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TECHNOLOGY****DESIGN AND DEVELOPMENT OF BILIRAN PROVINCE OFFICIAL WEBSITE****Reymon M. Santianez, Noel P. Tancinco**  
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**ABSTRACT**

The Biliran Province Official Website is a web system or a social networking site which was designed to be a source of increase in tourism through online advertising but not limited only on information sharing regarding province related topics and ideas but also an income generation as it serves as a product portal for the special delicacies and goods of the province. The methods used in gathering data required for the study are conducting interviews, observation, and research. Through the gathered data, the proponents created general structures of planning by means of the list of activities, division of work assignments and schedule of activities. The online system design was based on the capability to handle series of data that are effective to Biliran Province Official Website. On the other hand, the proponents assure that this project will be an effective way of improving the tourism's rate of Biliran province. Through this site, Biliran tourist, information of each municipality, products and delicacies from the said province will be seen not only by Biliranons, but also those who are residing outside the province. This will be a big advantage to the tourism department of the province because once it was hosted to the website; the attractive spots will be known by different people and can possibly get the interest of the guests or users to visit the place. Furthermore, in developing the Biliran Province official website, the proponents found out that planning and constructing an organized scheduling is a big factor in creating the site. It entrust the completion of the site or the system in time. In developing Bilirantweet website, the researchers have encountered setbacks in documenting the system. It was a fault that proves costly as the schedule for the submission of the documents. Lessons must be learned and must not be repeated. Lastly, with the above methods used, the proponents are confident that the proposed online system can contribute to the better development of knowledge, making the Biliran Province Official Website process more effective, and efficient.

**KEYWORDS:** Design; Development; Website**INTRODUCTION**

Technology is important for business because it helps people do more activities, can save time, be more productive and gain intelligence on key business processes and metrics. For manufacturers, in particular, the business supervisors needs to manage and have data on inventory, shipping, receiving, logistics, returns and a number of other product - related information. One of its outcomes is the initiation of Social Networking Sites. Social Networking Sites (SNSs) can help business gain contacts, clients, and increased public awareness. These sites are increasingly attracting the attention of academic and industry researchers intrigued by their affordances and reach. In connection to the modern technology advancement, the researcher proposed another networking site – a site on which the main purpose is to globally advertise and give distinct information about Biliran province entitled the Development and Design of Biliran Province Social Networking Site – the Bilirantweet.com.

The province of Biliran, one of the island provinces in the Philippines, located just a few kilometers north of Leyte Island and the capital is the Municipality of Naval. The island gained its independence on May 11, 1992 by virtue of Republic Act No. 7160, making it one of the provinces in the country. Biliran is one of the country's smallest and newest [provinces](#). The inhabitants of Biliran primarily speak [Cebuano](#) and [Waray](#), both [Visayan](#) languages.

The development of this system is not to compete to the existing site that portrays Biliran province but the proponents would like to use the technological skills they have in helping the province when it comes to online advertising.

One of the advantages of having this site is that people around the world will get to know more about Biliran and all other related information and activities about this particular place. Another Biliran website means more chance in promoting and making the place more attracted to tourists.

### OBJECTIVES OF THE STUDY

It is along in the context that the researchers are opted to conduct the study in order to design and develop an interactive website for Biliran province. Specifically, it intends to attained the following objectives:

1. Endorse Biliran province in terms of tourism aspects through online advertisement such as: Posting of Biliran tourist spots gallery, attractions, videos, hotel accommodations, travel guide and official services
2. Provide accessibility of information about Biliran province in terms of: Historical background including its municipalities; Biliran Provincial Government including its municipalities; Demographic profile; Geographical data; Facts and figures; News; and Biliranons abroad.
3. Implement and practice transparency with regards on every government projects, reports, achievement and status.
4. To develop an interactive official website of Biliran: Biliran Chikka for registered users; and Shoutouts for unregistered users are provided.
5. Design Biliran Product Portal that generates income for the province, give information about its special products and delicacies, provide Online Ordering of these items and entails a range of terms and conditions for the product portal.

