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4EVERLAFS ONLINE ORDERING SYSTEM

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Chapter 1

INTRODUCTION

Background of the Study

In the past year the spread of information technology, web system and android application have been increasingly in demand. Online Ordering Mobile Application for customers and Online Ordering System for owner/staff is the key to solving this problem, customers can order food using computers and android smartphones while the administration system can control the restaurant owner/staff members who place food or bilao orders, and run the daily sales report.

Today, using the internet in our daily lives is no longer a problem. When used properly, the internet makes life quick, easy and simple. The internet provides us with information, knowledge, and facts that become useful for our personal, social, and economic development. Developing a system and app in a business makes navigation easy, content and visual elements, increase in sales, attracts lifetime clients, improve business and resourceful in marketing and advertising.

Online Ordering System is used to assist and resolve one of the major problems facing consumers, because many consumers utilize internet, computers and phone (Deepa & Selvamani, 2018). Additionally, the purpose of implementing an Online Ordering System is to make it easier for customers to place orders and to provide them with the information they want.

Customers can quickly place their orders as they like using Online Ordering System, which sets up a menu of available foods online. Online customers can readily follow



orders if there is a meal selection available (Adithya R., et.al, 2017). The management keeps track of customer's information, and improve food delivery service.

The web system and mobile app will become essential tools for food places to enhance management by connecting every food ordering transaction through a web system or mobile application. Additionally, it can increase the restaurant's efficiency by cutting down on time-consuming tasks, minimizing delivery mistakes made by people, and offering customers high-quality products and services.

Mobile application ordering is an enlarged version of online ordering. Mobile ordering apps are an intuitive version of an entire website with a better user experience that allows customers to submit orders from their mobile devices that they use every day, anytime and anywhere. For instance, apps help value-creating actions like making purchases and gaining information (Natarajan, et al., 2017). In conclusion, mobile application enable restaurant to realize a digital customer orientation and to gain competitive advantages by offering superior customer experiences (Kopalle et al., 2020).

The manager of Sales Diner Restaurant, located at Susano Road, Deparo Caloocan City, Ms. Joy Santos and Ms. Irene Lalu (2018), claim that the restaurant receives orders from the customer over the counter. A printed menu displayed above the counter will be used by customers to select their orders. After placing the order, the customer will receive a printed receipt, making it simple for them to decide where to deliver the prepared meal. Restaurants accept reservations for parties and other catering events, but customers are required to make a down payment before the reservation is confirmed.



In past pandemic, on December 19, 2021, 4EVERLAFS began in the municipality of Sta. Maria, Province of Ilocos Sur, a BSHM graduate, the owner of 4EVERLAFS. She is also the manager of a food restaurant. The product/service is Ilocano foods such as pancit bihon/pancit fresh, puto, barbecue, spaghetti, shafghai, lumpia, and other ilocano dishes. The owner or staff used Facebook to take orders from customers who wanted to order. It is a well-known restaurant located in Poblacion Sur, Sta Maria, Ilocos Sur. She wants also to have an online ordering system so that it can easily access, because the manual ordering they have is to contact them through a facebook page.

Online ordering system is becoming increasingly popular among the younger generation, as it offers a convenient way to order food from home chefs, local restaurants, and other food co-operatives. This shift to mobile ordering apps has changed the way food is delivered. Customers can generate an order without having to explain it to another human being, and have the food delivered at their doorstep. The system manages the admin to check the customers' orders while the mobile app, the customer can choose from the menu with a click of a button. Customers need to download the app on their cellphones and register with their profile, which includes their address and payment information. Payment is usually cashless through cash on delivery.

The researchers were encourage to conduct this study in order to improve the manual ordering into a developed system. This system intends to provide a system for the customer that can help them to order through online and easily to order. As a result, this system seeks to provide dependable and effective online ordering without the risk of data loss.



Conceptual Framework of the Study

Figure 1 shows the conceptual framework of the study. It will serve as the outline on how the researchers will conduct the study.

