PROPINSI SANDAUN PARIWISATA PANDUAN DAN INFORMASI

ARTICLE

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SANDAUN PROVINCE TOURISM GUIDE AND INFO

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ABSTRACT

Technology has been important in every aspect of life as we are living in the 21st century, the era of technology. Tourism has grown in the last decades due to technology use specifically in advertising tourist destinations online. Papua New Guinea on the other end has just tapped into technology usage, and thus its tourist destinations are not really promoted and advertised around the world yet. Developing systems of such will help ease the struggle being faced by its authorities and also a help to tourists or other individuals.

This paper will clearly define all the necessary steps in achieving the development of the system. Using the Object-Oriented Analysis approach, with the use of UML tools, they visualize the system into more simple understanding diagrams that can explain the creation of the systems. Also they explained the programing language used, such as PHP and HTML.

Because Tourism has been one of every country's major incomes, developing such system will allow more tourists to visit the province and country as a whole. Due to technology wise, creating **Sandaun Province Tourism Guide and Info**, will help international tourists to know more about the province as information relayed on other related websites are just partial or brief information resulting in potential tourist being turned away. Having such online web-based system will give more valid, updated and real – time information to any interested individual who wish to visit the province.

Keywords: Sandaun Province, tourism, object oriented analysis, web-based system

INTRODUCTION

1.1 Research Background

Technology has been the forefront of organizations development as this 21st Century has been better known as the age of Technology. Information and Communication Technology in tourism sector is of special significance. This is due to its special product behavior, various high tech information and communication technologies are in use in the tourism sector around the world. They are used for tourism product development, marketing, distribution and training of tourism sector personnel. These technologies are so indispensable in order to find out and satisfy the ever-changing demands for tourism products. Though there are many definitions for tourism, it could be simply defined as a "travel and stay of a non-resident". In order to travel to a particular area there must be a reason. For example a person may travel for leisure, business, visiting friends and relatives, health, education etc. He/she chooses a destination for one or the other reason. Transport is necessary to travel and accommodation to stay at the destination. So, tourism as an industry has three major components: Attraction, Accommodation and Transport. In the developed world, today, all these components have reached at their zenith in satisfying their customers' needs aided by modern technology. These components have also came a long way to offer a range of products which suit the needs of multitude tourists around the world, and are still working hard to cater to an ever changing test of them. Tourism is ranking the top ahead of all other categories of international trade. This is evident from the statistical information compiled from all over the world by WTO (World

Tourism Organization). The number of international arrival shows an evolution from a mere 5 million in 2011 to 20 million in 2012.The trend shows a tremendous increase both in the number of tourists and income in the coming years.

1.2. Problem Identification and Formulation

The Identification and formulation of problem are as follows;

1.2.1. Identify the Problem

As stated from the background above, the problems identified are as follows:

1. The Sandaun Province outdated tourism guide information of tourist destination and sites, provided by the national Tourism Promotional Authority. Local and international tourists find it difficult when arriving in the province to do their tour travels, as information given on the national site is outdated from years ago.
2. To move around the province, transportation is a problem for any outsiders. It is very difficult to find hired cars in the capital Vanimo, as most are used by the provincial government to do service runs or by locals to do their private runs.
3. Accommodation, on the other hand is always an obstacle has most lodges or hotels are not online or are not advertised to the outside public. The costings and the facilities that come with the package are not known.

1.3. Problem Formulation

According to the above mentioned problems, the problem formulations are as follows:

1. How to make every information about the province available to any people, either tourist or any interested individual. Since the current information provided by the PNG Tourism Authority is shallow.
2. How to create the Sandaun Province Tourisms Guide and Info website that would contain all the necessary information that would help a tourist find his/ her way around the province. This includes the transport fares and type of vehicles, the accommodation that will be provided and location, the sites to be visited.
3. How to test the application of the website that will open to the information of the province, the accommodation booking and the car rentals.
4. How to implement the database system integrate with online booking system of the Sandaun Province Tourism Guide and Info website and also integrating it with the Papua New Guinea Tourism Authority.

