Vetconnect: E-Commerce Portal for Veterinary Health care Providers and Service Subscriber

Daniele De Guzman, Samuel Mirasol, King Perez, and Grace Lorraine Intal
School of Information Technology
Mapua University Makati, Philippines
dsdeguzman@mymail.mapua.edu.ph, srcmirasol@mymail.mapua.edu.ph,
kesfperez@mymail.mapua.edu.ph, gldintal@mapua.edu.ph

Abstract

Using E-Commerce in online buying and selling of products is very convenient since there is no need for physical interaction, and it is also cost efficient for both buyers and sellers. This platform had increased its utilization during the time of pandemic as people prefer to stay home and do transactions virtually. This led the authors to conceptualize a design of an E-commerce system for veterinary healthcare providers and pet owners as the pet care industry is growing. The portal will let the healthcare providers promote their products and services, including the schedules of their clinics. The pet owners or service subscribers, on the other hand, may use the portal to view those veterinary clinics and make transactions like creating an appointment or product purchases. The authors gathered data through survey questionnaires to determine the user requirements and the needs of developing the system. The results of the survey were also used to identify the functionalities of the E-commerce portal such as booking of appointments, live chat, service monitoring, and payment. These functionalities included the wireframes which represent the prototype design of the E-commerce portal.

Keywords
E-Commerce, Website, Information Communication Technology Veterinary healthcare, Domesticated Animals.

1. Introduction

In the Philippines, the population of Domesticated animals, mainly dogs, cats, guinea pigs, rabbits, and hamsters, range from 1 to 4 four per household (Tan 2015). Additionally, in 2017, a specific statistic available for the Dogs population states, 11,600,000 dogs are in the Philippines. One form of taking care of pets is bringing them to an Animal Clinic that provides services such as check-ups, grooming, surgery for animals, and products.

Due to the pandemic brought about by COVID-19, where social distancing must be practiced and they need to follow other the safety protocol, it has affected acquisitions and transactions towards pet clinics and pet owners.
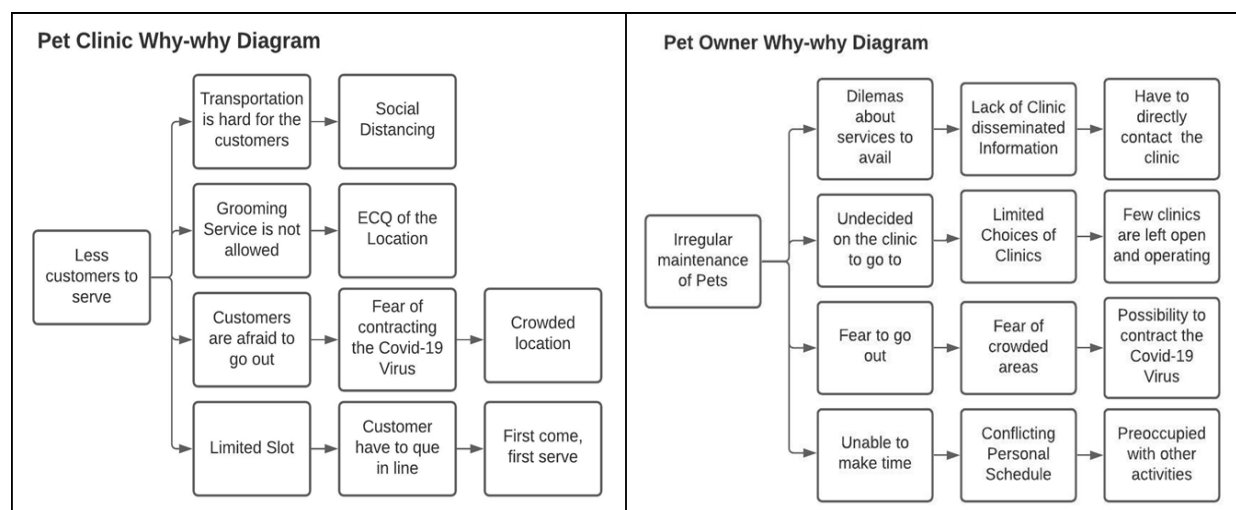

Figure 1. Pet Clinic Why-why Diagram & Pet Owner Why-why Diagram (Left-to-Right)

Figure 1 shows the Why-Why diagrams of both Pet clinics and Pet Owners' specific problems encountered during the pandemic. On the pet clinics, there have been fewer customers to serve, due to factors such as the customers' fear of crowded sites and the lack of grooming services brought about by living in ECQ areas. Limited slots are caused by the flow in which clinics operate, in which queueing, and first-come, first-serve bases are followed.

On the pet owners, there have been irregular maintenance of pets, due to factors such as lack of time for pet owners to provide regular check-ups/grooming for their pets. Limited selections in choosing clinics due to meager clinics in operation. The fear of going out occurs due to pet owners being afraid of crowded areas. Since pet owners have conflicting schedules, finding ideal scheduling and ideal clinics are just some of the preoccupying factors with other activities and bringing their pets for maintenance.

The authors thus conceptualized the idea of designing a Website Application for Pet Clinics and Pet owners alongside finding its functionalities. The design content might include customer and pet information, pet clinic selections, products/services offered, appointment forms, the monitoring of pet grooming status and order status, transaction history, and sales reports. Doing so would promote less interaction because most necessary information from pet clinics and pet owners would be available in the Application and both would be able to transact easily.

1.1 Objectives

To design an E-Commerce Website application for animal clinics to provide convenience to both pet clinics and pet owners in their service and order transactions during pandemic.

2. Literature Review

The given topic bases itself on the implementation of an online-based website application system for animal clinics and pet owners. The impact of Coronavirus-related events paved the way for innovative applications when purchasing goods and acquiring services.

Because the development of Information Technology is very fast and continuous, companies and organizations have tried to utilize tools and platforms to constantly attract and keep customers for their businesses to survive (Asih et al. 2019). One way is the implementation of E-commerce, which is where the business activities are being done online and it is usually the purchasing and selling of goods (Ullah and Zaman 2016).

