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| --- | --- |
|  | **MINISTRY OF EDUCATION AND TRAINING** |

**FPT UNIVERSITY**

|  |
| --- |
| Capstone Project Document |
| PET DATING |
| **VERSION 1.0** |
| |  |  | | --- | --- | |  | | | **Supervisor** | **Phan Duy Hùng** | | **Group Members** | **Nguyễn Đức Thịnh – SE06149**  **Nguyễn Đỗ Anh Khương – SE05608**  **Khương Trung Hiếu– SE06020**  **Trịnh Văn Anh – SE05308**  **Nguyễn Hoàng Phong – SE05668** | | **Capstone Project code** | **PD** | |
|  |

Ha Noi, May 31, 2020

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# 

# CHAPTER 1: INTRODUCTION

## Propose

This chapter provides an overview of the capstone project. It includes the project information, the background of the capstone project, the problem and our proposal to solve the problem.

## Project Information

|  |  |
| --- | --- |
| Project Information | |
| Project name | Pet Dating |
| Project code |  |
| Group name |  |
| Product type | Mobile Application |
| Timeline |  |

## The People

Supervisor:

|  |  |  |  |
| --- | --- | --- | --- |
| Full name | Phone | E-Mail | Title |
| Phan Duy Hùng |  | HungPD2@fe.edu.vn | Supervisor |

Team members:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Full name | Student ID | Phone | E-Mail | Title |
| Nguyễn Đức Thịnh | SE06149 | 0359629846 | Thinhndse06149@fpt.edu.vn | Leader |
| Nguyễn Đỗ Anh Khương |  |  | @fpt.edu.vn | Member |
| Khương Trung Hiếu |  |  | @fpt.edu.vn | Member |
| Trịnh Văn Anh |  |  | @fpt.edu.vn | Member |
| Nguyễn Hoàng Phong |  |  | @fpt.edu.vn | Member |

## Background

Nowadays, people are always busy and rarely have time for their relationship. So, a lot of people choose a pet to be a companion. According to the Q&ME survey, 49,9% of people own a dog or a cat for this purpose. The spent time for these little friends at least 4 years in their life. Obviously, having pets in house is not only for guarding or catching mice. Pets now are treated as family members by their owner.

## The Problem

Most of people who own pets always care about life of their pets such as food, morale and mates. However, the network where puppies can find a friend or partner is very rare in Viet Nam. Facebook – a social network that is popular had a lot of groups about this problem. But in there, we also lack of specific features that focus in users that have pets. Some other communities are not really popular or have stopped working. In conclusion, there are not really any online place or community for people that have pets in Vietnam right now.

## Literature Review

We consulted some websites/application about pet before give our proposal. Each website/application has a lot of advantages but still has some limitations.



Get bone (app)

Advantages and Disadvantages of Get bone

|  |  |
| --- | --- |
| **Advantages** | **Disadvantages** |
| * Provide news and more information about pets. * Interface is easy to use and be like Tinder * Support finding mates. | * Only news, no communication between users |



Datemypet.com

|  |  |
| --- | --- |
| **Advantages** | **Disadvantages** |
| * Provide news and more information about pets. | * Not support finding mates. * Only news, no communication between users |

## The Proposal

### The idea

We want to build a mobile application where everyone can find the half of their pets, or simply want to know about other pets. Major of application is finding the mates for their pets based on automation mode or manual mode. In the app, people maybe complete the user’s profile; pet’s profile; upload images; match what pets they want. In addition, everyone can connect and chat about pets. It helps making pets dating becomes easy, safe and enhance the community. Our idea has two part: mobile application for user and website for manager.

