

E-COMMERCE WEBSITE WITH SALES AND INVENTORY MANAGEMENT SYSTEM

*Josh Carl Francisco, Dale Cabico, Jerome Gabriel,
Mark Ernie Guanzing and Mark Vincent Guevarra
Adviser: Clarissa P. Vicente*

Abstract

Golden Bloom Orchids, in Maguinao, San Rafael, Bulacan, is one of the leading orchid growers in the Philippines. At any given time, its farm has about 800,000 orchids of different varieties. Orchid traders buy orchids from the business and resell them to plant shops not only, in Metro Manila, but also nationwide. Other than using the traditional business approach, which mostly caters its long-time loyal customers, it also uses social media for marketing to reach more of its clients/audience. However, its transaction processes are still done manually. Henceforth, the implementation of an E-commerce website for Golden Bloom Orchids would be effective in improving business efficiency since it lessens human intervention.

Keyword: Golden Bloom Orchids, E-commerce, Website

An E-commerce or electric commerce involves business transaction across the Internet. Some of its benefits include accessibility anytime and anywhere, reduced cost, and inventory management. In fact, E-commerce technology is still growing nowadays, because it has become the trend among businesses due to people's increasing usage and reliance on mobile and Internet.

Golden Bloom Orchids, in Maguinao, San Rafael, Bulacan, is one of the leading orchid growers in the Philippines. At any given time, its farm has about 800,000 orchids of different varieties. Orchid traders buy orchids

from the business and resell them to plant shops not only, in Metro Manila, but also nationwide. Other than using the traditional business approach, which mostly caters its long-time loyal customers, it also uses social media for marketing to reach more of its clients/audience. However, its transaction processes are still done manually. Henceforth, the implementation of an E-commerce website for Golden Bloom Orchids would be effective in improving business efficiency since it lessens human intervention.

Project Context

The proposed E-commerce website allows Golden Bloom Orchids to conduct business activities online. It also includes a system that allows the management of its sales and inventory. Certain website elements can also be customized by the administrator. The business and its customers can both benefit from the platform.

As a matter of fact, the business currently utilizes the use of social media platform - the Facebook - to connect with its customers online by showcasing online pictures of its products and by using the platform's chat feature for communication. However, Facebook only serves best as a marketing platform for businesses due to its limited features.

Eventually, an E-commerce website will serve as a more practical and efficient business platform since it can provide experience tailored for the business and its customers. It can keep track of incoming orders, sales, as well as inventory levels, whereas using social media platform for conducting online business lacks these certain features. The current inventory management practice of the business is prone to redundancy and errors since it is performed by hand. The inventory system included in the E-commerce system allows greater accuracy in managing stocks and is less prone to errors. Any orders made by a

customer in the E-commerce website will simultaneously updates the inventory database.

Additionally, products can likewise be displayed in a more organized manner on a dynamic catalog through categories. This provides convenience to its customers in browsing products, hence, encourages more transactions because customers can clearly and easily find their desired products. Furthermore, a website can also be designed to provide an attractive visual appearance so as to establish brand awareness in order to impress more and more customers.

Purpose and Description of the Project

The project proposed by the researchers is an E-commerce website for Golden Bloom Orchids. The project also included sales and inventory management system. The E-commerce platform allows a more efficient and practical method of conducting online business.

Moreover, it is fully customized according to the needs of the business which also means that more features can be added or be modified in the future.

Objectives of the Project

The general objective of the project was to develop an E-commerce website for Golden Bloom Orchids that will facilitate online business transactions.

The project has the following specific objectives:

1. Display a dynamic online catalog of products for the chosen company.
2. Develop an administrator panel that enables content and sales management.

3. Develop an inventory system that tracks stock and syncs with the dynamic catalog of products.
4. Allow customers to view and edit their information through a user dashboard.
5. Provide a transaction process where customers will not be required to be physically present in the company's premises.
6. Provide user-friendly online experience to customers and the administrator.

Scope and Limitation

The project focused on the development of an E-commerce site for Golden Bloom Orchids. The web application can manage products information including its details and price. The application was developed using HTML, CSS, JavaScript, PHP and MySQL as its core development tools. After the development of the E-commerce website, the website will be handed solely to the business management. The management will be responsible in maintaining and managing the website content as well as its hosting.

A complete E-commerce-based website was developed based on Content Management technology with the following features:

- Allow Customers to search products of their choice (for ex: Orchids, Fertilizer, Gardening essentials, etc.).
- Products Management. The administrator of the system is capable of adding, modifying and deleting products and capable of monitoring their sales and inventory.
- Content Management. The administrator of the system can also modify certain website elements such as the top message board.

Significance of the Project

This project does not only provide a significant benefit to the business owner but also to other sectors as well.

Management of Golden Bloom Orchids. This project will bring better scalability and more marketing opportunities to the business.

Students. This project will let the students experience what E-commerce has to offer.

Future Researchers. This project will help the future researchers to be familiar with the E-commerce website as well as its the web design. This can also be the reference and guide for future capstone projects.

People. This project will help the people to shop through the use of internet. Thus, saves time and effort aside from the benefit of convenience.

Administrator. This project will provide an easy way of upgrading and updating products including sales transactions such as orders and payments.

Related Literature

According to Kirubakaran M., Ong E., et. al (2016), electronic commerce or E-commerce allows consumers to electronically exchange goods and services with no barriers of time or distance. Additionally, more customers moved from traditional purchase to E-commerce because it is often faster and cheaper. E-commerce also offers more convenience and flexibility for customization option of products and services.

In fact, the statement provided by Kirubakaran M., Ong E., et. al (2016) explains the transition of modern shopping due to convenience and flexibility. The proposed

E-commerce website will help in improving business efficiency.

According to Baynal K. and Boyaci A. (2016), electronic commerce is a term for any type of business, or commercial transaction that involves the transfer of information across an electronic network, primarily the Internet. Electronic commerce has expanded rapidly over the past decade and is predicted to continue at this rate, or even accelerate because it allows consumers to exchange goods and services with no barriers of time or distance and it is often faster, cheaper and more convenient than the traditional methods of commerce.