A good example of this is the e-commerce platform of Shopee, a marketplace where users can browse, shop, and sell with secure payment and logistic support. Small businesses can join at zero cost and they are provided with tools and functions to manage their products and customer relations. Additionally, Live Chat functions in Shopee allows users to communicate at their own time and convenience (Bayaton-Obispo 2015).

In the case of pet industry platforms, early application concepts such as "Pet Portals" are known to provide secure, private pet health websites that have been designed as human health portals where pet parents can access medical records, emails and online prescriptions (Canvas Solutions 2020). This implies a working relationship between veterinary clinics/grooming stations and the owner in relation to the health and service of the animal.

The Groomk9 software is another concept. Because most groomers still use the traditional way to record their information in paper or in excel, GroomK9 manages customers, staff and their time and accounts, so it is a software that helps Dog groomer's business manage their day-to-day business. In addition, it was stated in the study that, because the cost must be flexible, fast set-up and able to grow along the line of business, the SOA cloud base is ideal for the grooming industry (Rice 2016).

Given the rapid development of information communication technology (ICT) and smartphones, smart technologies, and application software have become an extensive and integral part of everyday life. Also, since the system that is most used by many industries is a traditional manual ordering system, where all information and work is recorded manually, which sometimes is also the cause of human error, it is not an efficient and effective work practice anymore. That is why a computerized system will help businesses in their daily routine to have a better daily management operation (Leong 2016).

Many clinics are getting easily crowded and having a long waiting time in order to get their appointment to their specific doctors that are usually using the traditional system for their scheduled appointments. An application scheduling can help a lot of patients in order to have scheduled appointments in the clinic that it won't be a hassle to any patients, and they can easily schedule their appointments to their doctors (Garavand et al. 2020).

Since many Dog Grooming businesses do not use modern technologies to manage their business (Rice 2016), it is considerable to understand the age range given within the users of any considerable application. Mobile growth and unified Software as a Service - based application can be derived from the internet and easily accessible to those willing to create records and schedule appointments.
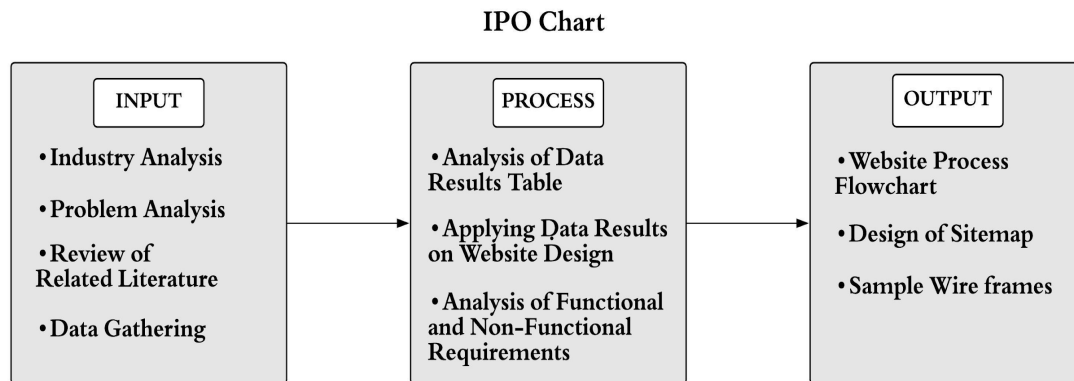
3. Methods

IPO Chart

Figure 2. IPO Chart

Figure 2 shows the processes the authors have followed with the use of IPO model. It starts with industry analysis which was conducted by assessment of the various factors consistent within the development and status of the industry; through the PESTLE analysis, the authors were able to deduce both external and internal components. This was done through the comprehension of the status of the veterinary industry, dilemmas faced by customers, the animal clinics, and the processes which clinics usually take in business.

The situational analysis was conducted by analyzing the processes taken by local animal clinics which only practice walk-in processing with the use of flow charts to be able to see each step a pet clinic and pet customer has to do to complete the transaction, and a sample web page, which shows how animal clinics promote themselves online.

In the problem analysis, the authors have used the why-why diagram to find the root cause of the problem, and the main problems are coming from the pet clinics and pet owners. Due to those problems, it has given the authors opportunities regarding the implementation of the website application for it conveniently standardized the information of animal clinics such as location, service details, and scheduling, which are details deemed important for pet owners.

4. Data Collection

For the data gathering, the authors first analyzed the current problems and opportunities in the situation of the animal clinics and then researched what possible questions are appropriate regarding the needs for website application and its important functions. The authors then have used an e-survey questionnaire, in google forms, to easily disseminate and gather specific data from the target population to gain responses that answers the research objectives, and where the mean of results will be used as reference for designing the website application requirements.

5. Results and Discussion

Table 1. Summary result of possible functionalities of website application

Questions	Mean	Verbal Description
Must be able to use Application in Android	4.34	Agree
Must be able to use Application in IOS App	4.26	Agree
Must be able to use Application in Websites	4.48	Agree
Must be able to use Application to view Animal Clinics list of services with prices	4.46	Agree

Must be able to use Application to view Animal Clinics list of products with prices	4.42	Agree
Must be able to use Application to view Animal Clinic branches and contacts	4.56	Agree
Must be able to use Application to record customer and pet information's	4.48	Agree
Must be able to use Application to schedule an appointment for Animal Clinic services	4.54	Agree
Must be able to use Application to monitor the progress of service availed	4.44	Agree
Must be able to use Application to view transaction history of services availed	4.44	Agree
Must be able to use Application to view electronic receipts from transactions	4.52	Agree
Must be able to use Application to have customer support live chat	4.24	Agree

Table 1 shows the results of the survey gathered from 50 respondents, with questions on website functionalities. It shows that the mean, average answers of the respondents, and the verbal description (Agree/Disagree) on the questions. Most respondents agreed to have a website application with the required designs and functions for the Pet portal application to be used by both pet owners and pet clinics.

5.3 Design of Information System

The design of the website application process is shown through the creation of the flowchart of the proposed system. This was done by the authors to know and compare the current transaction process and the proposed transaction process. Sitemap and Wireframes were also created by the authors to project the outline of the application for both clinics and pet owners.