### The proposal

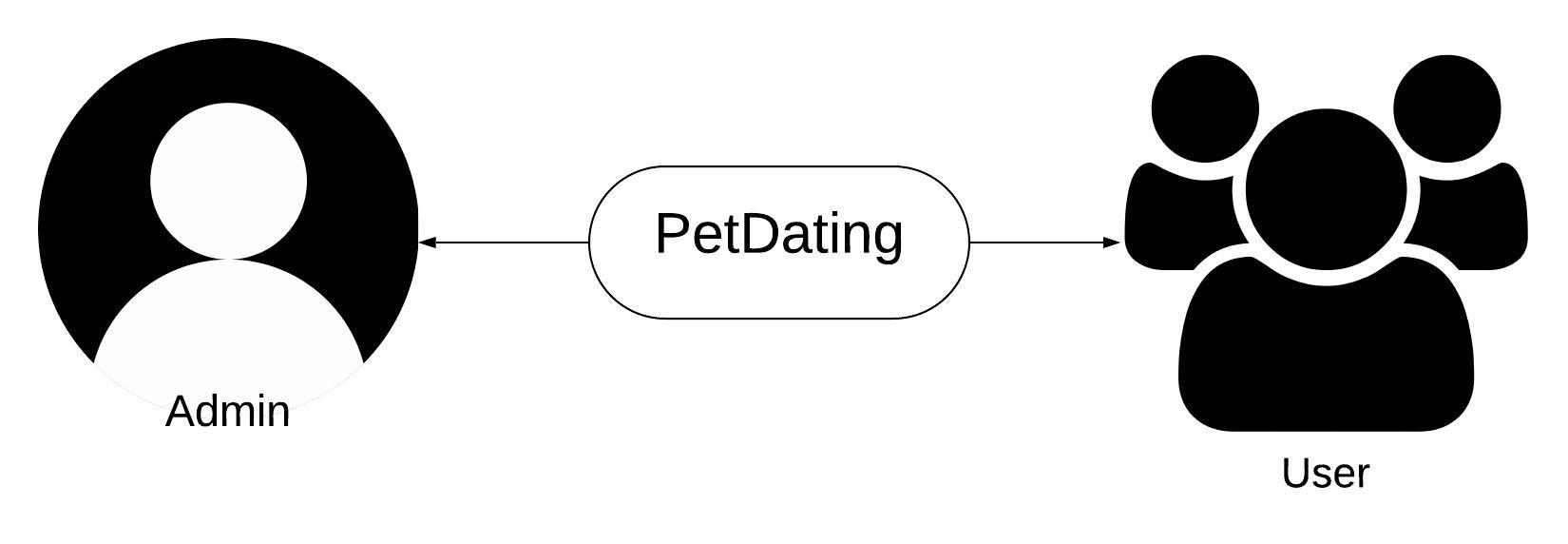


Figure - Roles in PD system

### System functions

There are three roles and responsibilities of each role on PetDating:

|  |  |
| --- | --- |
| **Role** | **Responsibilities** |
| Admin | Somebody who manage the PD system. |
| Users | People who join and use PD application |

The system has the following roles and main functions:

* Admin:

+ Login and Logout to website.

+ Review reports from user.

+ Ban and Unban user.

* Users

+ Login and Logout to mobile application.

+ View user profile and modify your profile.

+ Create, modify your pet profile and view the pet profile. The pet profile defines the name, sex, age, … of pets.

+ Upload images and set privacy such as private or public.

+ Users can use dating function to find mates for pets. There are two types of finding mates:

* + Find mates by automation: Application suggests pets base on your nearly location and all of pets in your profile.
  + Find mates by manual: Application suggests pets base on your choosing.

+ Users can use chatting system to connect to other users.

+ Feedback about system.

+ Report other account.