The statement given by Baynal K. and Boyaci A. (2016) states that E-commerce is being implemented by many businesses at a fast rate because of its many benefits.

According to Rajasekar S. and Agarwal S. (2016), E-commerce involves an online transaction. E-commerce provides multiple benefits to the consumers in form of availability of goods at a lower cost, wider choice and timesaving. Ecommerce shows tremendous business growth, specially, in India. Increasing internet users have added to its growth. By 2020, India is expected to generate \$100 billion online retail revenue.

Eventually, the statement provided by Rajasekar S. and Agarwal S. (2016) is related to the study because it shows how E-commerce can grow in a country.

According to Hoppe F., Lamy S., et. al. (2016), it's no secret that global and regional investors have targeted Southeast Asia and are betting huge sums on its E-commerce future. Some of the biggest funding is going to ride-hailing app GrabTaxi, which received \$550 million, as well as the regional marketplace Lazada, which received nearly \$500 million. Consequently, China's JD.com has set up shop in

Indonesia as well. Moreover, Japan's Softbank along with Sequoia Capital and SB Pan Asia Fund invested \$100 million in Tokopedia, the country's largest marketplace. The list expands every day.

The statement given by these authors, Hoppe F., S. Lamy S., et. al. (2016) explains that the amount of E-commerce websites, especially Southeast Asia, is still expanding.

According to Dan C. (2014), E-commerce can provide substantial benefits even to small enterprises through improved efficiencies and raised revenue. It enables a new way of working to emerge as business face the future and embrace the new economy. E-commerce enables small business entrepreneurs to gain access to better quality information, thus, empowers them to be informed about their decision in their business. Most importantly, E-commerce can give a competitive advantage. It can help strengthen market position and open new business opportunities with its potential to improve profits.

The statement provided by Dan C. (2014) is related to the study because it explains the benefits of E-commerce on small businesses.

According to KPMG International (2017), consumers today are shopping almost all the time and everywhere; and in a truly global online marketplace, products can easily be purchased from retailers and manufacturers located anywhere in the world-or from those with no physical retail locations at all.

Likewise, the statement provided by KPMG International (2017) describes the capabilities of E-commerce when it comes to accessibility. Actually, even businesses without physical location could operate because of this technology.

According to Zialcita S. (2019), Philippine E-commerce industry sees more growth in 2019. The E-commerce industry is gaining ground as digital marketplaces end 2018 with its high record to reflect the growing number of Filipinos doing their shopping online.

The Internet World Stats reported that around 67 million Filipinos were active online in January 2018. This was a 12% increase year-on-year.

The country also ranked first in the world in terms of social media use and amount of time spent online. Businesses believe that this makes the country an ideal place for E-commerce to thrive.

According to Gatpolintan L. (2019), The Department of Trade and Industry (DTI) is seeking to double, or to raise to 50 percent the contribution of electronic commerce to the country's economy by 2022, as more micro, small and medium enterprises (MSMEs) and internet users engage in e-commerce.

According to Fetalvero N. (2018), The Philippine E-commerce industry is poised for exponential growth, with its share of the Southeast Asian market, which is expected to cost US\$10 billion by 2025, according to the latest report by Google and Temasek. However, there's still a lot of work to do in order to achieve that.

According to Esmael M. (2018), The Philippines' electronic commerce sector has bolstered local companies in enhancing their brand presence and expanding their consumer base, a report from Malaysia-based iPrice Group found.

According to its Philippines' top 50 E-commerce rankings research, iPrice found that local brands are benefiting from increased internet and smartphone use,

boosting their visibility.

According to iPrice, growth in the fashion segment is beating that in furniture and appliances, food, and personal care.

Brands such as Sunnies Studios, Gnarly, Seek the Uniq, Ava.ph, cesa.ph, Shop Straight Forward, Apartment 8 Clothing, and CESA, have strengthened their position in the local fashion E-commerce, it said.

According to Garcia C. (2015), as local and international E-commerce websites become more popular among Filipino consumers, we can expect a steady increase in online shopping and E-commerce growth in the country. Filipino consumers value products and services that make their lives more convenient. It comes to no surprise that they see the accessibility that online shopping provides.

Related Studies

According to Shanti R. and Kannaiah D. (2015), E-commerce is helping people in smaller towns in India, access quality products and services similar to what people in the larger cities have access to.

The statement given by Shanti R. and Kannaiah D. (2015) explains how E-commerce websites can assist businesses in reaching consumers located in distant areas. Through E-commerce, a person in a rural area could buy a product that possibly could only be physically found in major cities.

According to Khan A. (2016), Information Technology has been playing a vital role in the future development of financial sectors and the way of doing business in an emerging economy like Bangladesh. Increased use of smart mobile services and internet as a new distribution channel for business transactions and

international trading requires more attention towards E-commerce security for reducing the fraudulent activities. The advancement of Information and Communication technology has brought a lot of changes in all spheres of daily life of human being. E-commerce has a lot of benefits which add value to customer's satisfaction in terms of customer convenience in any place and enables the company to gain more competitive advantage over the other competitors.

The statement given by Khan A. (2016) describes how the advancement in technology has brought the emergence of E-commerce technology.

According to Ching M. (2017), only 42% Filipinos have access to banks, which triggered the need to have a more effective and efficient way of transmitting money. This spawned, the cutting-edge innovation of cashless payments. Because of the advent of Internet, it has conceived the business service of R-commerce. However, despite of a strong top-down support from the Philippine government, Philippines is still dependent with cash and cheque mode of payments. Doing online transaction is equivalent to convenience where the current technologies contribute, and the diverse payment schemes encourage to do online transactions according to the individual preferences based on the perceptions. Furthermore, daily work hours and gender contributes to the adoption of electronic payment systems as well. Government initiatives are also improving the adoption of cashless payments.

The statement given by Ching M. (2017) is related to the study because it explains the state of common online payment process in the Philippines.