1.4. Research Purpose and Objectives

1.4.1. Research Purpose

The main purpose of this research is to build a website about Sandaun Province Tourism Guide and Info, with the idea of making known the various spectacular sites and activities of the province be made known to any interested travelers anywhere.

1.4.2. Research Objective

The main objective is to create a running, up-to-date and integrated website for the Sandaun Provincial Government Tourism sector. Moreover, the website will make the province as one of the tourist destination for any international tourist coming into Papua New Guinea.

1.6. Limitations

The limitations of this research are:

1. Selected hotel/ resort and hire car companies located near Vanimo are chosen.
2. Selected local rental car businesses that meet standard recommendations for hire, especially for hire out of town.
3. All queries are seen by admin or staff of website and relayed to the respective hotel/ lodges and hire car companies via telephone or fax.
4. All cars are provided with drivers.
5. Only 5 rooms of each type are given for reservation.
6. If cancelled, will be notified via email or sms. Rooms are reserved only for a week at the time of making the reservation.

THEORY

2.1 Information

By definition from the Merriam- Webster dictionary, information can be defined as the knowledge obtained from investigation, study or instruction. Specifically, in computing, it can be also defined as a signal or character representing data (something as a message, experimental data, or a picture) which

justifies change in construct that represents physical or mental experience or another construct.

2.2 System

A system, in general, is a set of interrelated components, with clearly defined boundary, working together to achieve common set of objectives. In computing, it will be the interaction of both the hardware and software components of a computer that, receives inputs as data, and process them to give result as outputs.

2.3 Information Systems

According to the online webopedia, it described Information systems or IS as: short for ***I****nformation* ***S****ystems* or ***I****nformation* ***S****ervices*. For many companies, *IS* is the name of the department responsible for computers, networking and data management. Other companies refer to the department as *IT (Information Technology)* and *MIS (Management Information Services). Information systems* support different types of decisions at different levels of the organizational hierarchy.

2.6 Understanding Tourism Management System (Destination Management System)

Tourism Management System or mostly known as Destination Management System (DMS). As stated by Frew, A.J. and Horan, P (2007) *Destination Website Effectiveness*, in the New Mind online, it defined it as: "Destination Management System are systems that consolidate and distribute a comprehensive range of tourism products through a variety of channels and platforms, generally catering for a specific region, and supporting the activities of a destination management organization within that region. DMS attempt to utilize a customer centric approach in order to manage

and market the destination as a holistic entity, typically providing strong destination related information, real-time reservations, and destination management tools and paying particular attention to supporting small and independent tourism suppliers."

OBJECT AND METHODS

3.1 Research Object

The object of the research is will be focused on the main idea of the paper which is: "Sandaun Province Tourism Guide and Info". Location is at Vanimo Town, Sandaun Province, Papua New Guinea.

3.1.1 History of the Object

Sandaun Province, also known as West Sepik Province, is located on the northern coast of the New Guinea Island. It borders the international border with Irian Jaya to the west, East Sepik Province to the east, Western Province to the south and the Southern Highlands Province to the south east.

Due to the location of the province, it can create a well desired tourist destination for any interested tourists to the country.

Ever since, tourism has been recognized as one the country's major income earner, system of such has not been fully used in most part of the industry. The PNG Tourism Promotion Authority, did made a website of such but was in a general scope of view, thus providing lesser or fewer details to any interested individuals. For Sandaun Province Tourism Guide and Info to be created, it would be a milestone and an example to other provinces in the country to promote their tourism.