Developing the website application also helps authors consider certain factors on successful earnings through revenue, cost, and income. Revenue is defined as the total income generated by the sale of goods or services related to primary operations (Boyte-White 2020). Total revenue is taken from multiplying the price and the quantity of a product/service. Delivered into account is the fixed cost for hosting and maintaining the website application and on the flat dollar, which contextualizes commission, paid service, and percentage-based fees.

The authors also considered the given cost for website maintenance (Fowler 2020); hosting costs, tool costs, and personnel costs are to be planned at the successive stages of the application. The authors prioritized fixed costs (which encompasses internet subscriptions) and variable costs monthly; this will be considered as the authors will consider future website application administrators. The authors will consider the aforementioned financial aspects involved, such as internet subscription, server hosting, and commission.

The authors have investigated the operations of several related systems such as Shopee and Lazada (Viktor 2020) to compare the functions of financial operations. Despite the former not offering any given commission (Piso Pinoy 2019) and offering services to sellers basically free of charge, a large download/user action, traffic profits, and shipping couriers assists in providing revenue.

The authors decided on establishing a commission basis for transactions conducted in animal clinics; this will be conducted through the establishment of a settlement account to transfer and receive the set monetary amount dependent on the service. If commissions are to be conducted, percentages are to be dependent on volume- a 1% to 3% rate would be the starting point, quantitatively. Subscriptions to the given platform will also align with the implementation of the given measures.

Establishing a settlement account is highly suggested for the authors to consider transfers and issuing operations (Banca Intesa 2020). The authors have decided on implementing remittances when paying in cash from the business. Doing so allows for convenient transactions, provided that all transactions considered through the VetConnect application be taken note of by the clinic.

5.4 Functional and Non-functional Requirements

Table 2. Animal Clinic Application Functional and Non-functional Requirements

Functional Requirement	Non-Functional Requirement
Must be able to create accounts, either for animal clinics or customers.	Email cannot be used to register again after doing it once.
Must be able to view Animal Clinics list of services.	Lists are categorized alphabetically, unless filtered.
Must be able to view Animal Clinics list of products with prices.	All web pages must load within the average time of 15 seconds.
Must be able to view Animal Clinic branches and contacts.	Record maximum 30 pet information entry per customer
Must be able to record customer and pet information.	Admins must be always ready to answer concerns.
Must be able to schedule an appointment for Animal Clinic services	Website application color palette must only be yellow, white, purple, and black.
Must be able to order products of animal clinics	
Must be able to monitor the progress of service availed and track order status.	
Must be able to view electronic receipts from transactions.	
Must be able to have customer support live chat	
Must be able to generate sales reports and analytics for the business	

Table 2 shows the Functional and Non-Functional requirements that the website application must perform to ensure the effectiveness of the website to users. In the functional requirement side, it focuses on including required functionalities that resulted from the Authors survey, while the non-functionalities focus on the performance, reliability, and usability of the website.
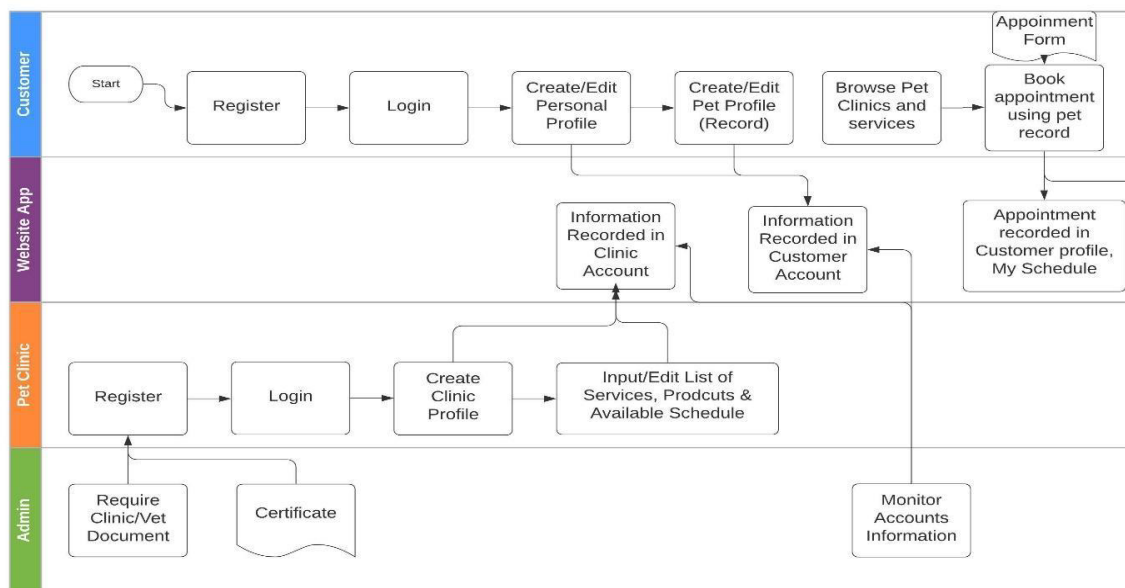
5.5 Initial Design
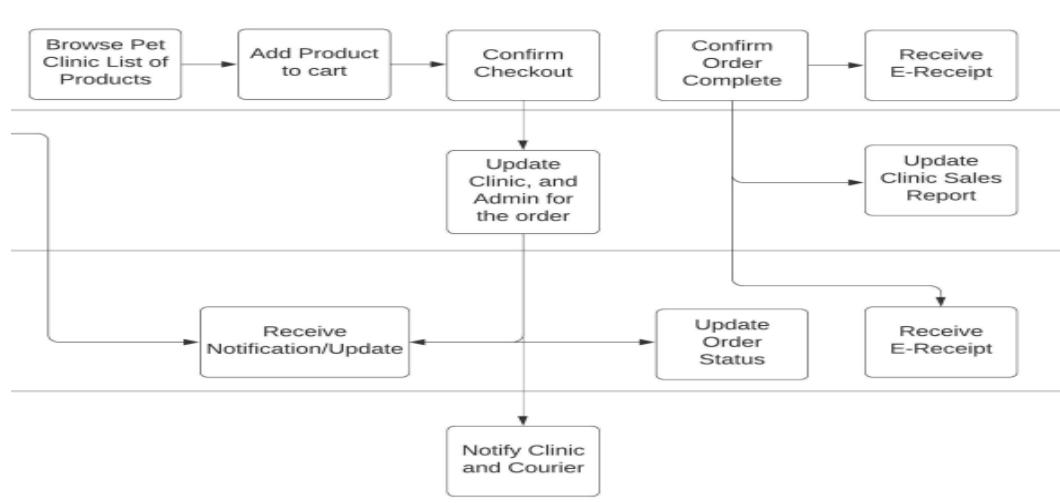