According to Li Y.M. and Lei M. (2016), in recent years, flower E-commerce develops rapidly and attracts extensive attention from relevant fields; flower E-commerce of personalized customization is the unique development

pattern. On the basis of illustrating the representative flower E-commerce enterprise of personalized customization in China—The Beast, this paper tries to analyze the unique marketing strategy of The Beast via 4C theoretical model and social media marketing theory, so as to provide references for the future flower E-commerce enterprises. According to the researches, The Beast adopts the E-commerce mode operated by new media and development strategy of lateral extension. It chooses the consumer-oriented pulling-type marketing strategy; taste and fashion are its core competitiveness. The important means of maintaining customer group is to keep a smooth and effective “dialogue” and “communication” with consumers.

The statement provided by Li Y.M. and Lei M. (2016) is related to the study because it discusses marketing strategies for flower dependent E-commerce shops.

According to Y. Yang, C. Wang, and Chen C. (2017), Electronic commerce is currently becoming a blooming research field. Thanks to the advances of information communication technology infrastructure, as well as the high penetration of internet and mobile communication connection, people now can do a variety of commerce activities online. Enormous online application and activities are available worldwide without time and geographic scope limitation. Electronic commerce is not just a fashion terms, it is now a part of one's daily life. Electronic commerce is being adopted by nearly all industries. Electronic commerce enriched the means that managers do business transaction as well as manage their organizations at the same time. The electronic commerce research is also blooming for the past few decades and attracts the focus from both academics and industry of various fields.

Significantly, the statement provided by Y. Yang, C. Wang, and Chen C. (2017) describes the growth of E-commerce and how it has become an essential part of life.

According to H. Wang, G. Gu, et. al. (2014), B2C E-commerce has made rapid development in China in recent years. Only in November 11, 2013, a famous company offering online trading platform named Alibaba records 35 billion RMB trading volume. Gradually it appears a certain "addiction" phenomenon in consumers shopping online. That is, consumers like logging on a website and repurchasing continuously. Especially they prefer some websites and frequently access or continue shopping just as if this website has unique charms to attract them.

The statement provided by Wang H., Gu G., et. al (2014) relates to the study because it shows how consumers are hooked to online shopping.

According to Pandes S. and Tangkeko M. (2017) the author of "B2B E-Commerce Framework for Integrating Smallholders in Commercial Supply Chains", The Philippines is currently estimated to have the fastest growing internet population in the world, with recent statistics estimating 530% growth over the past five years (DTI, 2016). Therefore, the Philippines is well-placed to see the increase in online retail in the coming years. However, despite the great number of Internet users, the country is missing out certain opportunities brought about by E-commerce.

Eventually, the statement provided by Pandes S. and Tangkeko M. (2017) is related to the study because it states the E-commerce opportunities in the Philippines. However, most Filipinos have not yet fully experienced what E-commerce has to offer.

According to Alyoubi A. A., Ph. D (2015), the rapid proliferation of the internet gave rise to the concept and practice of electronic commerce which has become a common phenomenon in the world today. Internet-based economic structures and information groups are the new business reality, as organizations and individuals revel in the ease of purchasing commodities and services from for-

oreign shores. Most developing countries, however, are far from experiencing this reality due to many factors which act as obstacles for E-commerce to flourish.

On the contrary, the statement provided by Alyoubi A. A., Ph. D (2015) shows the problems of implementing an E-commerce website in developing countries. The obstacles for E-commerce in developing countries might be due to people's accessibility to technology. Indeed, in comparison with people from developed countries, people in developing countries have lesser access to modern technology. A big number of people in developing countries, like Philippines, rely on free internet data which limits content that can be accessed.

According to Pandey D. and Agarwal V. (2014), global presence has been yet another versatile and important advantage of E-commerce, which enables accessibility of a very wide range of products and services virtually, anywhere in the world, even in the remote areas. The feature of global presence has a boosting effect in the entire gamut of international trade, which in turn pose a subsequent impact in the enhancement of an even greater level of global business presence of products and services offered. Hence, this relationship is vice-versa. Technology driven E-commerce can provide automated continuous business transaction round-the-clock. Round-the-clock business operation and the feature of global market presence have enabled the mankind to exceed the physical limitation of Intraday market operations and extended it into a 24/7 process.

Therefore, the statement provided by Pandey D. and Agarwal V. (2014) explains how E-commerce provides more accessibility and availability for customers. The project will enable transactions without hindrance caused by distance. Its implementation will also allow the business to operate 24/7.

According to Morganti M., Seidel S., et. al. (2014) in many European countries, shopping habits are fast changing. In the last decade, the use of E-commerce has become very common following the spread of IT systems such as laptops, tablets and smartphones. Today, about 45% of all European consumers shop online. More precisely, 60% of German consumers and 44% of French consumers purchased physical and virtual goods online at least once in 2013 as described by European Commission.

Significantly, the statement given by Morganti E, Seidel S., et. al. (2014) shows how many people are now relying on online shopping due to people's reliance on technology. The development of the project will help the business in keeping up with the modern world.

Moreover, according to Gupta A. (2014), to attract more customers, E-store owners will have not only to increase the number of available services, but also to pay more attention to such elements like attractive design, user-friendliness, appealing goods presentation, in such a way that they have to opportunely employ modern technologies for their businesses to become parts of future E-commerce.

Likewise, the proponents would like to create an E-commerce website that will catch customer attention. Besides website functionality, user interface design will also be prioritized to deliver good user experience.

According to Maharjan A. and Humagain M. (2016), products are considered as the business resources for the organization. This includes managing the product with appropriate way to review any time as per requirement. Therefore, it is important to have the ability to generate reports, maintain the balance of the stock, present details about the purchase and sales in the organization.

The proponents would like to develop a built-in inventory management system for the E-commerce website

in order that the business may monitor their stocks.

According to Bashir R., Mehboob I., and Bahatti W. K. (2015), social media has introduced a new dimension of purchasing products from home. Internet users, especially the youth, have shown more interest in buying products online.

The statement given by Bashir R., Mehboob I., and Bahatti W. K. (2015) is related to the study because it states what group of consumers are more likely to shop online.