3.1.2 Organizational Structure of Sandaun Province Tourism Guide and Info

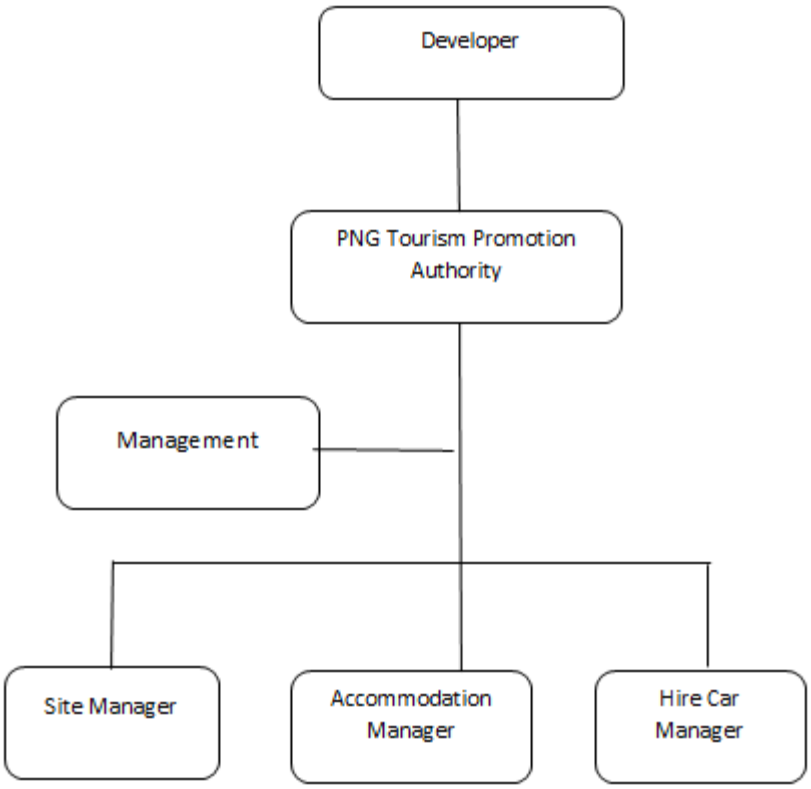


Figure 3.1 Organizational Structure of Sandaun Province Tourism Guide and Info

Job Descriptions:

- **Developer**- The individual(s) who is in charge of the creation of the website and who can be the admin of the website for some instance.
- **PNG Tourism Promotion Authortiy**- The authority in charge of all tourism activities in the country and therefore will be responsible to provide updated information or changes to has to be made to the website by the developer.

- **Management**- Those who will run the website on daily or working hours basis to monitor the activities going in the website and will receive any queries sent in by the customer through the contact tab. They are then sub classed as the **Site Manager** who will run the whole system from the destination site which Sandaun Province. Then you have the **Accommodation Manager** who will deal with the accommodation queries of the website, and lastly is the **Hire Car Manager** who will deal with the transportation sector.

3.2 Research Methods

Research methods are the various procedures, schemes and algorithms used in research. All the methods used by a researcher during a research study are termed as research methods. They are essentially planned, scientific and value-neutral. They include theoretical procedures, experimental studies, numerical schemes, statistical approaches, etc. Research methods help us collect samples, data and find a solution to a problem. Particularly, scientific research methods call for explanations based on collected facts, measurements and observations and not on reasoning alone. They accept only those explanations which can be verified by experiments.

3.2.1 Research Design

As Napolean Hill has stated, “Failing to plan, is planning to fail”. It should indicate various approaches to be used in solving the research problem, sources and information related to the problem and, time frame and the cost budget.

Based on Social Research Methods definition, it states: “Research design can be thought of as the *structure* of research -- it is the "glue" that holds all of the

elements in a research project together. We often describe a design using a concise notation that enables us to summarize a complex design structure efficiently."

3.2.2 Types and Data Collection Methods

The type and data collection methods are as follows:

3.2.2.1 Primary Data Sources

Sources of data or information this research is based on the type of data required. Primary data is data collected directly from the source or the individual(s) concerned using specific data collection techniques. In this case, these techniques are being used:

1. Observation

- Researcher browses and observes the various available online tourist websites in the country. Researcher visits specific websites that relates to Sandaun Province.

2. Interview

- Researcher collects data by emailing and calling via telephone directly with the person or organization concerned with the issue. Interview done are mainly by emailing, calling and through social media, as physical interview cannot be done due to circumstances.