### Business flow

* **Review report process**

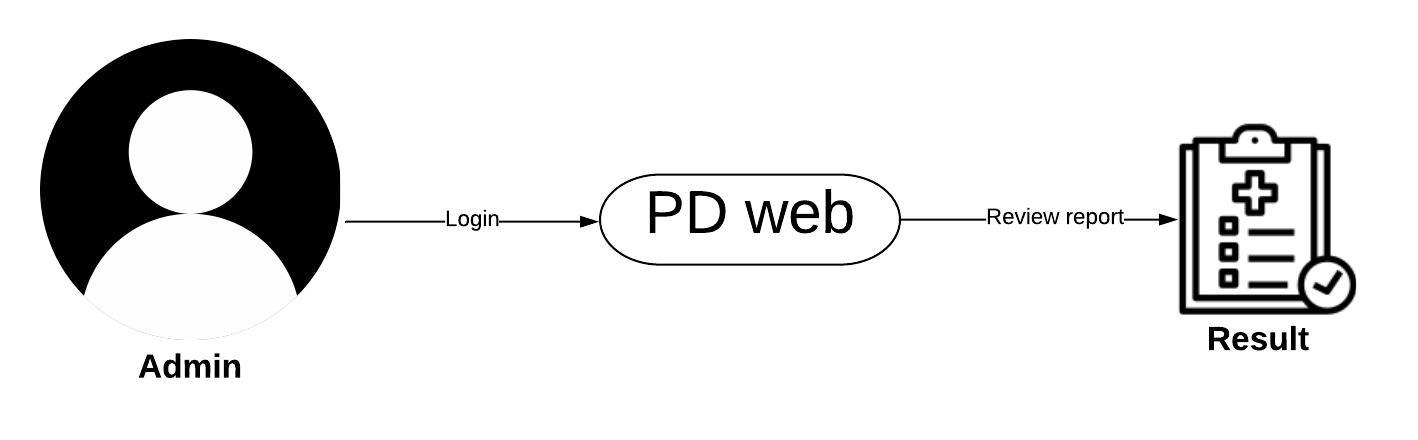


Figure 5 - Process of review report on PD

* **Ban and unban user**