According to Vatrappu S. (2014), an online store is a virtual store on the internet where customers can browse the catalog and select products of interest. The selected items may be collected in a shopping cart. At checkout time, the items in the shopping cart will be presented as an order. At that time, more information will be needed to complete the transaction. Usually, the customer will be asked to fill or select a billing address, a shipping address, a shipping option, and payment information.

Consequently, the statement given by Vatrappu S. (2014), will guide the proponents in developing the transaction process for the E-commerce website.

According to Tubio E., Altaque J., Lucero K., et. al. (2016). Consumer perception influences consumer's purchase behavior. With this, the study determined whether there is a significant relationship among consumers' perception and purchase behavior on online shopping among students in Mindanao University of Science and Technology, in which, Purposive non-random sampling was conducted to 200 respondents in four different colleges in the University. Through a survey questionnaire adopted from three different previous studies, three elements of perception were gauged: convenience, benefits, and leisure, and another three elements of behavior: convenience; security; and leisure. It has been found that the respondents'

perceptions and their purchase behavior on online shopping are both high. Correlational analysis yielded a high significant association between their beliefs and behavior at .05 level of significance. To sustain their high perception on online shopping, it is suggested that web developers should incorporate features on their websites regarding convenience, security, benefits, and leisure. It is important for online marketers, entrepreneurs, and businessmen to consider the fact that students spend more time on the internet and that this factor will likely increase the students' online shopping behavior.

According to Ogbuiwe T. O., & Ahiauzu, L. (2016) Online shopping has experienced a rapid growth during the recent years due to its unique advantages for both consumers and retailers, such as shopping at round the clock facilities, decreasing dependence to store visits, saving travel costs, increasing market area, decreasing overhead expenses and access to multiple options. The Internet has made online shopping not only a possibility but also a huge success contributing to economies around the globe. A survey carried out in 2009 on world internet usage and population statistics reveals that 26.6% of the total world populations are internet users, showing a growth rate of 399.3% in the last decade.

According to Lim E. (2014) Engaging in E-commerce is particularly demanding due to several concerns such as shipping and delivery costs, security, data protection, culture and infrastructure. These concerns are essential to be considered as these may have an impact on the acceptance of E-commerce. For an online business to be successful in both local and global markets, it needs to gauge and deal with the said concerns.

According to Sharma G. (2015), E-commerce is considered an excellent alternative for individuals and companies to reach new customers. Service quality delivery through Internet is an essential strategy to success, more

important than price and web presence. The E-commerce Website has been identified as having a significant impact on business activities in solving the geographical problem. A number of performance problems have been observed for E-commerce Websites, and much work has gone into characterizing the performance of web servers and Internet applications.

According to Padmannavar S. S., (2016), E-commerce is more than selling stuff online; it's using online resources and tools to do business better—more efficiently and productively. It's about making and saving money online. Thus, E-commerce is the use of electronic communications and digital information processing technology in business transactions to create, transform, and redefine relationships for value creation between or among organizations, and between organizations and individuals. It involves all types of communications technology, including the WWW, email, private bulletin board systems or value-added networks, intranets and extranets. It uses all forms of communications technology: email, television, fax, mobile and landline phones. Ecommerce can work for any business because it involves the whole business cycle from production, procurement, distribution, sales, payment, fulfillment, restocking, and marketing. It's about relationships with customers, employees, suppliers, and distributors. It involves support services like banks, lawyers, accountants, and government agencies.

According to Cheema U., Rizwan M., et. al., (2015) Online shopping is the consumers shopping behavior to shop online. The people who find it easy to use, useful and enjoyable can accept online shopping. Technology acceptance model is used to understand the variables that affect online shopping. These variables are perceived usefulness, perceived ease of use and perceived enjoyment.

According to Vashishtha R. and Kumar S. (2016),

E-commerce and online shopping in India is getting a noticeable growth as more usage of internet facilities, high educational standards, changing life style and economic growth of the country reasons in the demand of ecommerce techniques and tools. Versatile shopping experience and rapid development of transaction facilities is further boosting opportunities for the remaining market segments. The biggest advantage of E-commerce is the ability to provide secure shopping transactions via the internet and coupled with almost instant verification and validation of credit card transactions. One of the most important issues to be addressed in electronic commerce is the area of services. The primary purpose of this study is to examine and uncover the impact of E-commerce and also to identify the issues and areas important to the implementation of E-commerce that may help in enhancing the productivity in the economic growth of the country.

According to Paris D., Bahari M., Lahad N., and Ismail W. (2016), E-Commerce implementation is a crucial process for organization to make it successful and beneficial. As a consequence, intensive research works in the area of E-commerce implementation from a diverse range of views and findings have been studied by many researchers. However, the aspect of Business-to-Customer (B2C) E-commerce implementation has yet been undertaken in an understandable manner in the context of a full life cycle of information systems development.

Work Flow Diagram

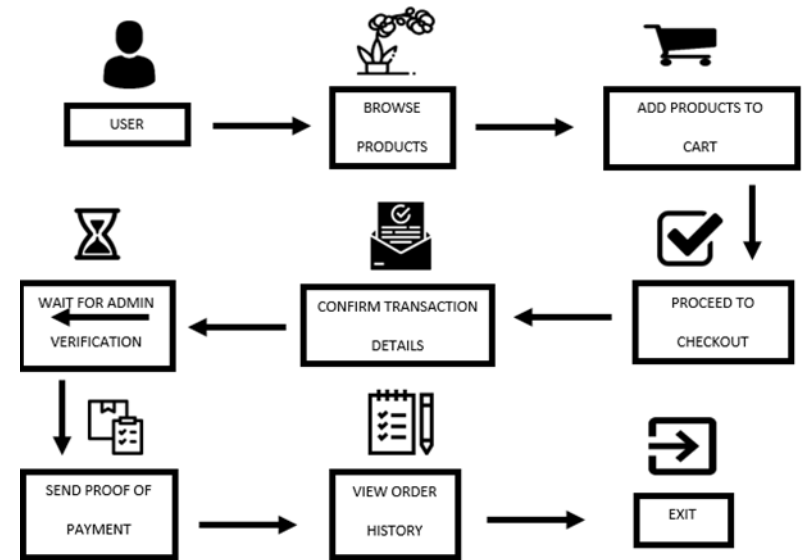


Figure 1. Shows the Work Flow of the E-commerce Website

Methodology

This chapter discusses the tools, procedures, or methods that has been used in developing the e-commerce website. This chapter also provides in-detail information about the project's concept, analysis, design, data flow diagram, development method, requirement analysis, development and testing, implementation and evaluation, software development tools, budget and cost management, gantt chart, responsibilities, verification, validation, and testing, and implementation plan.

