Chapter 4

**SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS**

This chapter summarizes the study's findings and the conclusions to the problems concerned with the development of the proposed Monitoring System for Bolinao and provides recommendations on its proper implementations and further developments.

**Summary**

This research aims to design and develop Monitoring System for Bolinao that will aid the Bolinao Tourism Office in tourist activities in the locale.

Furthermore, this study aims to achieve the following:

1. Identify the existing process and monitoring techniques of Bolinao’s Tourism.
2. Identify the problems encountered within the existing process of Bolinao Tourism Office.
3. Devise features to be integrated in the proposed Tourism Monitoring System; and
4. Determine the acceptability level of the developed system: a) Functionality, (b) Reliability, (c) Usability, (d)Efficiency, (e)Maintenance, and (f)Portability

This project study utilized Microsoft Visual Studio Code as the IDE alongside with Laravel PHP Framework as the programming language to implement the different features of the proposed system using Scrum Methodology. The Scrum Methodology has the following phases: a.) Initiation, b.) Planning and Estimation, c.) Implementation, d.) Reviewing; and e.) Releasing

**Findings**

This contains a discussion about the existing process, and the different difficulties being experienced in the current process of the Tourism Office System, as well as the features of the proposed Tourism Monitoring System for Bolinao and the acceptance of the proposed system in terms of functionality, reliability, usability, efficiency, maintainability, and portability.

**Current Process in Tourism Office System**

The proponents conducted an interview with the Municipal Tourism Officer of Bolinao Ms. Mary C. De Guzman <add role here>. The proponents found out that the Tourism Office is using manual processes and Google Forms in recording tourism activities.

Registration of tourist’s data. Registration form is being distributed to a list of tourist sites and registered establishments by the Bolinao Tourism Office.

Tourist’s data is being collected by the Bolinao Tourism Office by requesting newly arrived guests to fill up a registration form in tourist site and establishment. The guest will need to write down their information such as: name, nationality, age, date of birth, gender, address, contact information, date of arrival, and travel history. This process is required for every tourist site and establishment being visited by the guests.

Figure 8:

Registration of tourist’s data.



Collecting tourist data manually. Manual data collection of registration form is being done by the tourism office to tourist sites and establishments that has unavailable internet connection.

The collected data will then be compiled in the tourism office for encoding.

Figure 9:

Collecting tourist data manually.



Tourist data collection through Google Forms. Tourist data collection through Google Forms is being made when the tourist site and establishment has access to the Internet.

The Google forms is made by the IT Staff of tourism office. Links will be distributed to the tourist sites and establishments that has access to the Internet. After accepting responses, all the data collected will be encoded by the tourism office for compilation.

Figure 10:

Tourist data collection through Google Forms.

Encoding of data in Excel. Encoding is being by the tourism office manually through constant online work in the office. All data collected manually and through Google forms are then being compiled. The compiled data will then be encoded by the statistician of the tourism office through an Excel format provided by the Department of Tourism.

Figure 11:

Encoding of data in Excel.



**Difficulties encountered in the current system of Tourism Office**

Based on the data gathered from the interview conducted with Ms. Mary C. De Guzman, the following are the difficulties encountered by the Tourism Office:

Limited network signals in other sites and establishments. Limited network signals to certain tourist sites and establishments results to manual collection of registration forms and manual generation of reports. This difficulty makes it hard for the tourism office to collect tourist data in a timely manner.

Harder to implement systems. The unavailability of internet connection to tourist site and establishment is limiting the tourism office in implementing a computer system for easy management of registration form and monitoring.

Time-consuming collection of data. The tourism office will need go to the tourist sites and establishments that has no network signals to collect tourist data. Certain areas take time to reach because there are many tourist sites and registered establishments that are in areas that requires sailing such as the tourist site in Santiago Island.

**Features of the Proposed Tourism Monitoring System**

The development of Tourism Monitoring System for Bolinao is designed to provide the following features:

Register Account. The system feature can only be accessed by making the user to register an account. OTP (One-time Password) will be required to successfully register.