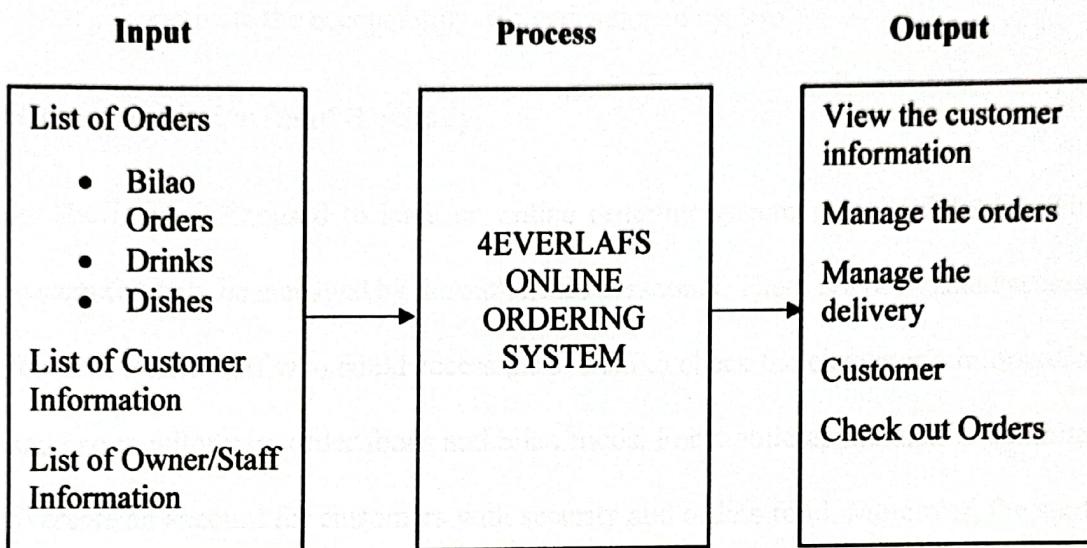


Figure 1. Conceptual Framework

The Figure 1 illustrates the study's application of the input-process-output method. A list of orders input, including bilao orders, drinks and dishes, is provided to the system. The list of customer information and the list of owner/staff information are also included in the input. The process of the system is the developed 4EVERLAFS Online Ordering System, which is how the study is carried out and it allows users to browse the website and easily to take orders. The output of the system is the owner/staff activity, in which the owner/staff manages customer information, customer orders, delivery and check out orders.

Objectives of the Study

The main objective of this study is to develop a 4EVERLAFS Online Ordering System that will relevant to their restaurant for fast transactions of orders.



Specifically, this study aimed:

1. To determine the current process of ordering system at 4EVERLAFS.
2. To determine the features of the developed system
3. To evaluate the acceptability of the developed system

Scope and Limitation of the Study

The study is focused to have an online ordering system of 4EVERLAFS. This system can only be managed by the authorized personnel. There is a designated account for each owner/staff who could access the system to check the customer's information and can monitor who order foods and bilao foods. For mobile application is delimited to create an account for customers with security and orders food. Moreover, the study conducted at 4EVERLAFS, Sta. Maira Ilocos Sur and the limitations of the study, the system does not provide the customers who order outside Sta. Maria Ilocos Sur. The system can be accessed thru online and it can be limited only through mobile android phones.

Importance of the Study

The following would be benefited from the result of this study:

The **Owner/Manager** can provide the owner/manager with valuable insights into the effectiveness of their marketing strategies.

The **Staff** can help the owner/manager to better understand the customer's needs and ensure that orders are processed quickly and accurately. This knowledge can help staff gain a better understanding of customer expectations and help them provide better customer service.



The Customers will easily place orders at a restaurant over the internet. It is a person who buy goods or services from 4EVERLAFS.

The Researchers will increase their expertise, experience, and skills in the field of development of the web-based applications to be more superior

The **Future Researchers** would serve as their basis and reference in developing a system that is related to this study.



Chapter 2

METHODOLOGY

This chapter discussed the research design, software model, project plan, project assignments, population and locale, research instruments, data analysis and the statistical tools utilized to interpret the acceptability of the system.

