

I Love Tacloban App

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ABSTRACT

Innovation became important today's generation. There are new-found technologies to help users to cope with the fast and modern development of technologies. The study "I love Tacloban App" is an Android application that provides information when visiting Tacloban City. Everything the user wants to know, the fast food, restaurants, hotels, hospitals, malls, churches, tourist spots, events, different delicacies, or even the emergency numbers, are in this app. It can also help locals or people outside the city trying to find skilled workers in other places. It may even help promote the Tacloban to visitors and other institutions and organizations. The findings of the study indicate that the application of mobile apps proved to be an advantage in promoting tourism to the Tacloban area. This is a helpful guide, especially to the tourists who are new to Tacloban. Thus, this study will further illustrate the effectiveness of mobile apps in the tourism industry as a source of reference to the mobile apps developer who created the advanced apps and gratifies the demand of tourists. The researchers believe this system will help deliver tourism, cultural, and historical information to Tacloban visitors. This research will further become a reference to future researchers in improving the quality of service of a tourist destination.

Keywords: Mobile Application, Travel, Android Application, Mobile Device.

1. INTRODUCTION

Information and Communication Technologies (ICT) have revolutionized society's ability to communicate over the past several decades. The Future of Mobile Technology The term "app" is commonly used to refer to mobile applications. Applications for mobile devices, such as smartphones and tablets, are known as "mobile-optimized" software (MOS). Using Waze, for example, users may search for a certain location. In the Philippines, it is one of the most widely used smartphone applications. It's time for tourist locations to take advantage of the growing number of mobile phone and tablet users by developing mobile apps [1].

In the Philippines, people are already enthusiastic about using mobile applications when traveling. Travelers share their experiences by uploading photos and anecdotes about the locations they've visited on a variety of social media platforms. By creating a mobile application, travelers would have much greater ease in sharing their adventures with others and in telling their stories [2].

As the regional capital of Eastern Visayas, Tacloban is a resilient city in the Philippines. Despite being the capital of the province of Leyte, the city remains autonomous. San Juanico Bridge, Balyu-an Amphitheatre, San Juanico Park Golf and Country Club, Sto. Ninos Shrine and Heritage Museum, Calvary Hill, the Mansion Palace, and the Yolanda wrecked boat at Anibong are some of Tacloban's most popular tourist attractions. The locations of these tourist attractions vary.

The purpose of this study is to help travelers by giving information about Tacloban's most famous attractions. This contains a map of Tacloban that gives information about the city's locations and might be a useful reference for those who want to visit and explore the area. As a result of using this software, you'll be less likely to get lost in the city. Using this software, the user will be able to see how far they are from their desired location by calculating the distance of the streets. Additionally, it can act as a reservation service for hotels and restaurants. Using this app, you may search for highly-skilled individuals such as physicians and engineers as well as architects, masons and plumbers.

2. RELATED STUDIES

Now the day mobile phone is a necessary part of people's life. There is a continuously rising in many mobile computing applications centered on people's daily lives. In such applications, location-dependent systems have been detected as essential applications

2.1. Mobile Apps

Advances in mobile technology have had an enormous impact on people's daily lives in recent years. People's lives are increasingly dependent on smartphones and other mobile gadgets. As a result, there has been a huge need for mobile software developers [4].

Many of the responsibilities of tourist professionals in the tourism sector have been replaced by smartphone apps. But the question is to what degree these applications' effectiveness and shortcomings can benefit and gratify a traveler throughout his tour visit. As a result, this concept paper will examine the advantages and disadvantages of employing mobile applications to facilitate tour visits and tourist communication. Mobile app use in tourism has been studied extensively since 2011 for this paper's study. The findings of the study show that the use of mobile applications in tourist communication does not completely replace the role of human employees in the tourism industry [5].

Due to smartphones' excellent processing capabilities and availability, they have quickly become a popular travel tool. Our perception of transportation and tourism is being radically reshaped by the rise of smartphones and the large range of applications that are being developed for them. For this reason, the article examines how smartphones mediate tourism travel and the role they might play in more collaborative and dynamic travel decisions to facilitate sustainable tourism; given the rapid uptake of smartphone technology and associated apps, there is a need to evaluate the current and emerging state-of-the-art and what this means for the tourist travel domain. This article focuses on domestic travel, both to and from destinations and tourist sites, using smartphones and their accompanying apps [6].

