**CAPSTONE PROJECT NAME & CONTEXT:**

Name: Paw&Claw

Abbreviation:   
Context:

In the context of economic development, our standards in both spiritual and material life are raising much more. Everybody works for a better life, and when we come home, we have different ways to throw away all the pressure. And it's easy to figure out that having a pet as a friend is some people's choice to conduct their mental lives. While people who adopt an animal usually think they're changing its life for the better, pets have just as much of a positive impact on the lives of their owners. Having a pet nearby, especially a dog can make you feel more secure. Meanwhile, people get caught up in a busy life these days, how our "friends" would be if we have some accidental case that forces us to travel and cannot stay near them anymore.

As pet owners look for a broader range of options to keep their pets healthy and happy, which in turn is causing a demand for skilled caretakers in charge of taking care of their pets in case they are away. In this project, we are on our way to building a mobile application that is a connection between owners and pet centers, helps owners conveniently find suitable pet centers, and gives less well-known clinics more chances to improve their businesses.

Services:

* Cages management, supplies management and empty slot checking for centers.
* Customer booking is generated as soon as they book a service on application and it can be canceled automatically in case of being late for a limited time.
* Manage center information for the center owner.
* Manage customer information and pet profile for customers.
* Manage centers and users information for system administration.
* Recommend the most suitable center based on customers needs.

**PROPOSAL CONTENT:**

Theory:

* Software artifacts include User Requirement, Software Requirement Specification, Architecture Design, Detail Design, System Implementation, and Testing Document, Installation Guide, sources code, and deployable software packages
* Layered Architecture will be applied.
* Server-side technique:
* .NET Core REST API, Repository pattern.
* Database: SQL Server, Firebase.
* Client-side technique:
* Web application: React JS, Material UI, HTML, CSS
* Mobile application: Dart - Flutter Framework.

Program:

| # | WBS Items |
| --- | --- |
| **1** | **Mobile application for unauthenticated user (Customer only)** |
| 1.1 | Login with phone number |
| 1.2 | Login with Google |
| 1.3 | Register account with Google |
| 1.4 | Register account with phone number |
| 1.5 | Show privacy policy and terms of services |
| **2** | **Web application for unauthenticated user (Admin, Center Owner & Staff)** |
| 2.1 | Login with username and password |
| 2.2 | Forgot password |
| 2.3 | Show privacy policy and terms of services (Center Owner & Staff) |
| **3** | **Web and mobile application for authenticated user** |
| 3.1 | View user information |
| 3.2 | Update user information |
| 3.3 | Change password |
| 3.4 | Log out |
| **4** | **Mobile application for authenticated user (Customer only)** |
| 4.1 | Create pet profile |
| 4.2 | Update pet profile |
| 4.3 | Delete pet profile |
| 4.4 | View pet profile |
| 4.5 | View nearby pet centers |
| 4.6 | View pet center information |
| 4.7 | Search for pet centers |
| 4.8 | Booking services |
| 4.9 | View center’s supplies |
| 4.10 | Add supplies to cart |
| 4.11 | Cancel booking |
| 4.12 | Rating centers |
| 4.13 | View list of voucher |
| 4.14 | Apply voucher |
| 4.15 | View booking history |
| 4.16 | Confirm booking |
| **5** | **Web application for authenticated user (Administrator, Moderator)** |
| 5.1 | Create account for Brand owner |
| 5.2 | Create account for Staff |
| 5.3 | Create Center |
| 5.4 | Create Brand |
| 5.5 | Ban center |
| 5.6 | Ban user |
| 5.7 | View list of brands |
| 5.8 | View list of centers |
| 5.9 | View list of Brand owner’s accounts |
| 5.10 | View list of Staff’s accounts |
| 5.11 | View modification log |
| 5.12 | Create sponsored banner |
| **6** | **Web application for authenticated user (Staff)** |
| 6.1 | Create cage |
| 6.2 | Update cage |
| 6.3 | Delete cage |
| 6.4 | View cages |
| 6.5 | Create supplies |
| 6.6 | Update supplies |
| 6.7 | Delete supplies |
| 6.8 | View supplies |
| 6.9 | View customer information |
| 6.10 | View booking information |
| 6.11 | Update booking information |
| 6.12 | Confirm booking information |
| 6.13 | Cancel booking |
| 6.14 | Create voucher |
| 6.15 | Update voucher |
| 6.16 | Delete voucher |
| 6.17 | Create cage type |
| 6.18 | Update cage type |
| 6.19 | Delete cage type |
| 6.20 | Create price type |
| 6.21 | Delete price type |
| 6.22 | Update price type |
| 6.23 | Check in booking |
| 6.24 | Check out booking |
| **7** | **Web application for authenticated user (Center Owner)** |
| 7.1 | View transactions history |
| 7.2 | Export data to XLSX |
| 7.3 | Change staff’s account password |
| 7.4 | View pet center information |
| 7.5 | View brand information |
| 7.6 | Update pet center information (Except for address) |
| 7.7 | Update brand information |
| 7.8 | View report |
| **8** | **Web application for authenticated user (Administrator)** |
| 8.1 | Create account for Moderator |