Research Design

The researchers conducted the presentation, prescription, and interpretation of the data using the descriptive developmental type of research, and the findings served as a basis for the developed system, the 4EVERLAFS Online Ordering System in Sta. Maria, Ilocos Sur. McCombes (2022) mention that the descriptive research aims to accurately and systematic way describe a group of people, a situation, or a phenomenon. Researcher doing descriptive research do not attempt to modify the topic of study to ascertain cause and effect relationships. This method of research will make the researcher understand and have a clearer online ordering systems. Online ordering system have become popular in recent years due to their convenience, cost efficiency, and ability to quickly and easily process orders. By reducing the number of manual steps, they help businesses save time and money while increasing customer satisfaction. Additionally, they can be used to streamline customer service and provide better customer support. Thus, the researchers will then formulate and develop the system through analysis and interpretation we the researchers used this method to gather information about the current manual process of their ordering. The interview and wammi questionnaires of the procedures and policies of the restaurant 4EVERLAFS and the analysis of documents were used especially the forms that the owner/staff and



customers needed to fill in. All the gathered information through this method was analyzed, and interpreted into the proposed system.

The developmental method research was on the development of the system. Developmental method of research has defined as the systematic study of the design, development, and evaluation of the activities while also discussing the process, assessment in the whole or specific process components, and acceptability of the system (Richey & Klein, 2014). This research will assist the method of the developers. Various programming Languages and packages suitable for the system were also identified. The most skilled user. To ensure smooth data flow, an interface will be designed and integrated into the system.

Software Model

The agile software models needed by the researcher that helps the team's structure and maintain their work through a set of days, time and schedule in developing the system.

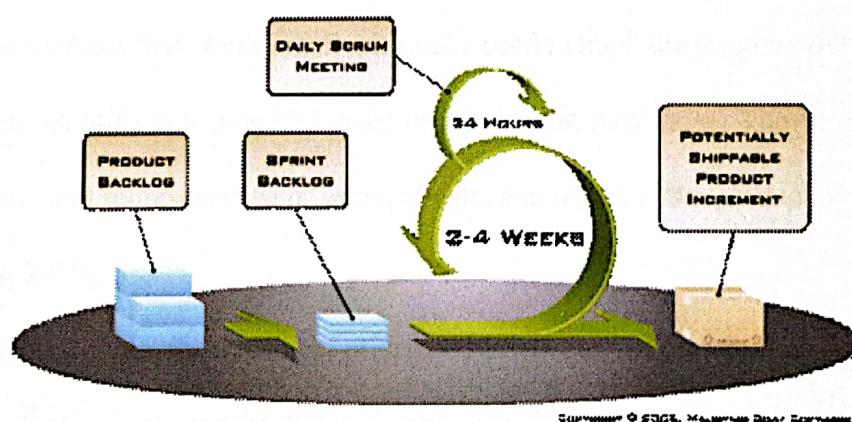


Figure 2. Agile Scrum Model



Agile Scrum methodology, each sprint's set of goals be achieved within its allotted timeframe makes it possible for faster product development. Furthermore, regular planning and goal-setting during sprints aids the scrum team in concentrating on the current goals, resulting in higher productivity (Sean S. Peek, 2023).

The Agile software methodology has the following phases which include Product Backlog, Sprint Backlog, Daily Scrum Meeting, and Sprint Retrospective Phase.

Product Backlog. When using Scrum, it is not necessary to begin a project with an extensive, upfront effort to document all requirements. Instead, the Product Log in Scrum is a prioritized features list that contains brief descriptions of all functionality desired in the product. Typically, a Scrum team and its product owner start by outlining every possible option for prioritizing the agile backlog. Almost always, a first sprint can be completed with this agile product backlog. After that, as new information about the product and its users becomes available, the Scrum product backlog is allowed to expand and change (Wibjorn W., 2019).

Backlog is a list created by the product owner and is used to prioritize the work that needs to be done. It helps the team stay organized and focused on delivering the most important features first. Additionally, it can be used to track the progress of the project, as well as identify any potential risks or issues that may arise. The project's main stakeholder and representative of users, clients, and others is the product owner (Mike M. Cohn, 2019).

During this phase, the developer prioritized a list of all the features and functionality needed to Online Ordering for 4EVERLAFS. The developer also gathered the different requirements needed in the development of the system from the 4EVERLAFS like events. It is prioritized to ensuring building the most important features first.



Sprint Planning Meeting. The product owner, scrum master, and development team typically attend a meeting that takes place during this phase at the start of each sprint. During the meeting, the team reviews the sprint backlog, identifies the tasks for the sprint, and assigns tasks to team members. The sprint goal is discussed, and any risks or issues that may arise during the sprint are identified. The meeting also sets the expectations for the sprint and sets the timeline for completion.