Concept

The client would like a functional online shop for their products. The image slider will be the first section to be seen by a user in the home page. Furthermore, featured and latest products can also be seen as the user scrolls down. The website will function like existing E-commerce websites. Products will be displayed in the shop page. There will be categories like orchids, fertilizers, and gardening supplies. In addition, more categories can be added by the admin dynamically. A search bar can also be used to look for products according to name, category, or keywords. Users can add items to cart then proceed to checkout. Content and sales management can be accessed through the admin panel.

Analysis

Golden Bloom Orchids, owned by Edwin Veneracion, only has a Facebook page to promote their sales. The proponents proposed the project for the business to have an official website where online transaction can be done efficiently and conveniently.

Design

The overall design of the website was based on existing E-commerce websites with the similar product market. The website followed a color scheme, that includes shades of yellow, green, and grey, which relates to the target market of the business. Certain images in the website were also enhanced for a more vibrant and contrasted look. In addition, Bootstrap, CSS, JavaScript, and jQuery were used for front-end design and development.

Data Flow Diagram

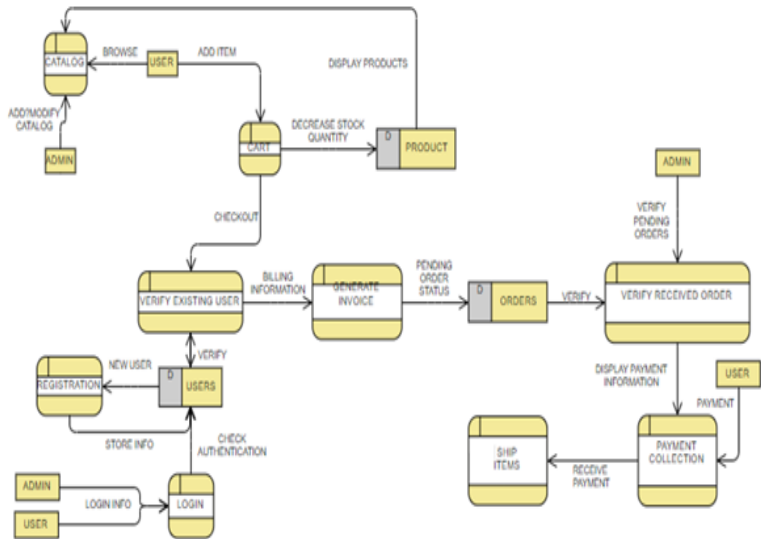


Figure 2. Data Flow diagram of the website

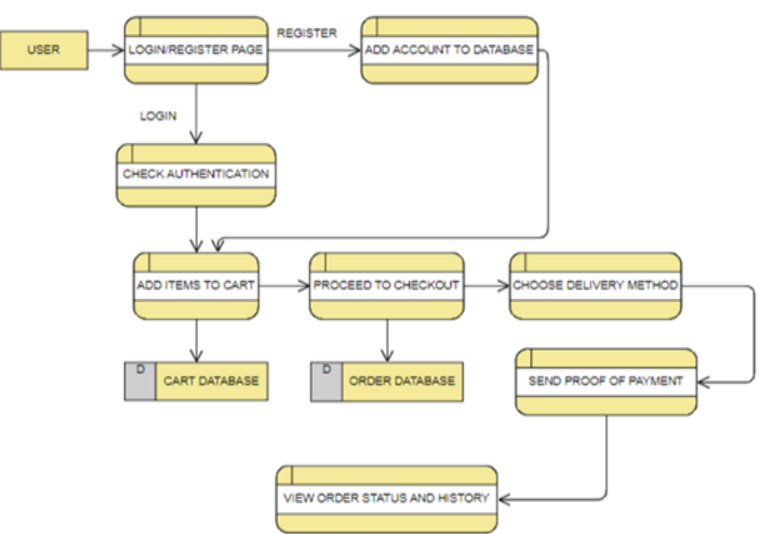


Figure 3. User's data Flow

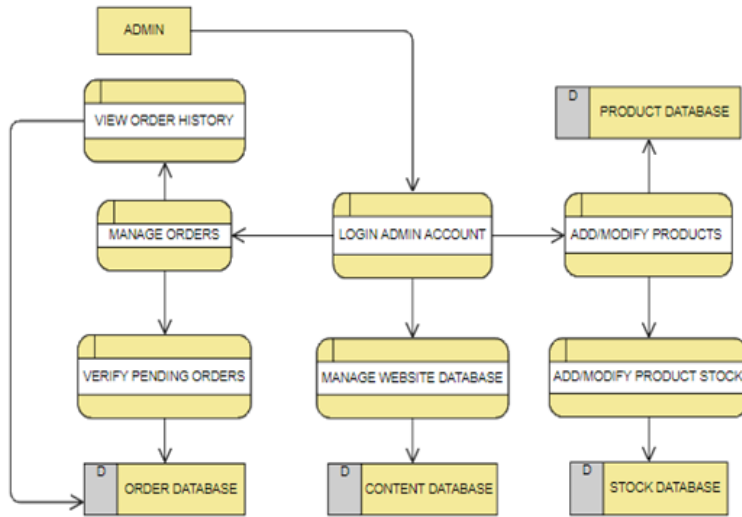


Figure 4. Admin's Data Flow

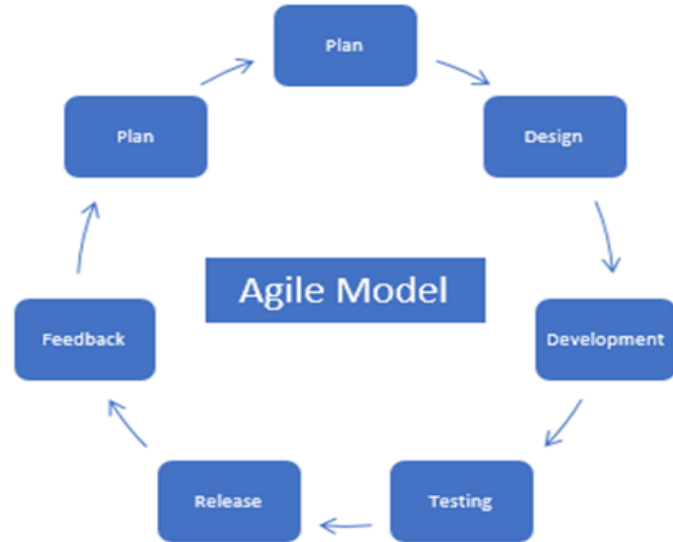


Figure 5. Development Model

The proponents used agile model in creating the website. Agile model is a combination of incremental and iterative methodologies. This development model allows easy adaptation to changing requirements which is more advantageous for web development.

Requirement Analysis

The researchers conducted a survey and also gathered data. All information and data gathered were used to develop the e-commerce website.

Development and Testing

The researchers used XAMPP, Atom, Sublime, and Github Desktop in developing both the front-end and back-end of the website. In terms of testing, Google Chrome and Opera was used to see the live output of the development of website.

Implementation and Evaluation

The proponents evaluated the website by gathering information as well as feedback from the technical adviser. Suggestions were considered and the system was improved based on the given advices and other information that helped the application successful.

Software Development Tools

The proponents used Sublime and Atom for the code development of the website. XAMPP was used to run the development locally. Furthermore, Google Chrome and Opera were the main browsers used in the development. The proponents also used Github Desktop, a version control software with a graphical user interface instead of the traditional command line interface, in order to collaborate on the development by syncing files through an online repository. The main languages used in the development were HTML, CSS, JavaScript, SQL, and PHP. In addition, object

-oriented PHP programming method was used for convenience and efficiency. Certain website elements were also coded with AJAX. MySQL was used for the website's database. Moreover, frameworks like Bootstrap and jQuery, and APIs like DataTables and PHPMailer were also used.

Verification, Validation, and Testing

For the verification process, the proponents created an E-commerce website with the approval of Golden Bloom Orchids. The proponents tested the website in order to meet the website requirements and objectives. The requirements of the project have been completed for validation.