Figure 3. Flow Process of Proposed Website

Figure 4. Flow Process of Proposed Website Continuation

Figure 3 and 4 Shows the proposed flow process of the website application. Starting with the Pet Clinic side, first they must register and submit documents (RA. no.8485), to be approved. When successful, the Pet Clinic can create the profile of their clinic and include information such as, list of services, products, and schedule. Whenever a customer book appointment and purchase product from the clinic, they would be notified and receive the e-receipt. Additionally, their sales report will be updated or generated. On the side of pet owners or customers, first they must register, and then create a profile for themselves and their pet, which would be used as the health record of their pets. After, they can finally browse the list of clinics, services, and products available. When they finally decide, they can book for an appointment, and details regarding the pet in the form are automatically filled when a specific pet record from the pet profile is chosen. When submitted, the appointment is then available to view in profile, My Schedule. Customers can also add products they want to buy in the cart. In checkout they can select the product and delivery of the product. Payment is only Cash on Delivery, when the item is delivered, they would receive e-receipt. On the side of Admin, they are the one that enforce the rules and monitor the activities that occur on the website. Lastly, on the side of the website itself, it records, and updates the information of users.

5.5 Website Application Modules
1. Pet owner modules- This contains the user's order, book an appointment and transacting.

    1.1. Security Module -This contains the authentication of the user.

    1.1.1 Registration module- This contains the registration of new users that will record the user's personal information with the user type.

    1.1.2. Login module- This contains the validation of a user when logging in that includes the username, password verification.

    1.1.3. Create personal Profile- It allows the user to create their profiles.

    1.2. Edit personal Profile- It allows the user to edit their profiles.

    1.2.1. Service module - This contains the needed functions for services in a web application.

    1.2.2. Booking appointment - It allows the user to book an appointment in terms of   choosing services and selecting date of appointment.

    1.2.3. Browse Services- Checks the list of available services present.

    1.3. List of available schedules and services- It shows the list of animal clinics that had an available schedule and services on that specific date.

    1.3.1. Update Service Progress- Updates the user on the status of the selected service.

    1.3.2. Monitor progress- Allows the tracking of the status of the current service.

    1.3.3. Service progress - It allows the pet owners to view the update for their service status.

2. Order progress - It allows the pet owners to view their order status.

    2.1. Recorded in My schedule- Allows the user to view scheduled appointments.

    2.1.1 Transaction Module- This contains the transaction of payments that includes the list of items per product that have been purchased.

2.1.2. Add to cart/payments- To add the products or services.

2.1.3. Browsing Products- It allows to showcase the list of products that you want to   purchase.

2.2. Pay payments- It allows the users to pay out for their products.

2.2.1. Checkout- It allows the user to checkout their items.

2.2.2. Transaction History- It allows the users to show the record of the products or services that the users have been purchased.

2.2.3. Receive Payment- It allows the payment of the customers to the pet clinics.

2.3. Clinic Modules - This contains the adding the list of products and services, overviewing of sales report, and giving updates of the service progress.

2.3.1. Registration module- This contains the registration of the pet clinic that will record the clinic's information.

2.3.2. Login module- This contains the validation of the animal clinic when logging in that includes the username, password verification.

2.3.3. Create clinic profile module- Allows the pet clinics to add the list of products and services that includes their prices.

3. Display clinic profile module- Giving the list of available schedules, services and products.

3.1. List available schedule module- Giving information of time availability of the operating hours and the customer availability of numbers of customers to handle.

3.1.1 Update service progress module- Giving the updates from the service status of the pet owner's pet.

3.1.2. Chat module- It allows communication between the admin, the pet clinics and the pet owners.

3.1.3. Sales Report- It allows us to overview the record of sales.

3.2. Administration Modules- This contains the administrator that controls and monitors the web application for pet owners and pet clinics.

3.2.1. Viewing the list of customers- Showing of the list of registered customers.

3.2.2. Messaging of the admin- It allows you to reach the admin.

3.2.3. Feedback of the app- It allows users to give ratings of the application.

3.3. Issuing - Allows for receiving concerns in the application from the tech   support.

3.3.1. Monitoring- It allows the admin to monitor the pet owner's order and pet clinics services.
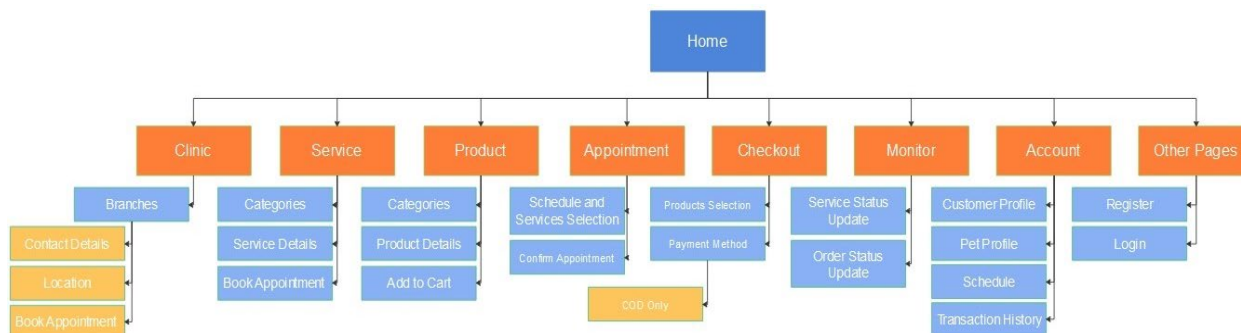
5.6 Website Sitemap