Al Madinah Al Munawwara is one of the world's most important and verified urban areas. It is the strictest location for Muslims after the mosque. Throughout the year, visitors arrive to Al Madinah. They ran into problems with not knowing where to go in Al Madinah. Additionally, visitors face difficulties in obtaining information about the location they are visiting. Visitors to Al Madinah can use Taibah Visitor, a portable software that serves as a guiding framework. It aims to assist people in Al Madinah in their search for and selection of services. Visitors to Taibah may make the most of their time there thanks to Taibah Visitor's outstanding efforts. All historical, archaeological, and

religious landmarks may be accessed through simple interfaces thanks to this software. Using the map, users may see all locations and find the quickest route. There are also restaurants, hotels, vehicle rental companies, gift stores and dates shops in Al Madinah Al Munawwara [7] to serve visitors, especially those who are visiting the city for the first time.

2.2. Mobile Device

Mobile Learning (m-learning) is not new, but new gadgets with greater capabilities have significantly boosted the interest level, notably among language instructors, in m-learning. When it comes to studying these days, most people choose to utilize a smartphone since it has all the materials they need in one place.

One of the most anticipated smartphone operating systems is Google's Android platform. Computers/Laptops can be replaced by smartphones. A wide range of new apps may be developed for mobile devices as their capabilities continue to grow. In today's cellular industry, mobile application development is in great demand because of its recent development. For designing mobile apps, Android provides a novel component-based framework in which each application is made of a distinct number and kind of components [10].

3. METHODOLOGY

3.1 Software Model Used

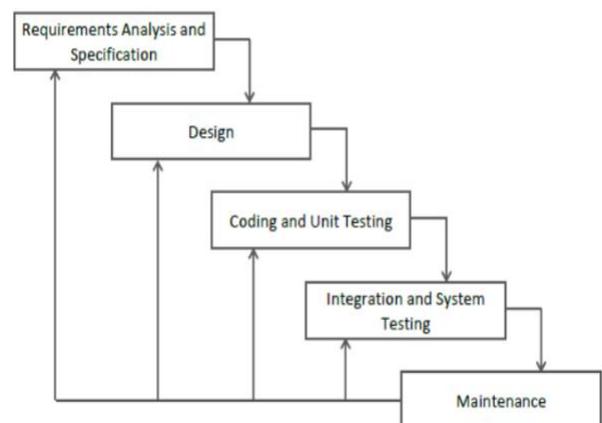


Figure 1 Iterative Waterfall Model.

Figure 1 depicts the iterative waterfall approach utilized in the system development life cycle. This particular implementation of an SDLC is known as the iterative waterfall model, and it starts with a simple application that grows in complexity and functionality over time. Development begins with requirements gathering and ends with system testing and maintenance. There is no end in sight to the process until a fully working software application is ready for deployment.

3.2 Study Area

The map displays the location of the study.



Figure 2 Aerial View of Tacloban City.

The researchers conducted this study at Tacloban City, Leyte, Philippines. Tacloban is one of the most progressive cities of Region 8. It is a 1st class highly urbanized city in the Eastern Visayas region of the Philippines.

3.3 Input-Process-Output

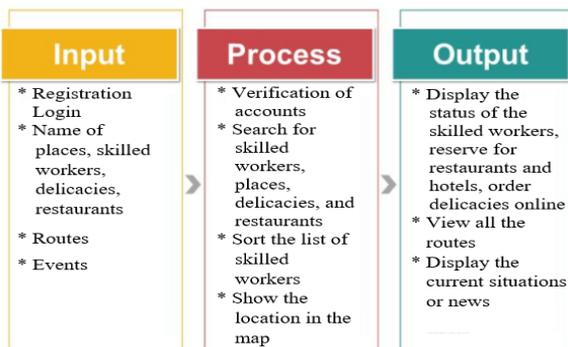


Figure 3 Input-Process-Output.