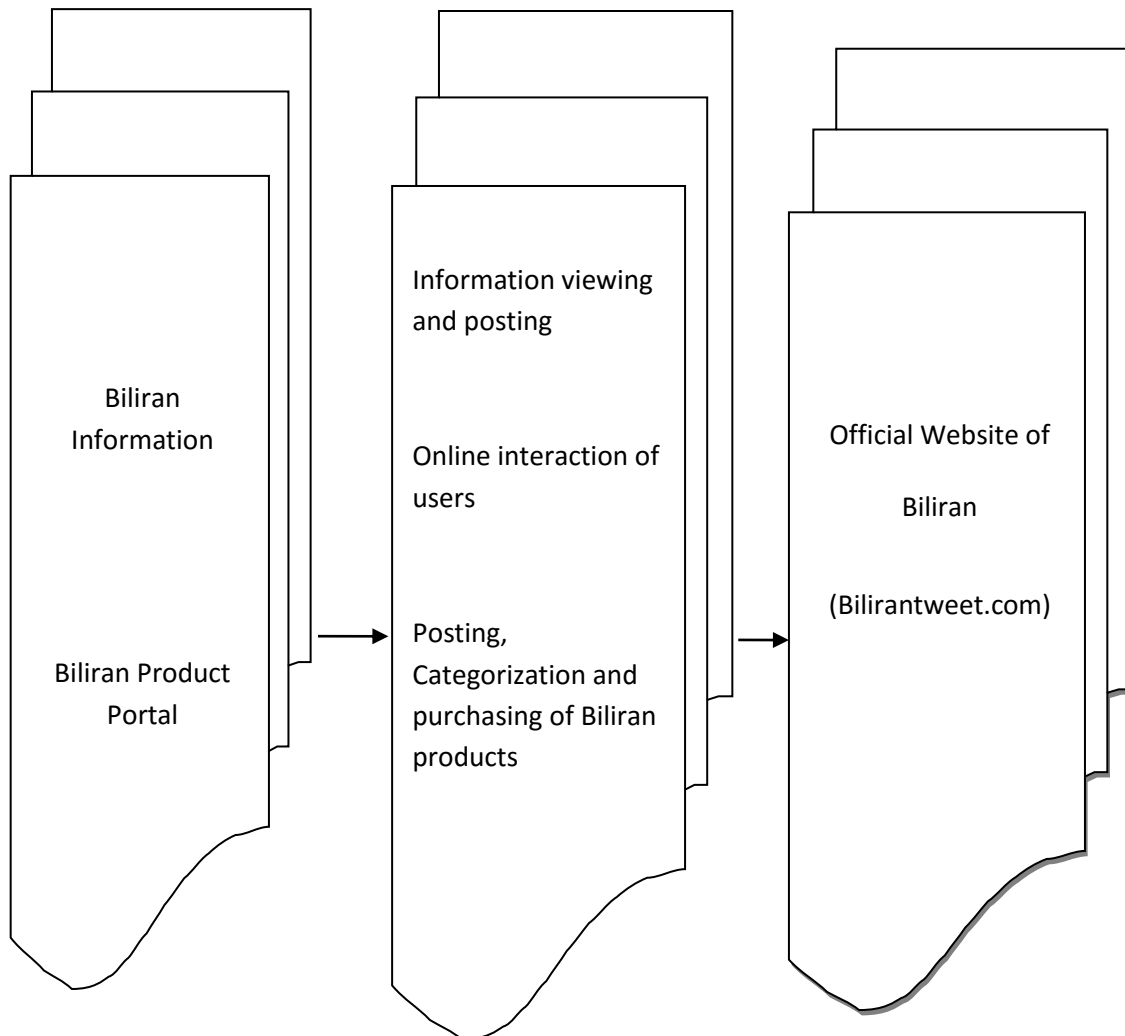
### FRAMEWORK OF THE STUDY

In developing the official website of the Biliran Province, the proponents secure the following categories and information. Important information that is needed to be enter or posted to the system, transactions that are present in the project and the outputs after posting and processing all the necessary information. This information must be accurate for it would affect the transactions that are vital for the integrity of the system.

Consequently, to make the system effective and efficient, the proponents considered necessary things in continuing the project. First is the *MySQL*. It is a Relational Database Management System (RDBMS) and ships with no Graphical User Interface (GUI) tools to administer databases or manage data contained within the databases. The program runs as a server that provides multi-user access to a number of databases. Next is the *PHP*. It is also called the Hypertext Preprocessor (PHP) and is a widely-used open source general-purpose scripting language that is especially suited for web development and can be embedded into HyperText Mark-up Language (HTML). Another needed set of information to consider is the *Normalization*. Normalization is the process of organizing tables in such a way that the results of using the database are always unambiguous and as intended.