3.2.2.2 Secondary Data Source

The data obtained here are from the existing websites managed or assisted by the PNG Tourism Promotion Authority. Through carefully study of these secondary data used, it provides more enhancements and compliment to the primary data that

has been obtained that can provide solution to the problem being concerned in this study.

3.2.3.1 System Approach Method

The researcher used the System Approach Method called the Object- Oriented System Approach and is illustrated by UML (Unified Modelling Language) diagrams as follows: Use Case Diagrams, Activity Diagrams, Sequence Diagrams, Class Diagrams, Component Diagrams, and Deployment Diagrams.

3.2.3.2 Systems Development Method

The system development method used in this research is the prototype model. The prototype is developed to ensure that the web page layout would work with the content according to the user requirements and to provide the basis for the usability tests. This website will provide all the necessary information needed by a tourist or any interested individuals, basically to plan their stay and activities in the province.

Since prototype is becoming a development model of most system or software production, building such would give the developer a perspective of what the user would expect from the early stage of development so one can make the necessary changes to the prototype to suit the user requirements and expectations.

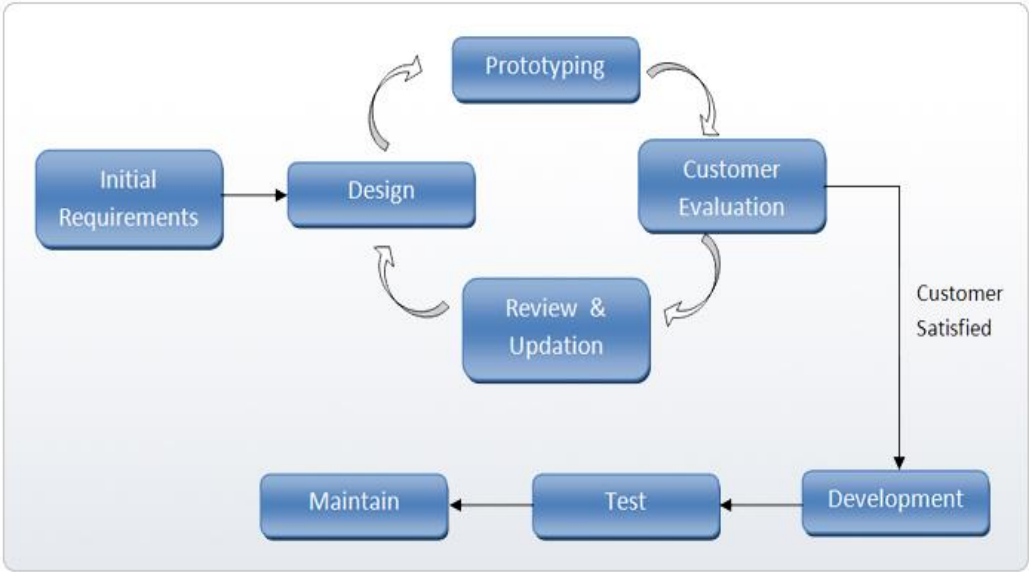


Figure 3.2 Prototype Model (Source by: Ian Sommerville, 2000)

Given now are the steps in designing and implementing the integrated website of Sandaun Province Tourism Guide and Info:

1. **Basic Requirement Identification**

   This would include the understanding of the basic system requirements of the Sandaun Province Tourism Guide and Info system, where it would be more concentrated on the user interface. The specific details of both the internal and external areas of the system are not really recognized at this level.

2. **Developing the initial Prototype**

   The first prototype of the Sandaun Province Tourism Guide and Info is developed at this stage having included the user interface and the basic requirements of the system. Some features might not fully be utilized as expected, but will still give a view to the customer what it would be like when fully the system is fully developed.

3. Reviewing of the Prototype

The initial prototype is then presented to the user or customer and other stakeholders in the research. Comments, feedbacks and pre-recommendations are collected at this stage for reassessing of the system.