#### Functional requirement

##### Mobile application for unauthenticated user (Customer only)

###### 1.1. Login with phone number or Google

* Customers choose the login method between using the phone number or a google account
* Login by phone number: send SMS message to customer to verify account.
* Login by Google account: choose Google account to login.

###### 1.2. Register account with Google or phone number

* If user register with a Google account then send a verification link to register
* If user register with the phone then send a code to verify account

###### 1.3. Show privacy policy and terms of services

##### Web application for unauthenticated user (Admin, Moderator, Center Owner & Staff)

###### 2.1. Login with username and password

* Admin provides account and password for Center Owner and Staff.
* Admin has a primitive account.
* Admin provides account and password for Moderator

###### 2.2. Forgot password

* Users choose to receive verification code through phone number or gmail.
* Users submit their verification code to redirect to change password screen.
* Users change password, then login into the system.

###### 2.3. Show privacy policy and terms of services (Center Owner & Staff)

##### Web and mobile application for authenticated user

###### 3.1. View and update user information

* Users choose to view their personal information in the user profile screen. (Name, Phone, Email)
* Users can update their personal information except for their login required information (email, phone)

###### 3.2. Change password

* Users choose to receive verification code through phone number or gmail.
* Users submit their verification code to redirect to change password screen.
* Users change password, then login into the system.

###### 3.3. Log out

* Users log out then the system will redirect to the login screen.

##### Mobile application for authenticated user (Customer only)

###### 4.1. Create, view, update and delete pet profile

###### 4.2. View nearby pet centers

* Find pet centers in increasing radius from 10, 15, 20 (kilometer).
* View only centers are still open and accepting visitors.

###### 4.3. View pet center information

###### 4.4. Search for pet centers (for booking)

* Enter the required data:
  + Booking time from start to end.
  + The area you want to find the center (ward, district).
  + Information for each pet you want to send (height, length, weight, picture).
* Booking time:
  + Minimum 1 hour.
* View ascends by distance.

###### 4.5. Search for pet centers by name

###### 4.6. Booking services of Pet Center (if any)

* Besides taking care of pets, Pet centers usually have extra services such as: bathing, hair trimming, massage, etc.

###### 4.6. View center’s supplies or add supplies to cart when booking (if any)

* Customers can view the center's supplies including food, drink and medicine.

###### 4.8. Cancel booking

* Customers are allowed to cancel if not suitable.
* Can only be canceled within a certain period of time according to the regulations of each center.
* If you cancel within the time limit, you will get a warning, violating many times will be banned.

###### 4.9. Rating centers

* Customers can leave rating and feedback on Pet Center after finishing a transaction

###### 4.10. View list of voucher

* Available vouchers of the center

###### 4.11. Apply voucher

* Customers choose an existing voucher in the list or enter a central voucher to give it to a customer.

###### 4.12. View booking history

###### 4.13. Confirm booking

* Confirm the information:
  + Booking information.
  + Information Services.
  + Information on supplies in cart.