Furthermore, Entity-Relationship Diagram (ER Diagrams) or the specialized graphics that illustrates the relationship between entities in a database is also needed to assure the integrity of the proposed subject. ER diagrams often use symbols to represent three different types of information. Boxes are commonly used to represent entities. Diamonds are normally used to represent relationships and ovals are used to represent attributes.

Figure 1.0 portrays the conceptual framework of the study.



*Figure 1.0 Conceptual Framework of the Study*

### **SCOPE AND DELIMITATION OF THE STUDY**

The proposed system is for advertising Biliran province worldwide. Thus, several privileges and processes among users are defined separately. First are the users. These are the people who can access the website and had been categorized into two types: (a) Registered users and the (b) unregistered users. Registered users can access the information on the site; through their confirmed email address and password they can modify their account anytime, can access the Biliran product portal online ordering, join and comment to forums and view other features in the website while the unregistered users or guests can only view features of the site. They are allowed to view and join shoutouts or blogs provided that they would enter their valid E-mail address for identification. They can only browse different products through Biliran Product Portal but they cannot buy on it. If they want to acquire products from the portal or view more of the system they still need to fill up user registration. Moreover, the proponents also designed privileges for the Administrator. System Administrator is responsible to modify and update the system as soon as new features come out, set up security policies for users and to maintain the effectiveness of the website. The admin can modify the design or the interface of the system and add another features on it, while information administrator is assigned for the modifications and updating all the articles, news and information of Biliran. Administrator can

posts forums on the site and for the confirmation of products in product portal. Profile information of the users is not included in modification.

Another is a user registration. All users are allowed to register and not if they don't want to. However, register and non-registered users differ in terms of accessibility. Several features in the system such as online ordering require user registration, thus, another webpage is provided for the registration form. This is under the link "Sign- up". In the registration form; username, email address, name, address, password, special question with answer in case of forgotten password, birthday, and profile picture (optional) are the main information needed to fill- up. Captcha is also present in the form for security purposes. In Captcha, alphanumeric symbols are given to be input by the user. After submitting the form there would be an instruction for the user to go in their email address and follow the link to confirm their registration. Once registered, user can use his account- his email address and password in logging in the website.

On the other hand, for the website information, the proposed system also provides Biliran historical backgrounds, geography, demographical information, economical facts and status, transportation information , population health status every municipality, government reports, photos of different establishments, pictures of Biliran beauties, tourist spots, government reports, latest news and all significant information referring to Biliran. This information has their own webpage and can be accessed by users, either registered or not. For registered and non- registered users, the main page in the system (index.php) is the first page they would see once they visit Bilirantweet.com. This page provides variety of links referring to the information on the website stated above. Since one of the objectives is to advertise the province globally, all information regarding Biliran is exposed in the website. Page for forums and blogs are present also in the system. The system provided another link of online ordering- the Biliran Product Portal. The Biliran Product Portal on the other hand is a webpage in the system that provides information regarding on the online selling and buying of products. All users are allowed to access this page however only registered users can buy on the portal. There are necessary information's that should be provided by the costumers for security purposes. Yet, accessibility of the products depends on the location of the user.

Thus, to ensure the security of information, every registration form for the users is provided by a captcha. Captchas are composed of characters, numbers and symbols combination that only human can understand. Unless it is entered, the transaction would proceed to its corresponding links.

In the product portal, a confirmation code is needed to be send to the admin to complete the online ordering. This feature is also anchored by terms and conditions to be agreed by the consumers.

Finally, the proponents provided feedbacks for a registered user which is under feedbacks.html page in order to give customers the chance to give their point of view about the services such as the product portal the system provided. In this page, they are allowed to send messages to the admin provided that they already have an account.

## METHODOLOGY

The Team of Biliran Province Online System has chosen the Spiral Model wherein the team believe that through this type of modeling technique the success of the proposed study will be ensured. This is a software development process combining elements of both design and prototyping-in-stages, in an effort to combine advantages of top-down and bottom-up concepts. Spiral model has four phases known as the Planning, Evaluation, Risk Analysis and Engineering. Iterating through these phases within this model helps in identifying the problems associated within each phase and dealing each problem in the sane phase, planning and developing strategies follows while iterating through each phase.

*Planning.* In this stage of development, the objectives, alternative and constraints of the project are determined and documented. The objectives and specifications are fixed in order to decide the techniques which are to follow during the life cycle of the project being conducted. In this stage the researchers conducted the proposal of the system, scheduling of the activities, and gathering of data and other necessary information.

