

Nasugbu Malunggay Information And Mapping System

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Abstract - “First Impression, Last” all web based systems are judged by that quote. In modern age technology, people are interested in an eye-catching website, information system, mapping system, etc. It gives more meaning to people when it comes to technology.

An information system basically handles the flows and maintenance of information that supports a business or some other operation. It contains information about significant people, places and things within the organisation or in the environment surrounding it. It is any combination of information technology people’s activities that support operations, management and decision making.

Moringa or Malunggay, also known as the Miracle Tree, is a multipurpose plant, as the leaves, pods, fruits, flowers, roots and barks of the tree can be utilized. These humble leaves are a powerhouse of nutritional value. Moringa have a great contribution to our health it gives many health benefits which human beings need for their daily operations.

From the statement, the researchers proposed a web based system entitled “NasugbuMalunggay Information and Mapping System” that can help moringa lovers and citizens of Nasugbu too map it all over Nasugbu together with its species, address, and the date planted and it is uploaded to the internet.

The researchers used Waterfall Model as its development process model. The programming language used in the study was PHP, HTML, CSS and Google Map API for the mapping system and MySQL in managing the database. The study have three users; the admin, viewer, and feeder. The feeder will feed additional moringa information to the map that the admin will confirm and at the same time the admin can be a feeder.

After getting the overall understanding of the respondents the NasugbuMalunggay Information and Mapping System was rated Very Good having a weighted average of 4.2.

Keywords: Information System, Mapping System, Moringa

I. INTRODUCTION

According to Course Discovery, botany is the study of plants, and we need plant to survive. Plants provide an essential foundation for life on earth, the food we eat and the beauty of the natural environment and as a result botany is considered to be an extremely important science. Botany is no longer confined to the study of how and why plants survive in the way they do. With the advancement of technology the study of botany means the study of how plants are used in biotechnology, the significant part that they play in ecosystems and of course how they can continue to provide food, medicines and even fuel to an ever-expanding global population. Botany began as a simple interest in plants. One of the earliest records of this interest dates back to about 300BC where Theophrastus wrote 2 volumes, The History of Plants and The Causes of Plants. By the Victorian era it was the plant hunters that were in the limelight. These hunters were essentially plant explorers. They would go all over the world seeking out strange and unusual flora and fauna to bring back to England. The most famous of these is probably Joseph Paxton. He was also responsible for the advent of modern garden design and the design of the doomed Crystal Palace. If it wasn't for these plant explorers, our landscape would look very different to how it does today. Botany permeates our everyday

life. Wood, fabrics, food, medicine, alcohol and rubber are all derived from plants. Botany has allowed this to happen and is continuing to do so in areas such as the development of bio fuels as an alternative to fossil fuels which are running out and causing immense damage to the earth. Future developments in crop production in the agricultural industry and pharmaceutical industry will ensure that we will continue to have food and medicine. So from an ancient, interest in plants, botany has become the study of over 550,000 plants and species of living organisms that allow us to survive.

Moringa or Malunggay, also known as the Miracle Tree, is a multipurpose plant, as the leaves, pods, fruits, flowers, roots and bark of the tree can be utilized. Scientific research confirms that these humble leaves are a powerhouse of nutritional value. Gram for gram, moringa or malunggay leaves contain: seven times the vitamin C in oranges, four times the Calcium in milk, four times the vitamin A in carrots, two times the protein in milk and three times the Potassium in bananas. Malunggay have a great contribution to our health it gives many health benefits which human beings needs for their daily operation and more than that malunggay can be also a variety to a recipe (Roloff, et. Al., 2009).

Basically an Information System handles the flow and maintenance of information that supports a business or some

other operation. It contains information about significant people, places and things within the organization or in the environment surrounding it. Information is derived from meaningful interpretation of data. Data consists of the raw facts representing events occurring in the organization before they are organized into an understandable and useful form for humans. An Information System can be defined technically as a set of interrelated components that collect (or retrieve), process, store and distribute information to support decision making and control in an organization. (Buckingham et al 1987).

Today Geographical Information System (GIS) owes its birth to a cluster of interrelated events and human interactions in the 1960s, and its spectacular growth to the microcomputer, the workstation, and in the Internet. A creation of a Malunggay Information and Mapping System will create relief for the citizen of Nasugbu to find a malunggay tree in their area. Malunggay Information and Mapping System can give information about the tree; it gives mapping information where to find the malunggay tree. This system will be uploaded to the internet for the Nasugbu to see.

II. OBJECTIVES OF THE STUDY

Generally, the project aimed to develop a Malunggay Information and Mapping System. Specifically, the researchers sought to know the steps involved in the development and the acceptability level of the project in terms of accuracy, efficiency, usability, reliability, flexibility and user-friendliness.

III. MATERIALS AND METHODS

The proposed project was designed in details to make the final project. In the design stage of the process; the proposed project concept was designed in full detail and its specifications are presented with the use of diagram.