Implementation Plan

The proponents developed an E-commerce website for the business in order for it to conduct online business transactions with its customers. To validate the website for implementation, the developers tested it for bugs or errors. The developers also made sure that user personal information is secured by implementing secure code practices. As much as possible, the proponents assured that the proposed goals of the project were met.

Result and Discussion

The proponents conducted an evaluation for the proposed project. This chapter consists of results regarding the assessed evaluation. With the help of Baliuag University students the proponents evaluated 100 respondents with the given criteria to test the website and to know if the proponents meet their objectives

Table 1. Results

Indicators	E	VG	G	F	P	Mean
USER INTERFACE						
1. The website is easy to use	2.85	1.48	0.21			4.54
2. The products are easy to order.	2.15	1.88	0.3			4.33
3. The website interface motivates the user to explore the website.	2.65	1.48	0.3			4.43
4. Color schemes, background and font are fitting for the organization.	2.25	1.88	0.24			4.37
5. The products are well visualized and detailed.	2.5	1.6	0.3			4.4
FUNCTIONALITY						
6. The product information was displayed accordingly with complete image and description of the products.	2.45	1.64	0.3			4.39
7. The purchase processes are identified.	2.65	1.36	0.39			4.4
8. The website helps the user buy item easily.	2.7	1.48	0.27			4.5
9. The website's transaction is secured and reliable.	2.7	1.36	0.36			4.42
10. The products in the website are organized and informative.	2.75	1.6	0.15			4.5
ACCURACY						
11. The website displays an online catalog of products.	2.25	1.92	0.15			4.32
12. The website allows users to view customer information.	2.5	1.8	0.15			4.45

Table 1. Continuation

Indicators	E	VG	G	F	P	Mean
USER INTERFACE						
13. The website provides a transaction process where customers will not be required to be physically present in the company's premises.	2.85	1.6	0.12			4.57
14. The website provides a user-friendly only experience to customers.	2.7	2.1	0.18			4.48
15. The product catalog tracks product stock.	3	1.36	0.15			4.51
Grand Mean						4.40

Every criterion is scaled from numbers 1 to 5. With 5 as the highest scale, it is rated as "Excellent", number 4 rated as "Very Good", number 3 rated as "Good", number 2 rated as "Fair", and number 1 rated as "Poor".

Discussion

Table 1 shows that in terms of user interface, in Question No. 1, 57% or 57 students answered excellent, while 37% or 37 students answered very good, another is 7% or 7 students, and the Mean 4.54 means that the students of Baliuag University agreed that the website is easy to use. In Question no. 2, 43% or 43 students answered excellent, while 47% or 47 students answered very good, another is 10% or 10 Students, and the Mean 4.33 agreed that the products are easy to order. In Question No 3, 53% or 53 students answered excellent, while 37% or 37 students answered very good, another is 10% or 10 students, and the Mean 4.43 agreed that the website interface motivates the user to explore the website. In No. 4, 45% or 45 Students answered excellent, while 47% or 47 students answered very good, an-

other is 8% or 8 students, and the Mean 4.37 agreed that the color schemes, background and font are fitting for the organization. In No. 5, 50% or 50 Students answered excellent, while 40% or 40 students answered very good, another is 10% or 10 students, and the Mean 4.4 agreed that the product information was displayed accordingly with complete image and description of the products.