*Risk analysis.* It is the most important phase of this model. In this phase, to develop a cost effective project, all available and possible alternatives are analyzed and decided if they will be use. This has been added in order to

identify and resolved all the possible risks within the development of the project. If risks are identified, prototyping may be used in order to precede the development of the project.

*Engineering.* In this phase, the actual development of the project is carried out. The output of this phase is passed through all the phases iteratively in order to obtain improvements in the same. In Engineering the teams perform the design and coding of the proposal study.

*Customer evaluation.* In this phase the developed product is passed on the customers in order to determine if the product meets the user's needs and receives customer's comments and suggestions which help to identify and resolve potential problems/errors in the developed program. This phase is pretty similar to testing phase. In addition, the teams in this phase have conducted the integration and test plan. With the intention of collecting the customer's assessment, the teams have uploaded the system in order for it to be evaluated by its design, functionalities and features. Of any result of the evaluation whatsoever, would be considered by the teams as buildings blocks in improving the proposed system and would be the basis for adjustments, modifications and changes in the system.

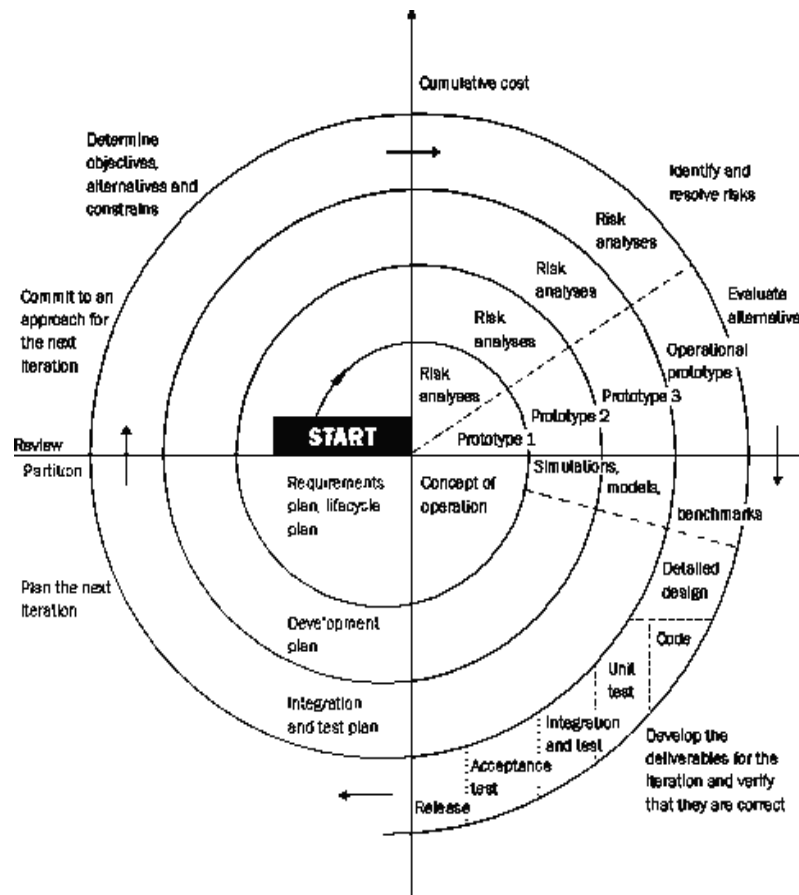


Figure 2.0 The Spiral Model

## RESULTS AND DISCUSSION

This chapter discusses the presentations of the results based on the objectives of this study. This includes the posting videos of tourists spots and attraction, provide accessibility of information dissemination pertains to Biliran, allow users view needed information in every municipalities, to implement and practice transparency with regards on every government projects, reports, achievement and status, design Biliran Product Portal that generates income for the province, give information about its special products and delicacies, provide online ordering of these items and

entails a range of terms and conditions for the product portal and promote and advertise Biliran province including its products and the eco-tourism available in the market.

### Accessibility of Information

As one of the significant objectives of the study, the proponents ensure that the accessibility of information is present on the system. Information that a certain individual that could ask about Biliran province is present on it such as the province history, mission and vision, government officials, Biliranons abroad, visitors' guide, latest news and issues, annual reports, transportation expenses, demographical data, economic status, Miss Biliran Island, province map, citizen's culture and lifestyle, activities of the province and relevant data in each municipality.