First, the designing stage was the one of the most important processes in developing the project. This was where the appearance could be more detailed, reliable and presentable. To be able to make the proposed project the proponents used waterfall model. It is the process of systematic, sequential approach to software development of a project.

Waterfall model is work flows from communication through deployment in a reasonably linear fashion. It begins with customer specification of requirements and progresses through planning, modeling, construction, and deployment, culminating in ongoing support of complete software.

The researchers used the waterfall model for the development and implementation of a new system.

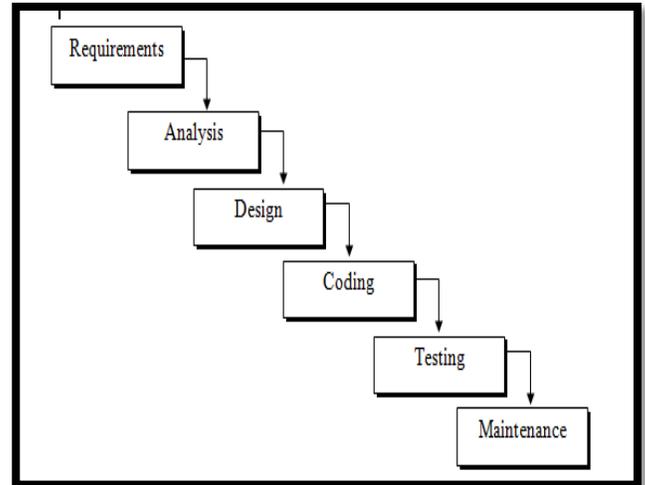


Figure 1 Waterfall Model (Roger S. Pressman, 2010)

Figure 1 shows the waterfall model. Waterfall model is use to linear process development. It is a sequential design process, often used in software process development in which progress is seen as flowing steadily downwards through the phases of Requirements, Analysis, Design, Coding, Testing and Maintenance. There are times when the requirements for a problem are well understood-when work flows from communication through deployment in a reasonably linear fashion. This situation is encountered when well-defined adaptations or enhancements to an existing system must be made. It may also occur in a limited number of new development efforts but only when requirements are well defined and reasonably stable.

Table 1. Evaluation Result of the proposed study Nasugbu Malunggay Information and Mapping System using Likert Scale

	5 (5.00-4.21) Excellent	4 (4.20-3.41) Very Good	3 (3.40-2.61) Good	2 (2.60-1.81) Fair	1 (1.80-1.00) Poor	WM	VI
Accuracy	88	208	102	1	0	4.00	Very Good
Efficiency	101	216	81	1	0	4.04	Very Good
Usability	121	202	74	2	0	4.11	Very Good
Reliability	122	199	75	3	0	4.10	Very Good
Flexibility	100	209	87	3	0	4.02	Very Good
User – Friendliness	182	160	55	1	1	4.31	Very Good
AVERAGE WEIGHTED MEAN						4.10	Very Good

IV. RESULTS AND DISCUSSION

Table 1 shows the evaluation of the respondents who evaluated the system software according to accuracy, efficiency, usability, reliability, flexibility, and user-friendliness of the Nasugbu Malunggay Information and Mapping System. The table also shows the weighted mean, verbal interpretation and the average of the evaluation result. The total respondents were 399 which was the result from the random sampling.

$$MW = \frac{f_1v_1 + f_2v_2 + f_3v_3 + f_4v_4 + f_5v_5 + f_6v_6}{n}$$

The formula used in determining the weighted mean of the evaluation result.

Where: WM = Weighted Mean
 f = Frequency
 v = value of scale
 n = total number of population (399)

Software Specification

Listed below are the detailed software requirements that the researchers used.

Table 2. Software Requirements for developing the system

Software Requirements	Description
Windows 7	It is used as the operating system of the system software.
Dreamweaver	It is used as the IDE of the programming languages in developing the system software
Adobe Fireworks	It is used for editing an images to have a good output
WAMP	It is used as the IDE in managing the database and the localhost of the server
MySql	It is used for creating a database for the system
PHP	It is used in creating the function of the system
HTML	It is used in creating the web page of the system
CSS	It is used in handling the design code of the system
Google Map API	It is used for creating the map for the system

The Table 2 shows the software requirements for the development of the system.

CONCLUSIONS AND RECOMMENDATION

It is concluded that the steps employed in the study are effective and efficient methodology in developing information and mapping system. Nasugbu Malunggay Information and Mapping System will be a big help in the research office in monitoring moringa all over Nasugbu together with its information and the date plated.

It is recommended The methodology employed in the study may be also used by future researchers to come up with future researches relevant to this study. The develop information system is recommended for implementation

provided with the user's manual for proper instruction and guidelines. For future researchers, whose interest falls into enhancement of the system, the following features are recommended to be explored: in the mapping system, as the zoom level change the marker size will also change for the viewer to define the dominant species in a specific area in Nasugbu; in the information system, that the viewer can view the moringa information including the image of the moringa tree and in the information system, that the viewer can search specific species on specific address in Nasugbu.

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