Figure 5. Sitemap of VetConnect: Pet owner customer

Figure 5 shows VetConnect Pet Owners Sitemap which branches out to 8 different page branches. The Sitemap contains the following: The Clinic, Service, Product, Appointment, Checkout, Monitor, Account, and Other Pages. The Clinic page contains branches denoted by clinic information, such as Contact Details, Location, and the Book Appointment function. Categories (of services offered), Service Details, and the Book Appointment function offers are in the Service Page; owners can allocate their pets depending on services and categories particular to their pets' needs. Details and Product Categories specific to the Website Application, including the Add to Cart functions are located in the Product Page. The Appointment Page includes the Schedule and Services Selection and the Confirm Appointment function. The page assists the Pet Owner as the schedule and services are allocated and confirmed. The Checkout page displays the Products Selection and Payment Method (Cash On Delivery). The Monitor Page displays the Service Status, which displays the services' updated situation, and the Order Status Update, which provides the status of the order to be received. The Account Page includes the following: Customer/Pet Profile (displays basic

information), Schedule, and Transaction History. Lastly, the Other Pages contain the method of pet owner's system recording (Register and Login).
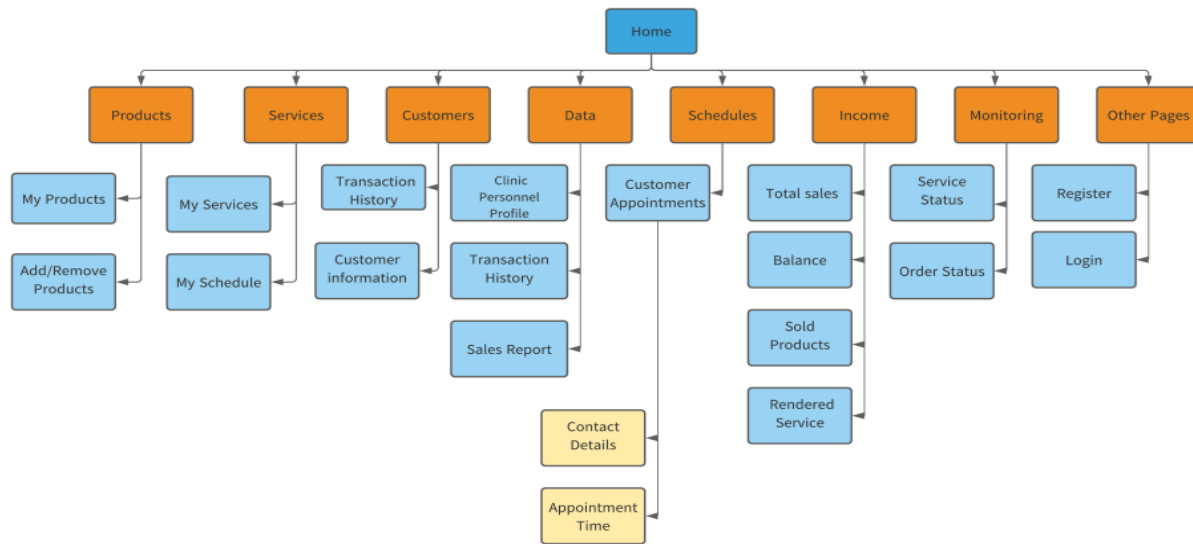

Figure 6. Sitemap of VetConnect: Pet clinic

Figure 6 shows the VetConnect Clinic Sitemap which contains 8 different page branches: Products, Services, Customers, Data, Schedules, Income, Monitoring, and Other Pages. The Products page allows the clinic to view the available products through the My Products function and to Add/Remove products. Clinics can update the services they offer (My Services) and the schedules set up (My Schedule). The Customers' page includes the Transaction History, which chronologically displays customer transactions, and the Customer Information. The Data page includes the Clinic Personnel profile, the Transaction History of the clinic, and the Sales Report within a particular time frame. The Schedules page includes Customer Appointments, such as the Contact Details and the Appointment time. The Income page displays the clinic's Total Sales function, Balance, Sold Products, and Rendered Services. The Monitoring page includes the Service Status (to allocate and display clinic personnel availability) and Order Status. The Other pages include a Register/Login function for intended system clinic users.
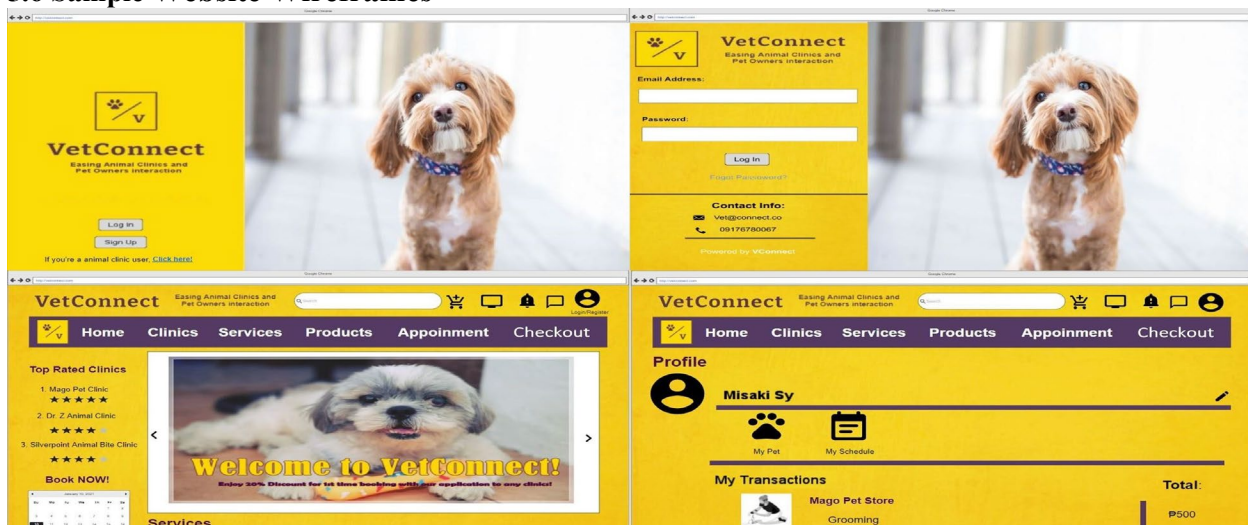
5.6 Sample Website Wireframes