The entire team comes together to decide which features will be included in the upcoming sprint. Each participant in this meeting summarizes their work from the sprint. They arrange a presentation of the architecture or a demonstration of the new features (Mike M. Cohn, 2019).

During this meeting, the team comes together to plan out the sprint and the tasks that will be completed during it. During the meeting, the product owner will present the objectives for the sprint, and the team will discuss how best to achieve them. The team will then come up with a plan of action and assign tasks to each team member. Once the sprint plan is finalized, the team will review the plan and agree on any changes that need to be made. The final sprint plan is then documented and the team can move forward with development.

In this phase, the developer identified the features to be included in the system by project planning as well as the requirements by the different stakeholders. The developer also decided the hardware and software requirements needed by the system based on the problems presented by the owner during the interview. The developer also creates the different interfaces needed for the system.

Daily Scrum. It refers to a daily meeting that typically happens at the same time to go over the tasks required to complete the sprint goal. The development team holds this



informal meeting every 15 minutes to coordinate activities and develop a schedule for the following 24 hours. Each team member briefly describes what they accomplished yesterday, what they intend to accomplish today, and any challenges they may have faced. The daily scrum is an effective way to ensure that the team is progressing towards their sprint goal.

During this stage, a quick meeting known as the daily scrum is held every day of the sprint. The team stays on task and the meeting helps to establish the context for each day's work. The daily scrum is a requirement for all team members (Mike M. Cohn, 2019).

At this phase, the developer created the use case diagram, data flow diagram, context diagram and entity-relationship diagram. In order for the modules to function, the developer wrote codes using PHP, HTML, CSS, JavaScript, MySQL Server and Wamp or Xampp Server for the database since part of the transaction is online.

Sprint Retrospective. This phase refer a meeting held at the end of each sprint to review what went well, what didn't, and what can be improved. The goal of the meeting is to identify areas where the team can work together to become more efficient, productive and successful. The team takes the time to reflect on their process and document insights that will help them improve performance in the next sprint.

During this phase, it is an opportunity for the team to reflect on the sprint that has just been completed, identify successes, areas for improvement, and plan for the upcoming sprint. The goal of the sprint retrospective is to maximize the team's effectiveness, identify opportunities for improvement, and make sure the team is on track to meet its goals. In this project, one of the things that was taken into consideration is the time management and schedule. This also helped them in preventing from



overdue tasks and to finish the project development within the allotted duration (Mike M. Cohn, 2019).

In this phase, the developer showed the developed system to the 4EVERLAFS. The Manager of 4EVERLAFS provides feedback which used by the developer to further enhance the system. It is also in this phase were in the acceptability of the developed system was tested.

Project Plan

Figure 3 shows the timeline that was used as a project management tool to clearly illustrate the status of the process of 4EVERLAFS Online Ordering System and it displays the duration of each of the four phases of the Agile Scrum Model.