##### Web application for authenticated user (Moderator & Admin)

###### 5.1. Create account for Brand owner, Staff

* Need proof of documents and authentication at the office to register a brand
* Admin provide customers with information and password about the account through email
* Only 1 staff account can be created for 1 center

###### 5.3. Create Brand, Center

* Exchange information with customer to create brand
* Create a center base on brand and center address

###### 5.5. Ban center

* Ban the center if violate the terms

###### 5.6. Ban user

* Ban user if violate the terms

###### 5.7. View list of brands

###### 5.8. View list of centers

###### 5.9. View list of Brand owner’s accounts

###### 5.10. View list of Staff’s accounts

###### 5.11. View modification log

* View moderators' historical activities (time, modified content, moderator id).
* Tracking data and history

###### 5.12. Create sponsored banner

* Increase value for app and get more income
* There needs to be an exchange between the two parties and the signing of a contract
* Admin/moderator input data of sponsor banners (center information, banner content and image) then add it to the banner list.
* The pet centers on the list will be moved to the top of the homepage as banners.

##### Web application for authenticated user (Staff)

###### 6.1. Create, view, update and delete cage

* Enter the required data: height, width, weight, isOnline
* When the cage is over, the staff will switch the cage to the online state if there are no customers to book it offline. (There will be constraints on online time such as how long to be on, or when to turn off)

###### 6.2. Create, view, update and delete supplies

* Create supply base on type like food, drink, medicine

###### 6.3. View customer information

###### 6.4. View booking information

###### 6.5. Update booking information

* Update order information:
  + Pet status (required for proof if canceled).
  + Overtime surcharge for late pick up.
  + Additional surcharges for any additional use of supplies during the sending period.
* Every time the staff updates booking information, they will notify customers through the application.

###### 6.6. Confirm booking information

* Staff confirms customer-side booking information.

###### 6.7. Cancel booking

* If the customer violate the center policies

###### 6.8. Create, view, update and delete voucher

###### 6.9. Create, view, update and delete cage type

* Cage type is defined by the center side.
* There will be 2 main types, single and multiple.
  + Single only accepts 1 pet/ 1 cage.
  + Multiple will receive more according to the volume of the pet and the volume of the cage.

###### 6.10. Create, view, update and delete price type

* The price of booking by the time according to the regulations of the center.

###### 6.11. Check-in

* Staff needs to check pet’s health status

###### 6.12. Check-out

* The staff after receiving the money will finish the booking.

##### Web application for authenticated user (Center Owner)

###### 7.1. View transactions history

* View customer information, payment day, invoice amount

###### 7.2. Export revenue report to XLSX

###### 7.3. Change staff’s account password

###### 7.4. View pet center information

###### 7.5. View brand information

###### 7.6. Update pet center information (Except for address)

###### 7.7. Update brand information

###### 7.8. View revenue report

* Using chart combined with table to show profit through each month or year

##### Web application for authenticated user (Administrator)

###### 8.1. Create account for Moderator

#### Nonfunctional requirement:

* Language: Vietnamese and English
* Upload file limitations:
  + User avatar can only be uploaded as a single file.
  + Pet Center images and Pet profile can be uploaded as multiple files.
  + Each user can only upload a limited amount of images in a limited time.

**EXISTING PROJECT: MYPET**

Website: [www.mypet.vn](http://www.mypet.vn)

Problems: Application is still available on the app stores but it has stopped providing the service to users. Users can’t login or load in-app data.

**OUT OF SCOPE FUNCTIONS:**

* Employee shift management (Center Owner)
* Inventory management (Petshop)
* Booking health care service (Clinic)
* Emergency service for clinic (Clinic)
* Consulting services by message between centers and customers. (Center & Customer)
* Online payment with third-party service from ZaloPay, Payoo,.. (Customer)

**PAYMENT METHOD**:

* After customers check in at the center, they will proceed to pay in cash based on the total price calculated in booking information.
* During the booking process, there will be some arising (additional food, medicine, toys, .....) that will be added to the booking information by the staff. When checking out, the customer will have to pay the remaining amount.

**PRODUCT PRICING STRATEGY:**

* Income are collected based on services such as care services, cage rental, food and drink (10% on total bill)
* Income based on providing advertisement service to sponsors.
* Income based on the package of product that the user pays for. (The differences between product packages is about allowed functions)