Figure 7. Welcome Page, Logging in Page, Main Menu Page & Profile Page (Left-to-Right Row 1 & 2)

Figure 7 shows the first 4 pages depicted in the sample wireframe of the website application shows how the application will welcome a user, first it would ask the user to log in or sign up, followed by the logging in screen, with the contact information of the admins. The third page shows the main menu of the application, where users can search items, view services and products. The fourth page is the Profile page of the user, where they can view the record of their pet, and schedule, in addition, user transaction is viewed below to easily check previous transactions.
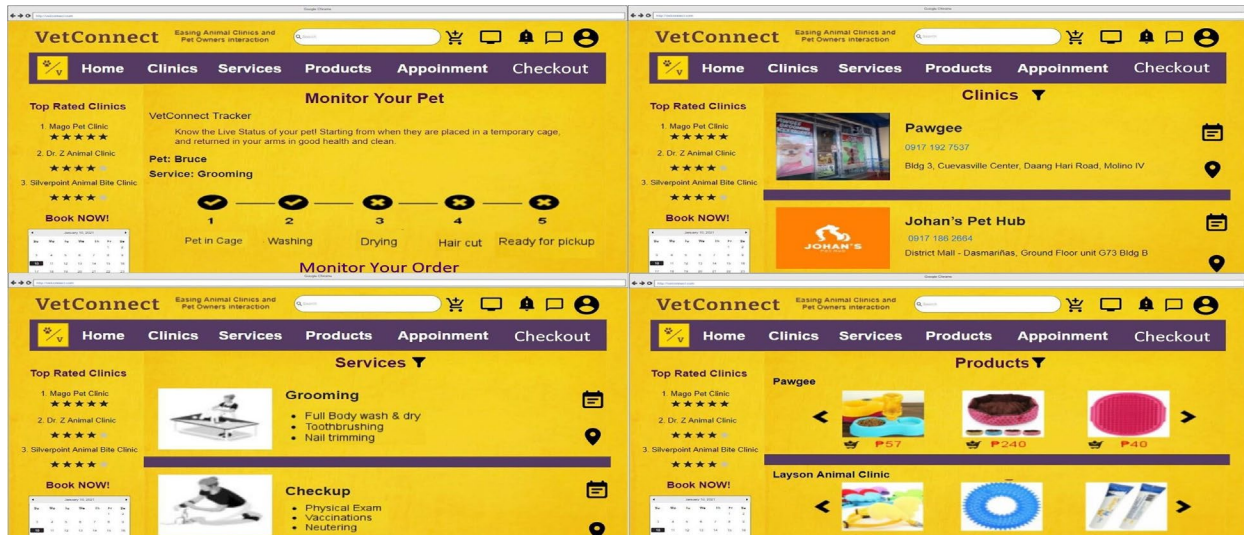

Figure 8. Monitoring Page, Branches Page, Services Page, & Products Page (Left-to-Right Row 1 & 2)

Figure 8 shows the second set of 4 pages which is about the monitoring of pet service, which is the innovation of the website application, because it enables the pet owners to check on the progress of their pets and monitoring of ordered products. Followed by the sixth page, which contains the branches that partnered with the application, together with their contact information location, in addition, clicking the calendar in specific a branch will enable the user to directly make an appointment. Seventh and Eight are almost similar but only differs on what kind of service and product they offer to the customer users.
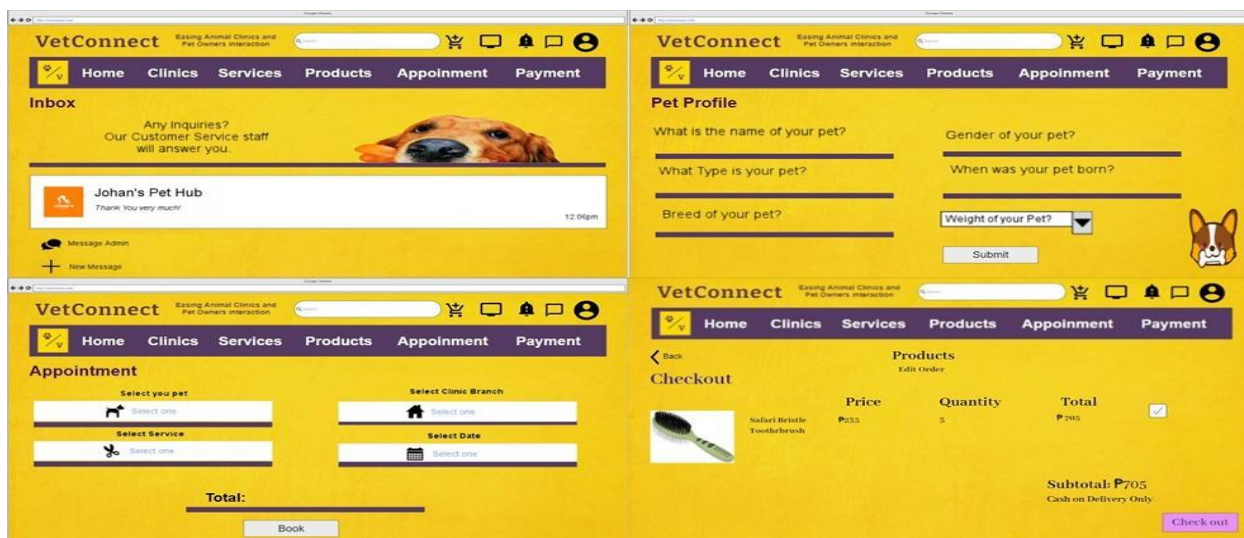