Figure 3 depicts the system's input-processing-output flow. The input data must be processed before the output can be created. Registration, a Login, the name of a place, a skilled worker, delicacies, restaurants and motels, routes and events are all included in the input. The next step is to verify the accounts. It uses their portfolios and previous job experience to rank the best professionals in the industry. Tourists can use the map to find their way about the city. It will be possible to see if skilled personnel are on hand from the results. A wide range of services are available to visitors from all over the world, including bookings for hotels and restaurants as well as advance orders for local specialities.

Requirements Modelling. For the many processes of the system, these are the important data and information that are required.

Input. When a computer system processes this information, it generates the intended result. The following is a list of the system's various inputs:

- Name of the places, skilled workers, delicacies and restaurants
- The starting point and destination point
- Events in Tacloban City
- Pictures and descriptions of places and restaurants

Process. The user may accomplish these functions and features using the program. The following is a list of the system's many processes:

- Search for skilled workers, places, delicacies, and restaurants
- Browse the map
- Admin can add, delete or update information about the restaurants, skilled workers, delicacies and manage the events section

Output. Input from the user generates these outcomes. The following is a list of the system's various output:

- The map outline of Tacloban City and your current location
- A search list of the different places, skilled workers, delicacies and restaurants
- Pictures and a brief description of the places and restaurants
- Displays shortest route/direction from starting point to destination point
- Latest events and happenings in Tacloban City

Performance. Operational presentation is referred to in these terms..

- The system can support multiple users simultaneously
- The performance speed is fast but may also vary depending on the user's Android version and model
- The system has a user-friendly interface

Control. These refer to the security and accessibility of the system.

- Users can only view the map, search places, hire skilled workers, order delicacies and reserve seats at restaurants, see the events section, and give feedback
- Only the administrator has access to the web-based management panel
- Only the administrator can add, delete or update information about the places, skilled workers, restaurants, delicacies, and events

3.4 Use Case Diagram

The graphical illustration of the interactions among the system elements is discussed below using the Use Case Diagram. It shows the system requirement using real-world objects.

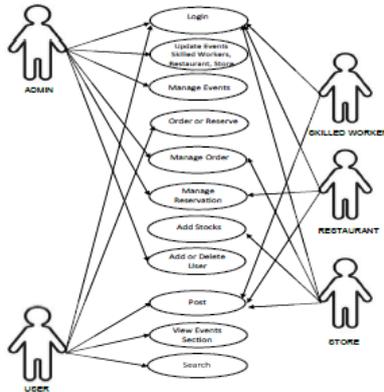


Figure 4 The Use Case Diagram.

Figure 4 shows the graphical illustration of user’s interaction with the system, the types of users that can access the system, and the various usage cases in which the user is involved.

In detail, the skilled workers, restaurant owners, and store owners will log in to the system. After verification of the accounts, the skilled workers can post their profiles. The store owner can add stocks and manage the order of delicacies and products. The restaurant owners can post and manage the reservation and order. The admin can add or delete users like the skilled worker, the restaurant owner, and the store owner. Also, the admin can update the accounts and manage the events. The users can view the events, search for places they want to go, view all the routes, and view the status for skilled workers, restaurants and hotels, and products and delicacies.

4. SYSTEM ARCHITECTURE

System Architecture turns the logical design of an information system into a physical structure that includes processing methods, including network support, security, and hardware and software specifications.

The admin is responsible for updating the travel trivia and will be sent to the mobile application to give information to the users.

Network Model is a model designed to represent objects and their relationships in a flexible way relationships.

Security includes the minimum unauthorized access and arrangements to be made to track user IDs and passwords.



Figure 5 System Architecture.

Hardware and Software. Technically, upon system development, the researchers defined the hardware and software specifications to ensure the credibility and functionality of the system.

The researchers used Microsoft Windows 10, Visual Studio Code, Ionic 4 Framework, Node JS, HTML, CSS for the programming language, and Angular 8 for Web Application. Google Chrome Ver. 77.0.38.65, MySQL for the database. For the Mobile Device Operating System Android 5.1 Lollipop was used.