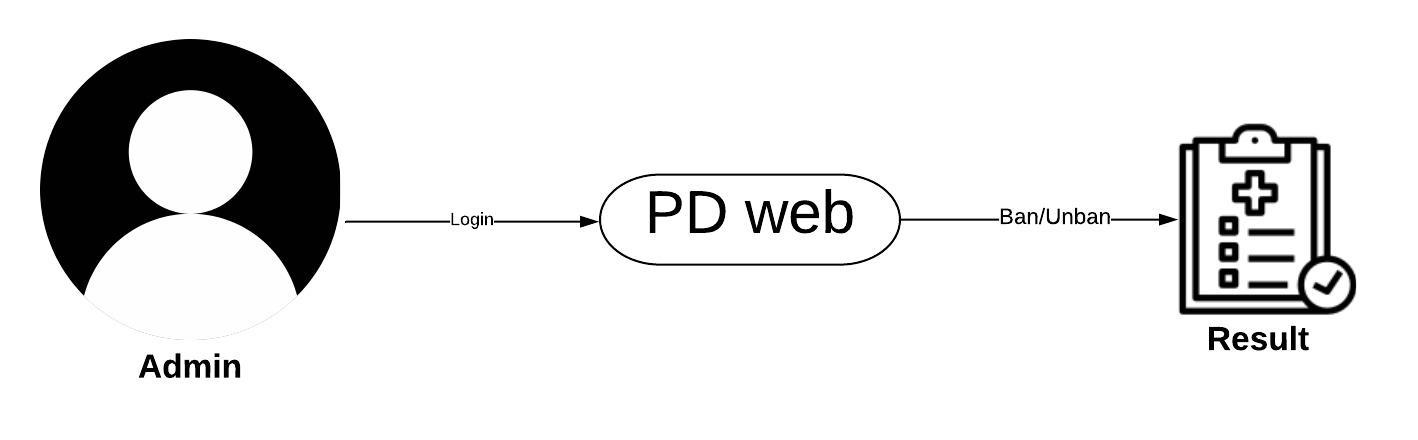


Figure 6 - Process of ban/unban on PD

* **Dating process**

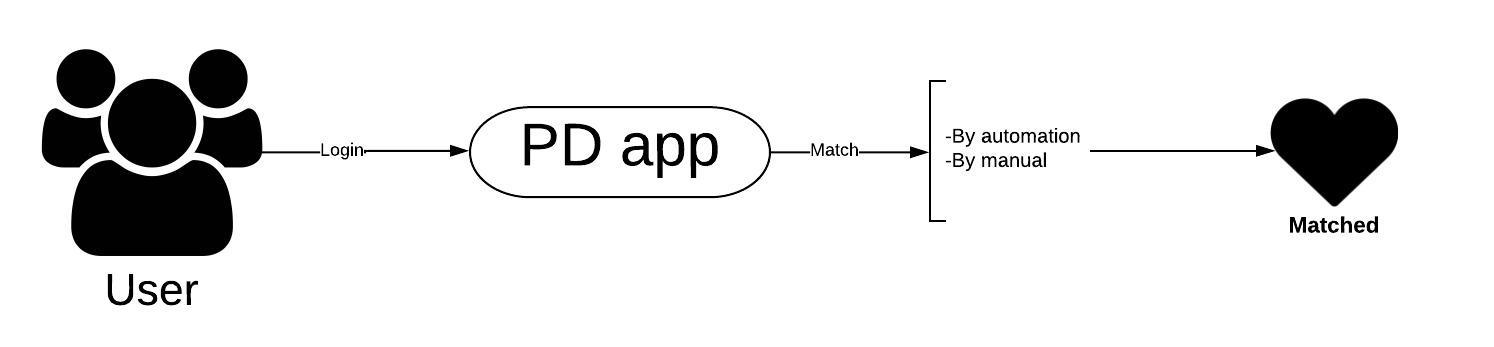
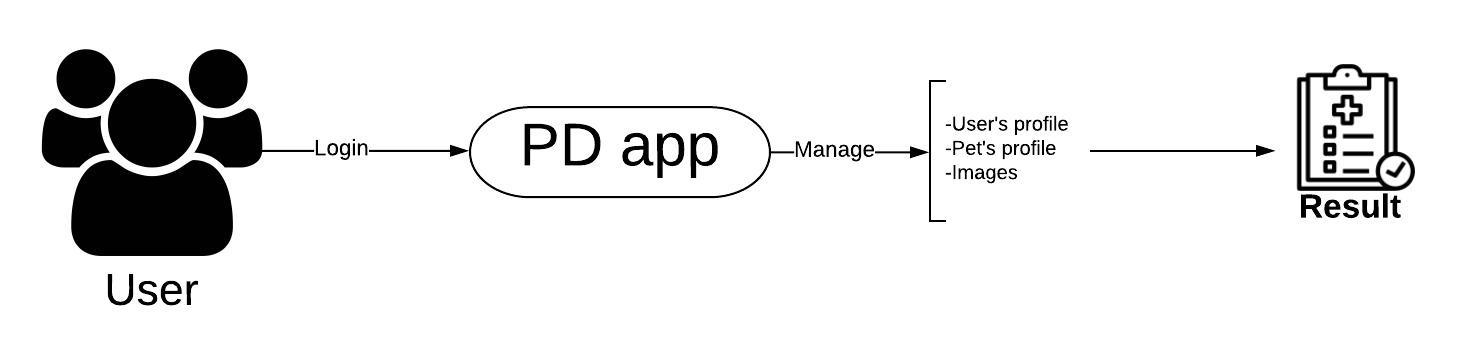