Figure 9. Inbox Page, Pet Detail Page, Booking Page & Checkout Page (Left-to-Right Row 1 & 2)

Figure 9 shows the 3rd set of 4 pages, the ninth page shows the inbox where the user can chat with any animal clinic branches, and this is where the users can have live chat with the admin. Followed by the tenth page, where it shows how data will be gained regarding pet details, followed by the eleventh page, where the user can book a schedule for a specific service. The twelfth page focuses on the Checkout for the product that will be selected.
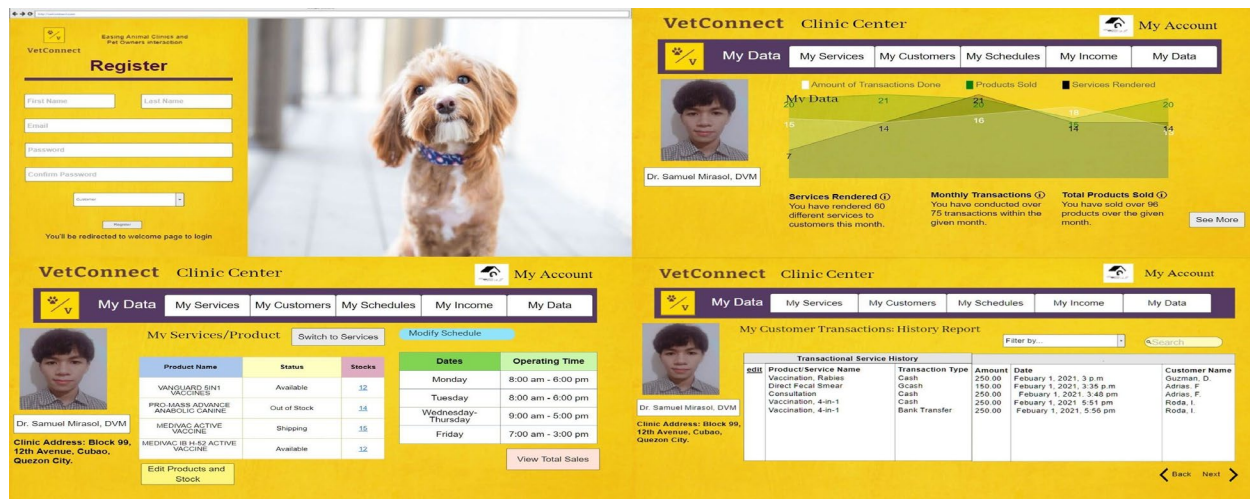

Figure 10. Registration Page, Clinic Profile Page, Service/Product Page & Sales Report Page (Left-to-Right Row 1 & 2)

Figure 10 shows the 4th set of 4 pages, the thirteenth page is registration page, where users can register themselves on the website either as a pet clinic or customer. Selecting the registration page allows the user to set up services or appointments. Depending on the selection, the actions the user would take would result in a payment and transaction. This will be visible to both clinic personnel and the customer. The product/service is listed down alongside the transaction type, date, monetary amount, and medical professional/customer name listed.
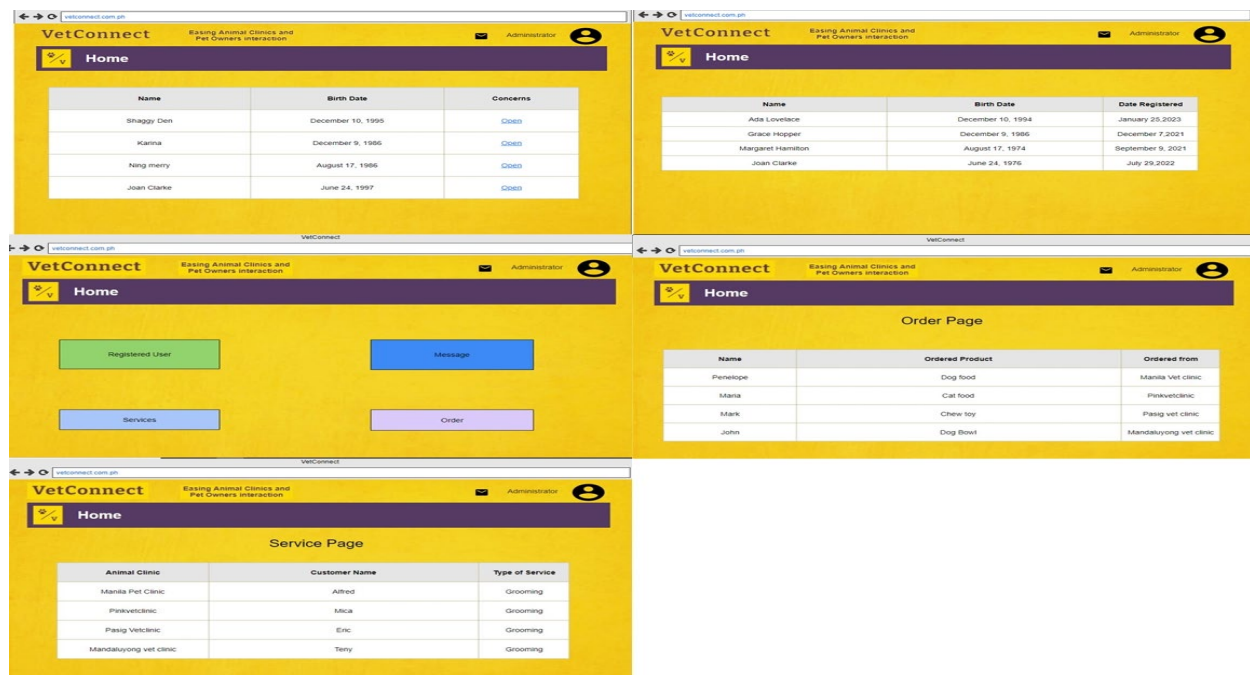

Figure 11. Customer's complaint page, Registered users page, Admin home page, Service page, Order page (Left-to-Right Row 1 & 2)

Figure 11 shows the fifth set of 5 pages, the nineteenth page is the homepage of the VetConnect administrator, where admins check the number of customers who have been registered, receiving complaints, and monitoring the service status of the pet clinic and the order status. On the eighteenth page it shows the registered user page, that includes a list of customers that had been register to the web application, followed by the eighteenth page, the number of users gives complaints about the application, that shows the name birthdate and complains that you can open the messages of the user. On the twentieth page shows the name of the customer, ordered products and from what clinic that they ordered the item from. Lastly the twenty-first is the service page where you can overview the animal clinics, the customer names that the customers choose to service their pets, and they can see on what type of service that an animal clinic that they served the customer.

