information that includes description of the specific tourist spot, the address, photo galleries, available facilities and nearest path where the tourist attraction is by using Google maps; which can display map locations and nearest routes from the user's location to the tourist spot location through GPS (Global Positioning System). At the end of their research, they created a location based services application in helping the tourists by providing information in visiting around West Nusa Tenggara.

2.3 A Web-based Application for Recommending Travel Regions

In the study of Wörndl [3], the researchers designed a Web Application for suggesting travel location for independent tourists and providing users a platform that can determine and specify interests such as budget plan, preferred activities and accept recommended trips in the area within a region. The researches applied Knapsack-based algorithm that uses dynamic programming to get estimated results to provide users a wide variety of list for users to choose from. From the results, it shows that the web application is efficient but it was only tested with a small number of entities.

2.4 A Tourist Guide with a Recommender System and Social Interaction

Umanets, Ferreira & Leite, proposed a mobile and web application for tourist guide known as "GuideMe". Its features includes by providing discussion, publication and recommends tourist spots for the user. With the user's recommendations, one user have the access to ask places of the touristic interest, received feedbacks of unseen tourist's locations according to other user's recommendations, and create its own recommendations by using the well-known Mahout library. It has combines it social network as a functionality making it convenient with the for tourist. [4]

3. METHODOLOGY

This section shows the conceptual framework of the travel-guide web application for assisting tourists in the province of Cebu.

The 2Cebu travel guide web application has two user categories; the admin and tourist (normal users). The admin can be able to manage attractions not limited to historical or tourist spots but including the delicacies, festivals, even the accommodation and transportation to these places. It also manages users and its reviews on the places. The travel as the second user can either create a new account or use Facebook or Gmail to be able to access the features of the application. These features will let the user able to locate attractions, events and local stores on the map. View a detail list of each of the attraction, events and delicacies. Lastly be able to rate and review visited attractions.

Figure 1: 2Cebu Travel Guide Application Conceptual Framework.

As shown in Fig. 1 the conceptual framework of application allowing different features for the traveler to go around with the 2Cebu travel guide web app.

The system will provide both local and foreign travelers by giving them up-to-date and accurate material that will help them in their visit to their places of interest in the province of Cebu. The Fig. 2 shows the system flow of the system. The authenticated user (traveler) can search attractions, suggest attractions using his/her account and will wait for the approval by the admin. The admin can search add and approved user recommended attractions in order for the users to view it.

Figure 2: System Flow.

Submitting new attraction (add attraction feature) allows user to access of giving recommendations not limited to the accommodation, transportation, activities and delicacies; uploading photos; and adding review. Thus equipping the travelers to have a recent information of the approved attractions. Users can have a varied option also to narrow down the search of the attraction based on city/municipality of Cebu province and/or by categories.

4. RESULTS

The 2Cebu web application undergo a verification process using the Black Box Testing.

The Fig. 3 below shows the results of the black box testing; 94% as Applicable and 6% as Not Acceptable.

Figure 3: Results of the black box testing.

It was validated by using a user acceptance test based on functionality, reliability, usability, efficiency, maintainability, and support & manuals. The 323 respondents, that was based on the Yamane formula on the total number of 6.9 million tourist in Cebu last 2017 with a 95% confidence level, joined for the validation process. For every criterion, a five-point rating scale, one as the lowest and five as the highest measures it. For getting the average score, all six criterions' total score were added and divided by the number of criterions. The graph shows in Fig. 4 the result of the User Acceptance Testing. It appears that the system is functional with an average rating of 4.1. The system shows how it is reliable to the tester, with an average rating of 4.0. The usability shows that system achieved the specified goals of the system with an average rating of 3.9. Lastly, our system shows that there is a need of improvement in maintaining the system and demonstrates how simple and understandable the manuals are. Overall, it has the average score of 3.9.
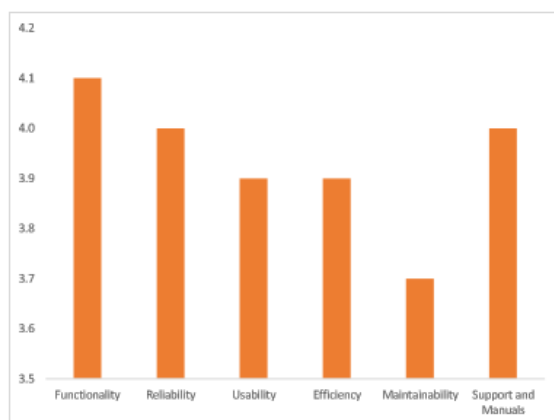

Figure 4: User acceptance testing.

5. CONCLUSION

As reflected in the User Acceptance Testing (UAT), it has met the goal of creating a travel-guide web application. It provided a user-friendly interface that allows users to navigate through the application with ease. The search feature was effective in showing users the tourist spots of their interest. Being able to add and view new attractions allowed the users to keep on discovering places of interest in Cebu and promote it effortlessly while constantly reminding tourists to travel responsibly. It shows that the effective use of technology through an application—in this case which is 2Cebu—creates more opportunities for the tourism industry to expand their reach and engagement to local and foreign tourists alike. This will help the tourism industry in mapping new and rising attractions in the province. More travel apps will be created to cater to more tourists who will depend on these to aid their trips every now and then.

6. ACKNOWLEDGMENTS

REFERENCES

1. Santiago, F. M., Lopez, F. A., Raez, A. M., & Lopez, A. U. (2012). GeOasis: A knowledge-based geo-referenced tourist assistant. Expert Systems with Applications, 11737-11745.
2. Gunawan, K., & Purnama, B. E. (2015). Implementation of Location Base Service on Tourism Places in West Nusa Tenggara by using Smartphone. (IJACSA) International Journal of Advanced Computer Science and Applications, 160-166.
3. Wolfgang, W. (2017). A Web-based Application for Recommending Travel Regions. UMAP '17 Adjunct Publication of the 25th Conference on User Modeling, Adaptation and Personalization, 105-106.
4. Umanets, A., Ferreira, A., & Leite, N. (2014). GuideMe – A Tourist Guide with a Recommender System and Social Interaction. Procedia Technology, 407 – 414.