Figure 6 - Process of Dating on PD

* **User management process**

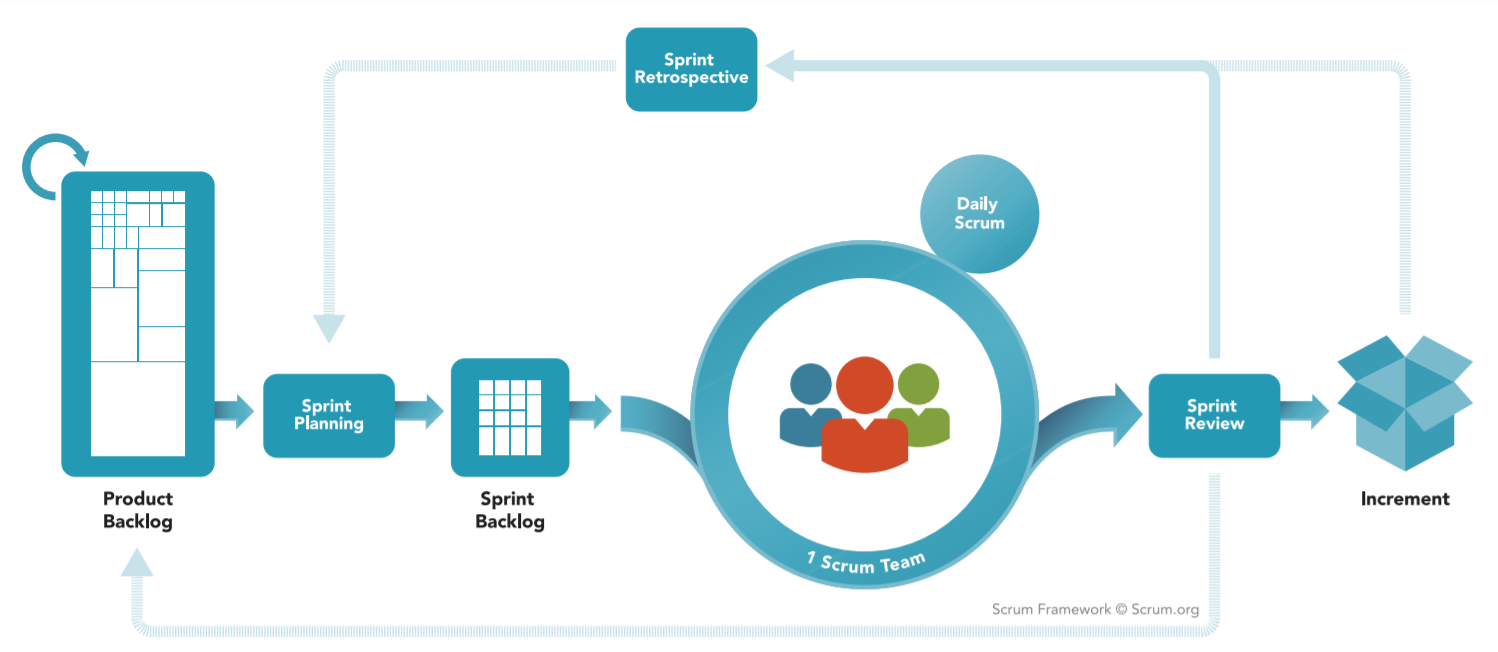


# **CHAPTER 2: SOFTWRE PROJECT MANAGEMENT PLAN (SPMP)**

## 2.1. Purpose

Project plan describes the software process model, team organization and management plan of the project. All team members must follow this section as a guideline to complete assigned tasks and deadline.

## 2.2. Software Process Model



### 2.2.1. About the SCRUM

SCRUM is Agile software development life cycle (SDLC) models. Scrum is a framework within which people can address complex adaptive problems, while productively and creatively delivering products of the highest possible value. And it is a simple framework for effective team collaboration on complex products.

* **Product Backlog**: is an ordered list of everything that is known to be needed in the product. It is the single source of requirements for any changes to be made to the product.
* **Sprint Planning**: The work to be performed in the Sprint is planned at the Sprint Planning. This plan is created by the collaborative work of the entire Scrum Team.
* **Sprint Backlog**: is the set of Product Backlog items selected for the Sprint, plus a plan for delivering the product Increment and realizing the Sprint Goal. The Sprint Backlog is a forecast by the Development Team about what functionality will be in the next Increment and the work needed to deliver that functionality into a “Done” Increment.
* **Sprint**: The heart of Scrum is a Sprint, a time-box of one month or less during which a “Done”, useable, and potentially releasable product Increment is created. Sprints have consistent durations throughout a development effort. A new Sprint starts immediately after the conclusion of the previous Sprint.