Figure 9.0 The web page showing the menu for accessing information





Figure 9.1 The web page providing latest trends in the province

### Municipalities Data

Being part of the province, it is very useful that the information of each municipality is included in the project. Statistical records, services, events, tourist spots, accommodations, calendar of activities, establishments and list of barangay officials are included in the Municipality Data.



Figure 10.2 The web page providing data in each municipality of Biliran

**Government News**

One of the major objectives of the study is to implement and practice transparency on the province thus government projects, reports, achievements and status is also included. This page provided significant information that will showcase the development of the Biliran through the leadership of the province officials.



Figure 9.3 The web page giving relevant information pertaining to the government reports

**Income Generation**

Another vital objective that the proponents included is the designing of a Biliran Product Portal that will generate income for the province, give information about its special delicacies and products and will provide an online ordering of these items which entails a range of terms and conditions. However only registered users are allowed to acquire on the portal, guests on the other hand can only view products.





Figure 9.4 The web page showing different handicrafts of Biliran Province

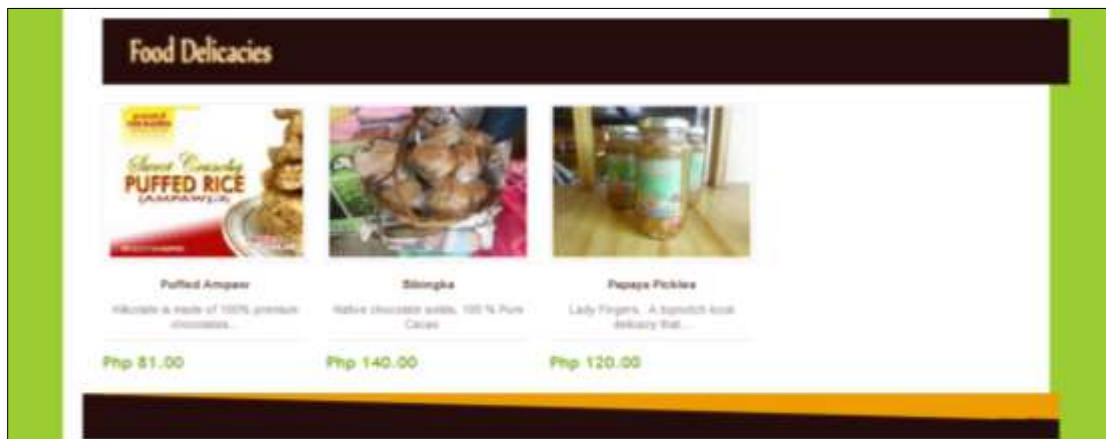


Figure 9.5 The web page showing different delicacies of the province



Figure 9.6 The web page showing the category products of the portal

Another way of promoting Biliran is to showcase all the stuffs the province obtained, thus a particular web page is included on the project that will provide the details and information of all the products included on the portal such as the quantity available, the price and the description of each item. However this product portal has its proper terms and conditions every user should know and observe.

## CONCLUSIONS

After hard works and sacrifices, the group became successful with the work. Conclusions with the project are made and realized by the researchers. The proponents therefore concluded that this project is successful and helpful in improving the tourism of Biliran province, and selling products. The group concluded that this social networking site, the Bilirantweet would work in all available Internet browsers. The site is constructed with entities that are needed to be active. Due to these entities, the construction of this website is successful and can now be used in different Internet Browsers like Internet Explorer, Mozilla FireFox, and Google Chrome. The proponents assure that this project will be an effective way of improving the tourism's rate of Biliran province. Through this site, Biliran attractions, information's by each municipalities, products and delicacies from the said province will be seen not only by the people who lives in Biliran, but also by those who are far from Biliran, and from different countries. This will be a big advantage to the tourism department of the province because once it was hosted to the website, the attractive spots will be known by different people and can possibly get the interest of the guests or users to visit the place.

## RECOMMENDATION

In realization of this social networking site, the proponents encountered numerous numbers of things to consider. Planning and constructing an organized scheduling is a big factor in creating the site. It entrust the completion of the site or the system in time. In developing Bilirantweet website, the researchers have encountered setbacks in documenting the system. It was a fault that proves costly as the schedule for the submission of the documents. Lessons must be learned and must not be repeated. Making notes while in the development proves a useful manner of effective development. With this, documenting everything can aid a lot in writing for the documentary of the research. Everything must be considered and must be treated with attention, for even the small detail proves

significant as the development proceeds. For the realization of the proposed study, all hardware and software requirements should be properly implemented.

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