4. Revising and Enhancing the Prototype

From what has been collected from the above being discussed, they are being tabled and discussed by the developer(s). After what has been decided to make change, they are integrated into the new prototype and is repeated until the all customer expectations are met.

RESULT AND DISCUSSION

4.1 System Design

System design is the process of defining the components, modules, interfaces, and data for a system to satisfy specified requirements. System development is the process of creating or altering systems, along with the processes, practices, models, and methodologies used to develop them

4.1.1 System Design Objective

1. The website of Sandaun Province Tourism Guide and Info will be able to conduct various functions that any tourism website may have. It will be able to provide precise and updated information that any tourist may need, accommodation that is available, transportation in the form of cars, and an event schedule of activities that occurs in the province year around. A way to contact with the staffs if needed assistance of any type.

2. The website or system can be able to perform operations that notify staffs, hotels or rental cars offices of queries raised by the traveler.

The new developed system can meet all the requirements that a tourist would need to travel in the province.

4.1.2 Proposed System Overview

This proposed system for the Sandaun Province Tourism Guide and Info is a web base application that uses the client-server concept. Every activity will be done online as the only medium to communicate with the clients would be through the internet.

4.1.3 Proposed Design Procedure

This design includes the use case diagrams, activity diagrams, class diagrams, object diagram and deployment diagrams for a good system. The overall design was simplified into several sections which in the end will be combined as a unified component.

4.3.1 Test Planning

A Software Test Plan is a document describing the testing scope and activities. It is the basis for formally testing any software/product in a project. The system test plan that will be tested with blackbox testing techniques that will be grouped in the table below. It identifies amongst others test items, the features to be tested, the testing tasks, who will do each task, degree of tester independence, the test environment, the test design techniques and entry and exit criteria to be used, and the rationale for their choice,and any risks requiring contingency planning. It is a record of the test planning process.

1. Accommodation Menu

Table 4.4 Accommodation Reservation Menu testing and results

NO	Tests Cases	Results
1	Fill in the reservation	Data saved in database

	data in the form assigned.	correctly
2	To see data entered is automatically placed on the lodge reservation form.	Data is correctly placed on the accommodation reserve form.

2. Car Rental Menu

Table 4.5 Car Rental Reservation Menu testing and results

NO	Tests Cases	Results
1	Fill in the reservation data in the form assigned.	Data saved in database correctly
2	To see data entered is automatically placed on the car rental reservation form	Data is correctly placed on the car rental reservation form.

3. Contact Menu

Table 4.6 Contact Menu testing and results

NO	Test Cases	Results
1	Fill in data in the contact form assigned.	Data saved in database correctly.
2	To see data entered is automatically placed on the contact form.	Data is correctly placed on the contact form.

4.3.1.1 Testing Results Conclusions

Given the above test results of the system, it can be concluded that the system is free of syntax errors and results are what that have been expected.

CONCLUSIONS AND SUGGESTIONS

5.1 Conclusion

It is very important to have a well-established website for tourism as it would create a good competition internationally, because internet has made it possible. Having a tourism website for a particular area creates a closer look than for a broad one. In this research thesis, this website based titled, **"Sandaun Province Tourism Guide and Info"** has the assessment and findings of the completed system as:

1. The website created can now provide online reservation for hotel/ resort or car hire reservation, and also comes with other necessary information which would be useful for any traveler or tourist.
2. Updated information for tourist who wishes to travel, given events and activities updates when available.
3. Promoting the province and country as a whole in the tourism industry.
4. The website is a public use website where tourist or anyone who wish to learn about the province can gain access anytime online.

5.2 Suggestions

In the development of this web-based system, it does still needs more improvements on various aspects of a tourism website. The researcher has observed and made suggestions that these features be added in due course after feedbacks are made from users of the website. These are:

1. Both the accommodation and hire car reservation should have an online payment service so rooms and cars are guaranteed for the traveler.
2. For travelers coming in by air, they can make reservation on the website, and pay online also.
3. A photo or video gallery showing all the towns and places in the province.

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