*Reference: “The Scrum Guide - The Definitive Guide to Scrum: The Rules of the Game” – Developed and sustained by Scrum creator: Ken Schwaber and Jeff Sutherland – November 2017.*

### 2.2.2. Advantages and disadvantages of SCRUM

|  |  |
| --- | --- |
| **Advantages** | **Disadvantages** |
| * Works well for fast-moving development projects. * The team gets clear visibility through scrum meetings. * Removing mistakes or rectifying them is considerably easy. * It is iterative in nature and needs continuous feedback from the user for the betterment of the process. | * Scrum often leads to scope creep, due to the lack of a definite end-date. * The chances of project failure are high if individuals aren't very committed or cooperative. * If any team member leaves in the middle of a project, it can have a huge negative impact on the project. * Daily meetings sometimes frustrate team members |

Table - Advantages and disadvantages of SCRUM

## 2.3. Project Organization

### 2.3.1. Organization structure

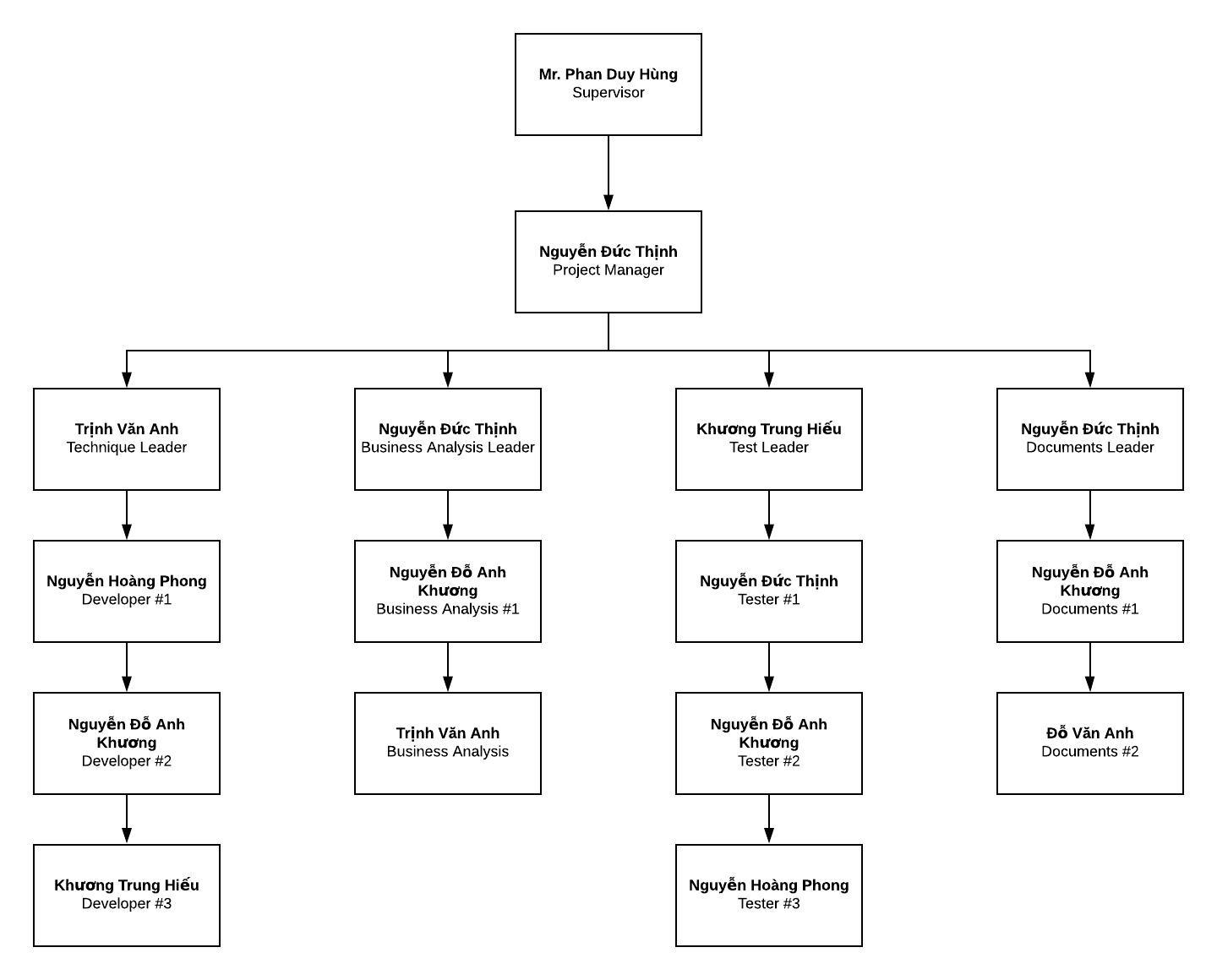


Figure - Organization structure

### 2.3.2. Roles and responsibilities

|  |  |  |
| --- | --- | --- |
| **Role** | **Responsibilities** | **Full Name** |
| **Project Manager** | | |
| Project Manager | * Guide team toward the goal of successfully passing the final capstone project. * Develop schedule and assigning task with responsibilities for each member. * Communicate with all teams to keep them focusing on the final goal. * Propose ideas or issues of the team to supervisor, university. | Nguyễn Đức Thịnh |
| **Business analyst team** | | |
| BA leader | * Elicit and analyze requirement. * Define scope and create SRS template. | Nguyễn Đức Thịnh |
| BA #1 | * Design entity relationship diagram. * Define business process flow and object state. | Nguyễn Đỗ Anh Khương |
| BA #2 | * Capture and specific describe use case. | Trịnh Văn Anh |
| **Developer** | | |
| Technical leader | * Define high level architecture base on SRS. * Implement configuration and server. * Design and code dating function. * Develop client functions in console system. * Design and review database. * Design mockup for application. | Trinh Văn Anh |