6. Conclusion

This research is created for both the pet clinic and the pet owners to assist them in their transaction regarding pets. Designing the website application will give a viable platform for pet owners and pet clinics to continually establish relationships in consideration of the pandemic, as well as to assist in enabling services present to animal clinics to be continued. The authors have considered assistive circumstances by preparing questionnaires to point out needs, circumstances, budgetary concerns, and assessment concerning the viability of how effective the website will be for its users.

The design of the website application will also cater to what functions are needed in the design to help the authors focus on the website. Majority of the respondent's results help us to create or innovate the design for both customers and the business owners, that will improve the business for the animal clinic and the easy-to-use website application. The research paper would prove beneficial to readers who would express interest in using the given application, assessing its functionality especially during times of pandemics in which courier-based and online deliveries have proven successful. The importance brought about by website application and deliveries provide a more automotive stance towards consumer behavior due to access and demand, in this case, for products and services offered. Pet owners will benefit greatly due to ease of acquisition, as well as clinics for assistance on orders, services offered, and availability. Opportunities can be brought about by linking in a more independent platform relatable to local settings due to its specific nature, in which assistive care as well as continuous use can be prominent for both animal clinics and business owners.

Future research would be ideal for companies, clinics, and business owners; companies who would be willing to link up for budgeting and finding customers/partnerships, clinics who would be willing to integrate application systems, and business owners who would be willing to support and make use of application systems of a similar nature.

References

Tan, M. L. (2015, April 22). How many pets? | Inquirer Opinion. INQUIRER.Net. https://opinion.inquirer.net/84331/how-many-pets

Asih, E. S., Nguyen, P. T., Lydia, E. L., Shankar, K., Hashim, W., & Maseleno, A. (2019). Mobile E-commerce website for technology-based buying selling services.

Ullah, S. E., Alauddin, T., & Zaman, H. U. (2016, January). Developing an E-commerce website. In 2016 International Conference on Microelectronics, Computing and Communications (MicroCom) (pp. 1-4). IEEE.

Bayaton-Obispo, E. (2015, December 17). Shopee, southeast Asia's Newest smart and secure social mobile Marketplace, officially launches in the Philippines. Retrieved February 09, 2021, from https://www.moneysense.com.ph/shopee-southeast-asias-newest-smart-and-secure-social-mobile-marketplace-officially-launches-in-the-philippines/#:~:text=Shopee%20is%20a%20free%20social,easy%2C%20fast%2C%20and%20secure.

Canvas Solutions, I. (n.d.). GoCanvas: Mobile Business Apps and Forms on Android, iPad, iPhone. Retrieved September 06, 2020, from https://www.gocanvas.com/mobile-forms-apps/101-Pet-Grooming-Services/show_category

Rice, A. (2016). GroomK9. com: A Dog Grooming Management System: Business and Technical Report (Doctoral dissertation, Dublin, National College of Ireland).

Leong, W. H. (2016). Food Ordering System Using Mobile Phone (Doctoral dissertation, UTAR).

Garavand, A., Aslani, N., Ayyoubzadeh, S. M., & Abhari, S. (2020). E-booking Websites in Iranian Public Clinics: A Step Toward Health Equity. Shiraz E-Medical Journal, 21(12).

Rice, A. (2016). GroomK9. com: A Dog Grooming Management System: Business and Technical Report (Doctoral dissertation, Dublin, National College of Ireland).

BOYTE-WHITE, C. (2020, November 24). Understanding the Difference Between Revenue and Profit. Investopedia. https://www.investopedia.com/ask/answers/122214/what-difference-between-revenue-and-profit.asp

Fowler, K. (2020, January 27). Complete Guide to Website Maintenance Costs: Examples & Average Costs. Volusion Ecommerce Blog | SMB Marketing, Design, & Strategy. https://www.volusion.com/blog/website-maintenance-costs/#:%7E:text=Enterprise%20Ecommerce%20Website%20Maintenance%20Cost,on%20a%20number%20of%20factors.

V. (2020, August 19). The Lazada Business Model – How Does Lazada Work & Make Money? Productmint. https://productmint.com/the-lazada-business-model-how-does-lazada-make-money/#:%7E:text=Similar%20to%20Amazon%20and%20eBay,and%20thus%20total%20items%20sold.

P. (2019, June 16). How the Heck Does Shopee Earn from Sellers? Explained. PisoPinoy. https://pisopinoy.com/how-shopee-earn-from sellers/#:%7E:text=Agent%3A%20Shopee%20earns%20its%20profits%20from%20the%20traffic%20it%27s%20getting.&text=If%20sellers%20don%27t%20pay,does%20Shopee%20gets%20its%20share%3F

Banca Intesa. (n.d.). Settlement account. https://www.bancaintesa.ru/en/businesses/current-account/

Biographies

Daniele De Guzman is a third-year undergraduate student of Mapua University-Makati batch 2018, studying under Bachelor of Information Systems.

Samuel Mirasol is a third-year undergraduate student of Mapua University-Makati batch 2018, studying under Bachelor of Information Systems.

King Perez is a third-year undergraduate student of Mapua University-Makati batch 2018, studying under Bachelor of Information Systems.

Grace Lorraine Intal is a faculty member of Mapua University and she is teaching Information Systems courses in the School of Information Technology and Information Systems. At present, she is pursuing a Doctorate degree in Information Technology at the University of the Cordilleras.