In terms of functionality, in Question No. 6, 49% or 49 Students answered excellent, while 41% or 41 students answered very good, another is 10% or 10 students, and the Mean 4.39 agreed that the product information was displayed accordingly with complete image and description of the products. In No. 7, 53% or 53 Students answered excellent, while 34% or 34 students answered very good, another is 13% or 13 students, and the Mean 4.52 agreed that the purchase processes are identified. In No. 8, 54% or 54 Students answered excellent, while 37% or 37 students answered very good, another is 9% or 9 students, and the Mean 4.4 agreed that the website helps the user buy item easily. In No. 9, 54% or 54 Students answered excellent, while 34% or 34 students answered very good, another is 12% or 12 students, and the Mean 4.42 agreed that the website's transaction is secured and reliable. In No. 10, 55% or 55 Students answered excellent, while 40% or 40 students answered very good, another is 5% or 5 students, and the Mean 4.5 agreed that the products in the website are organized and informative.

In terms of accuracy, in Question No. 11, 45% or 45 Students answered excellent, while 48% or 48 students answered very good, another is 5% or 5 students, and the Mean 4.32 agreed that the website displays an online catalog product. In No. 12, 50% or 50 Students answered excellent, while 45% or 45 students answered very good, another is 5% or 5 students, and the Mean 4.45 agreed that the website allows users to view customer information. In No. 3, 57% or 57 Students answered excellent, while 40% or 40 students

answered very good, another is 4% or 4 students, and the Mean 4.57 agreed that the website provides a transaction process where customers will not be required to be physically present in the company's premises. In No. 14, 54% or 54 Students answered excellent, while 42% or 42 students answered very good, another is 6% or 6 students, and the Mean 4.48 agreed that the website provides a user-friendly only experience to customers. In No. 15, 60% or 60 Students answered excellent, while 34% or 34 students answered very good, another is 5% or 5 students, and the Mean 4.51 agreed that the product catalog tracks product stock.

Conclusion

Businesses should consistently attempt to make the best thing that consumers will need since consumers keep on wanting their items, to be better, faster, and cheaper. In this world of new technology, businesses need to suit to the new types of buyer needs and trends because it will prove to be vital to their business' success and survival. E-commerce is continuously progressing and is becoming more and more important to businesses as technology continues to advance and is something that should be taken advantage of and implemented. Through e-commerce, Golden Bloom Orchids would have a more successful and profitable business.

Recommendations

The e-commerce website will be mainly used for a more convenient and efficient shopping experience. For future developers, familiarity with other e-commerce websites would be advantageous in the development process of an e-commerce project. As experienced by the proponents, an online repository provides better collaboration between the developers. Developers will also need to be knowledgeable when it comes to web languages like HTML, CSS, JavaScript, SQL, and PHP. Additional knowledge in other web frameworks or APIs can also aid in efficient development.

References

- Boyaci A. and Baynal K. (2016), E-commerce research and applications: A proposal for classification and an updated literature review, retrieved July 5, 2019 from https://www.researchgate.net/publication/312431526_E-COMMERCE_RESEARCH_AND_APPLICATIONS_A_PROPOSAL_FOR_CLASSIFICATION_AND_AN_UPDATED_LITERATURE_REVIEW
- Khan A. (2016), Electronic Commerce: A Study on Benefits and Challenges in an Emerging Economy, retrieved July 5, 2019 from https://globaljournals.org/GJMBR_Volume16/3-Electronic-Commerce-A-Study.pdf
- Ching M. (2017), Challenges and Opportunities of Electronic Payment Systems in the Philippines, retrieved July 5, 2019 from <https://www.dlsu.edu.ph/wp-content/uploads/pdf/conferences/research-congress-proceedings/2017/HCT/HCT-I-006.pdf>
- Lei M. and Li Y.M. (2016), Analysis on Development Pattern and Marketing Strategy of Flower E-Commerce of Personalized Customization—A Case Study of the Beast, retrieved July 5, 2019 from https://file.scirp.org/pdf/OJBM_2016011410134562.pdf
- Chen C., Wang C., and Yang Y. (2017), Recent Development Trend of Electronic Commerce Research: 2000 to 2016, retrieved July 19, 2019 from https://www.researchgate.net/publication/319203468_Recent_Development_Trend_of_Electronic_Commerce_Research_2000_to_2016
- Agarwal S. and Rajasekar S. (2016), A Study on Impact of E-commerce on India's Commerce, retrieved July 19, 2019 from <https://www.journalijdr.com/sites/default/files/issue-pdf/5153.pdf>

- Hoppe F., Lamy S., et. al. (2016), Can Southeast Asia Live Up to Its E-commerce Potential?, retrieved July 19, 2019 from https://www.bain.com/contentassets/f6880f16cbf648b28bdf69f772f6eca8/bain_brief_can_southeast_asia_live_up_to_ecommerce_potential2.pdf
- Gu G., Wang H., et. al. (2014), Understanding Online Consumer Stickiness in E-commerce Environment: A Relationship Formation Model, retrieved July 19, 2019 from <https://www.semanticscholar.org/paper/Understanding-Online-Consumer-Stickiness-in-A-Model-Wang-Gu/e8a31f498a5326885eb09298d85bb4bede57dd0d>
- Dan C. (2014), Matters Arising from SMEs E-Commerce Adoption: Global Perspective, retrieved July 19, 2019 from <http://article.sapub.org/10.5923.j.ijit.20140301.01.html>
- Tangkeko M. and Pandes S. (2017), B2B E-Commerce Framework for Integrating Smallholders in Commercial Supply Chains, retrieved July 19, 2019 from <http://repository.ittelkom-pwt.ac.id/3923/1/B2B%20E-Commerce%20Framework%20for%20Integrating%20Smallholders%20in%20Commerci.pdf>
- Alyoubi A.A., Ph. D (2015), E-commerce in Developing Countries and how to Develop during to Introduction of Modern Systems, retrieved July 19, 2019 from <https://www.sciencedirect.com/science/article/pii/S1877050915029579>
- Pandey D. and Agarwal V. (2014) , E-commerce Transactions: An Empirical Study, retrieved July 19, 2019 from https://www.researchgate.net/publication/291903546_E-commerce_Transactions_An_Empirical_Study