By making the user register, they will be able to access the basic core features of the system.

Figure 12:

Register account.

Graphical user interface

Description automatically generated

User Profile Setting. This feature allows the user to see their Profile. This can be accessed upon successful login of the user and by navigating to the right part of the header.

Users will be able to edit their Profile Information and they are required to also add their gender and address to be able to request for booking.

Figure 13:

User Profile Setting.

Graphical user interface, text, application

Description automatically generated

Dashboard. This feature allows the user to see the current numbers of visits of a tourist site or establishments. The number of visits in the establishment will update in real-time whenever there is a new booking accepted by the staff accounts.

Figure 14:

Dashboard.

Graphical user interface, application

Description automatically generated

Live Map Counter. This feature allows users to see the map of Bolinao via map pins of the tourist sites and establishments. The counter will also update in real-time whenever a booking entry is approved. As for privacy concerns, the live map counter in the homepage will only show the pins of every tourist site and establishments. To see the live number of total visits in the map, the user needs to login or register an account.

Figure 15:

Live Map Counter.

Map

Description automatically generated

Booking. This feature allows the user to be able to book in their chosen tourist site or establishment. This is a two-step process, where the first process will be the user info, this is to make sure that all information is correct before proceeding with the next page. User information can be modified by navigating to the Profile Setting page.

The second step will proceed on asking for additional information for the user. Users will be able to choose in a drop box the list of registered tourist site or establishment in the system. Upon choosing the location, the user will be given a ticket code that will be to the staff assigned to that tourist site or establishment. The staff will need to approve the request upon confirming the ticket code of the user. The following figure shows the steps in booking:

Figure 16:

Booking – User Info.

Graphical user interface, text, application

Description automatically generated

Figure 17:

Booking – Additional Information.

Graphical user interface, application

Description automatically generated

Figure 18:

Booking – Generate Ticket Number.

Graphical user interface, application, Teams

Description automatically generated

Pending Request Logs. This feature allows the user to see the list of active booking requested. Users can also cancel the booking request.

Figure 19:

Request Logs.

Text, table

Description automatically generated with medium confidence

Add Site Location. This will allow the tourism office to add specific locations of tourist sites and registered establishments according to its name, latitude, and longitude.

Figure 20:

Adding site location in live map.

Graphical user interface, text, application

Description automatically generated

Staff Account Creation. This feature allows the tourism office to create designated staff accounts for specific tourist sites and registered establishments.

Staff accounts have different functionalities that will help in managing and monitoring the designated site or establishment of that account. Staff accounts can only be created if the designated site or establishment has no existing staff account.

Figure 21:

Staff Account Creation.

Graphical user interface, application

Description automatically generated

Notification. Staff accounts will be able to create notifications for users to see updates related to the site or establishments. The notifications can be seen by the users when created including which staff account created the notification. The figures below show the following functionalities of the feature:

Figure 22:

Create Notification.

Table

Description automatically generated

Figure 23:

Create Notification Modal.

Graphical user interface, text, application, chat or text message

Description automatically generated

Figure 24:

Notification page – user.

Table

Description automatically generated

**Acceptability test of Tourism Monitoring System**

In the completion of the proposed system Tourism Monitoring System for Bolinao, the system will be accessed by the Tourism Office and the IT faculty of PSU – ACC.

Functionality. Table 3 shows the perception of evaluators on the system with respect to its functionality. The respondent rate functionality of the system is reflected with an overall mean of 4.73 which interprets as excellent. The functions of the system are appropriate in terms of suitability, with a total average weighted mean of 4.4, which translates to excellent. The measured data can be used by the registrar for data appropriateness. In terms of accuracy, PSU-ACC Registrar Office RMS has a total average weighted mean of 4.4, which translates to excellent, the RMS adheres to existing standards and policies. For security, the system prevents unauthorized access with an average weighted mean of 4, which is considered very good. The developed system can provide security to authorized personnel such as usernames and passwords in accessing the system.