Intel Corei3, Random Access Memory with 4 GB, and the disk space is 10 GB for the hardware. The Internet Speed is 2 Mbps, 1.4 GHz Dual Core, and 1GB RAM for mobile device hardware.

5. SYSTEM FEATURE

Design. This includes Output and User-Interface Design of the system, which is the Forms of the developed system.

Output and User Interface Design. This shows the output and interface design. It is the output of processed user input and generally the preliminary interfaces.

Forms. The data is input by the user, which will be saved into the database for future references.

This is the login form for the registered users, and those who have no account yet can register using the app.

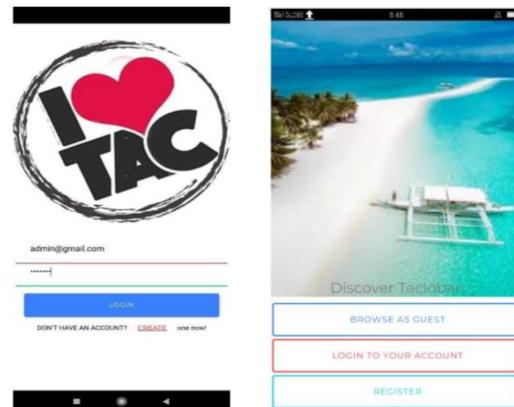


Figure 6 Log-in Form.



Figure 7 Register as Admin and User.

This is where the admin and the user can register using the mobile app.



Figure 8 Browse as user.

This is where the users can browse the menus. The About is all about Tacloban City.

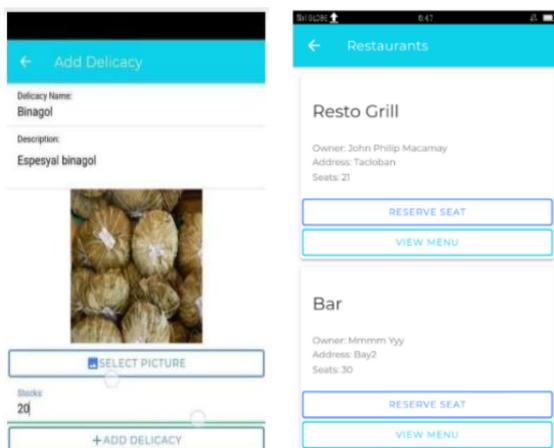


Figure 9 Users Module.

Figure 9 shows where the seller can add delicacies, reserve seats, and view and select the menu for advance orders.



Figure 10 View Events.



Figure 11 Select skilled workers.

This form, they can hire skilled workers and view events.

6. RESULTS AND CONCLUSION

The majority of travelers use their cellphones to research and identify tourist destinations, as well as to publish and share photos on social media. Using the Smartphone Development technique, the researchers created the mobile app. Tacloban City's traditional technique of disseminating location-specific information will be modernized with this app. The user's time surfing the internet for information on Tacloban City has been greatly reduced by this technique.

Functionality, efficiency, usability, reliability, and maintainability were all taken into consideration by thirty (30) people who use cellphones and social media. For each criterion, the grand mean is calculated to achieve the overall mean and interpretation as shown in Table 2.

Table 1 Likert scale.

Mean	Interpretation
4.51-5.00	Strongly Agree
3.51-4.50	Agree
2.51-3.50	Slightly Disagree
1.51-2.50	Disagree
1.00-1.50	Strongly Disagree

7. RECOMMENDATIONS

The researcher's recommendations for future enhancements of the developed I Love Tacloban App for Tacloban City.

- Provide time of reservation for restaurants.
- Include the date and time of order and pick-up time of delicacies.
- Show the directions and fares for places to visit.

Table 2 Evaluation result.

Criteria	Grand Mean	Interpretation
Functionality	4.77	Strongly Agree
Efficiency	4.78	Strongly Agree
Usability	4.88	Strongly Agree
Reliability	4.76	Strongly Agree
Maintainability	4.90	Strongly Agree

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