- Morganti E., Seidel S., et. al. (2014), The Impact of E-commerce on Final Deliveries: Alternative Parcel Delivery Services in France and Germany, retrieved July 19, 2019 from <https://www.sciencedirect.com/science/article/pii/S235214651400297X>
- Gupta A. (2014), E-commerce: Role of E-commerce in Today's Business, retrieved July 19, 2019 from <https://docplayer.net/5196333-E-commerce-role-of-e-commerce-in-today-s-business.html>
- Maharjan A. and Humagain M. (2016), Inventory Management System, retrieved July 21, 2019 from <https://www.academia.edu/26003928>
- Ong E. and Kirubakaran M., et. al (2016), Evolution of E-Commerce: Amazon, retrieved July 21, 2019 from <https://www.academia.edu/30175817>
- Mehboob I., Bashir R., and Bahatti W.K. (2015), Effects of Online Shopping Trends on Consumer-buying Behavior: An Empirical Study of Pakistan, retrieved July 21, 2019 from http://admin.umt.edu.pk/Media/Site/SBE1/SubSites/JMR/FileManager/JMR/Paper_1.pdf
- D. Kannaiah and R. Shanti(2015), Consumer's Perception on Online Shopping, retrieved July 21, 2019 from <https://researchonline.jcu.edu.au/39753/1/Dr.%20Desti%20Consumers%20perception%20on%20Online%20Shopping.pdf>
- KPMG International (2017), The truth about online consumers, retrieved July 21, 2019 from <https://assets.kpmg/content/dam/kpmg/xx/pdf/2017/01/the-truth-about-online-consumers.pdf>
- Vatrapu S. (2014), Design and Implementation of E-commerce Site for Online Shopping, retrieved July 21,

- 2019 from <https://opus.govst.edu/cgi/viewcontent.cgi?article=1079&context=capstones>
- Zialcita S. (2019), "PH e-commerce industry sees more growth in 2019", retrieved July 21, 2019 from <https://cnnphilippines.com/business/2019/01/04/philippine-e-commerce-2019.html>
- Manglinong D. (2018), "Why online shopping is booming in the Philippines", retrieved July 21, 2019 from <http://www.interaksyon.com/trends-spotlights/2018/11/07/137579/why-online-shopping-is-booming-in-the-philippines/>
- Galvez D. (2018), "Facebook: More Filipinos use online mobile shopping", retrieved July 21, 2019 from <https://technology.inquirer.net/79684/facebook-more-filipinos-use-online-mobile-shopping>
- Tubio E., Altaque J., Lucero K., Toling L., et. al. (2016), "CONSUMER PERCEPTION AND PURCHASE BEHAVIOR ON ONLINE SHOPPING AMONG STUDENTS IN MINDANAO UNIVERSITY OF SCIENCE AND TECHNOLOGY", retrieved July 22, 2019 from https://www.researchgate.net/publication/309187379_CONSUMER_PERCEPTION_AND_PURPURCH_BEHAVIOR_ON_ONLINE_SHOPPING_AMONG_STUDENT_S_IN_MINDANAO_UNIVERSITY_OF_SCIENCE_AND_TECHNOLOGY
- Ahiauza L. and T.O. Ogbuiwe T.O., (2016), Online Shopping Systems in Nigeria: Evolution, Trend and Prospects, retrieved July 22, 2019 from https://www.researchgate.net/profile/Justin_Gabriel/publication/309589375_Online_Shopping_Systems_in_Nigeria_Evolution_Trend_and_Prospects/links/5820cf4b08ae40da2cb4fd3a.pdf

- Lim E. (2014), Adoption of E-Commerce in Manila, retrieved July 22, 2019 from <https://pdfs.semanticscholar.org/5154/aaaf10ee1a328d43a3a918c520962981bd9d.pdf>
- Pando A. (2018), How Technology Is Redefining E-Commerce, retrieved July 22, 2019 from <https://www.forbes.com/sites/forbestechcouncil/2018/03/06/how-technology-is-redefining-e-commerce/#768b80a962e3>
- Gatpolintan L. (2019), DTI sees e-commerce share to GDP rising to 50% by 2022, retrieved July 22, 2019 from <https://www.pna.gov.ph/articles/1077132>
- Fetalvero N. (2018), How ecommerce in the Philippines can become a \$10b economy, retrieved July 22, 2019 from <https://www.techinasia.com/ecommerce-philippines-10b-economy>
- Esmael M. (2018), Local e-commerce driving local brands' growth, retrieved July 22, 2019 from <https://www.manilatimes.net/local-e-commerce-driving-local-brands-growth/391417/>
- Sharma G. and Lijuan (2015), The effects of online service quality of e-commerce Websites on user satisfaction, retrieved July 22, 2019 from <https://www.emerald.com/insight/content/doi/10.1108/EL-10-2013-0193/full/html>
- Padmannavar S.S. (2016), A Review on E-Commerce Empowering Women's, retrieved July 22, 2019 from http://www.ijcst.org/Volume2/Issue8/p13_2_8.pdf
- Durrani F., Rizwan M., Sohail N., Jalal R., and Cheema U. (2015), THE TREND OF ONLINE SHOPPING IN 21ST CENTURY: IMPACT OF ENJOYMENT IN TAM MODEL,

retrieved July 22, 2019 from <http://www.aessweb.com/pdf-files/131-141.pdf>

Vashishtha R. and Kumar S. (2016), A Study of E-Commerce and Online Shopping, retrieved July 22, 2019 from <https://ideas.repec.org/a/jct/journal/v11y2016i1p91-96.html>

Paris D., Bahari M., Lahad N. and Ismail W. (2016), Systematic literature review of e-Commerce implementation studies retrieved July 22, 2019 from https://www.researchgate.net/publication/306167259_Systematic_literature_review_of_e-Commerce_implementation_studies

Garcia C. (2015), Why more Pinoys are shopping online, retrieved July 22, 2019 from <https://news.abs-cbn.com/business/03/04/15/why-more-pinoys-are-shopping-online>