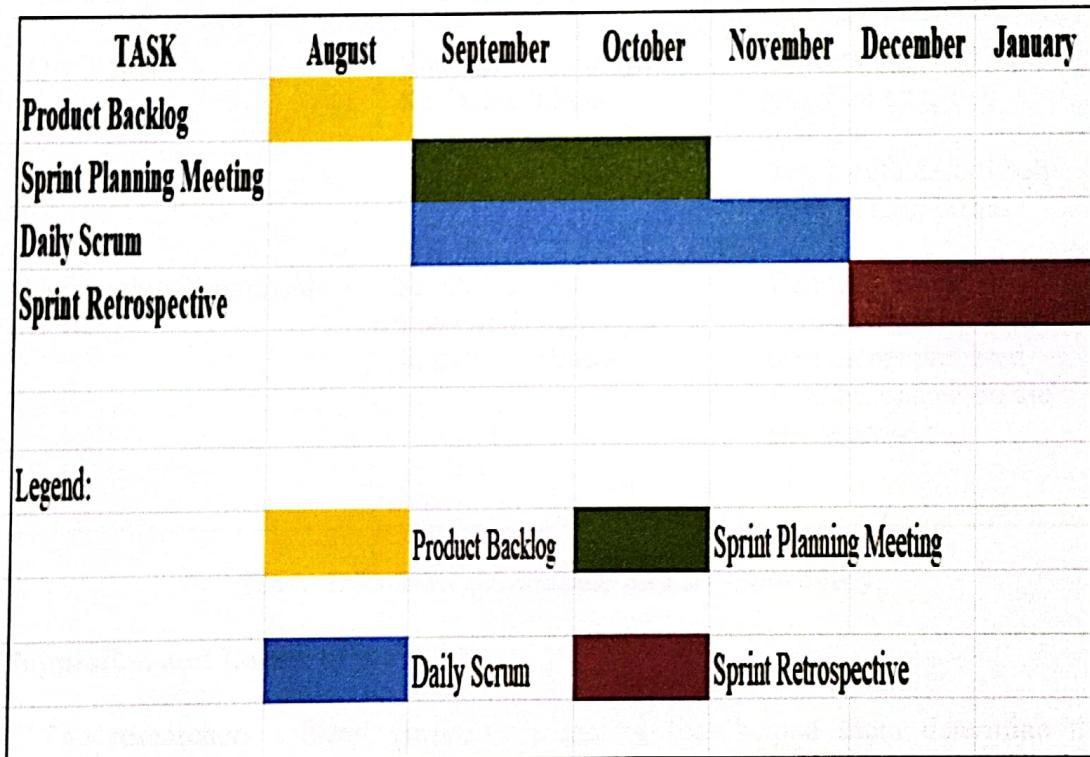


Figure 3. Gantt Chart



Project Assignments

The projects team member's roles and responsibilities within the proposed system of 4EVERLAFS Online Ordering System.

Roles	Name	Responsibility
Project Manager	Kc O. Bartolome	Can lead, motivate, and coordinate with the team to complete plans successfully
System Analysis	Jimboy G. Davalos Clarissa T. Cayabyab	Coordinate the technical team efforts in resolving the problem of a system Responsible for managing systems planning design team
Programmer and Developer	Joseph B. Añasco Michael Jay I. Colis	Responsible to build the project
QA/Tester	Clarissa T. Cayabyab Kc O. Bartolome	Detects logs and reports program bugs and glitches Track defects and helps troubleshoot errors
Documenter/Technical Writer	Kc O. Bartolome Clarissa T. Cayabyab Jimboy G. Davalos	Coordinate project plans, review, revise or edit documents prepared A status update on the entire project

Table 1. Role Requirements and Responsibility

Population and Locale of the Study

The researchers utilized purposive sampling that helped them determine the distribution of respondents which involve the participation of the 25 users, namely the owner/manager (1), staffs (3) and customers (21).



Table 2 shows the distribution of the selected respondents to participate in the acceptability of the proposed system.

Respondents	N
Owner/Manager	1
Staff	3
Customers	21
TOTAL	25

Table 2. Distribution of Respondents

Research Instrument

Interview, internet research and survey questionnaire were the tools that are used in the study, which also involved the participation of the owner/staff and customers of 4everlafs. The researchers have used different data gathering instruments to unravel the important details that is needed for the betterment of the study. Interview was adopted to gather the data needed by the researchers to collect the requirements needed for the development of the system.

WAMMI (Website Analysis and Measurement Inventory) is a Web analysis that measure user satisfaction by having website visitors contrast their expectations with what they actually encounter (WAMMI.com, 2020)

Internet search is a sizable network that links computers around the globe. People can share information and communicate online from any location with an internet connection and to find something or to find information (Britannica, 2023).



Data Analysis

Questionnaires and interview were served as tool in gathering the data. Mean, Frequency Count, and the needed data to identify the acceptability of the proposed system 4EVERLAFS Online Ordering System.

Table 3 shows the descriptive interpretation of the proposed system's level of acceptability.

Scale Value	Statistical Range	Descriptive Rating
5	4.20 – 5.00	Strongly Agree
4	3.40 – 4.19	Moderately Agree
3	2.60 – 3.39	Agree
2	1.80 – 2.59	Moderately Disagree
1	1.00 – 1.79	Strongly Disagree

Table 3 Descriptive Rating on Acceptability of the System

The date gathered were categorized from Strongly Disagree to Strong Agree. Mean Ranges from 1.00-1.79 described as Strongly Disagree, 1.80-2.59 described as Moderately Disagree, 2.60-3.39 described as Agree, 3.40-4.19 describe as Moderately Agree and 4.20-5.00 described as Strongly Agree. Table 3 shows the descriptive rating on usability of the proposed system.