| Dev #1 | * Lead chatting function. * Design a part of database. * Design and code chatting function. * Code others screen. * Design mockup for application. | Nguyễn Hoàng Phong |
| Dev #2 | * Design and code dating function. * Code others screen. * Design mockup for application. | Nguyễn Đỗ Anh Khương |
| Dev #3 | * Design and code chatting function. * Code others screen. * Design mockup for application. | Khương Trung Hiếu |
| **Tester** | | |
| Test leader | * Create template testing documents. * Define test strategy, create test plan and defect log temple. | Khương Trung Hiếu |
| Test #1 | * Implement test case and log defect. | Nguyễn Đức Thịnh |
| Test #2 | * Implement test case and log defect. | Nguyễn Đỗ Anh Khương |
| Test #3 | * Implement test case and log defect. | Nguyễn Hoàng Phong |
| **Documentation** | | |
| Docs leader | * Prepare all the documentation relating to the project. * Give format in documentation. | Nguyễn Đức Thịnh |
| Docs #1 | * Check spelling errors and grammar errors. | Nguyễn Đỗ Anh Khương |
| Docs #2 | * Check spelling errors and grammar errors. | Đỗ Văn Anh |

Table - Roles and responsibilities

## 2.4. Tools and Techniques

## 2.5. Project Management Plan

### 2.5.1. Project schedule

The tasks list detail is described in file: **“Plan.mpp”**

### 2.5.2. Meeting minutes

### 2.5.3. Risk management plan

**\*Risk identification**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** | **Risk description** | **Contingency/Mitigation plan** | **Probability** | **Impact** |
| 1 | Scope of project was defined poorly that cause ambiguous for team members | Meeting with BA expert | Medium | High |
| 2 | Requirements changes during project time | Meeting and redefine objective with each team member. | Medium | High |
| 3 | Failure in estimating sprint time, inadequate change | Doing overnight work to keep process continuing | High | Medium |
| 4 | Confliction among team members | - Transfer problems to whole team to resolve it.  - Create happy and friendly environment among team members. | Low | Medium |
| 5 | Library or third-party features used in project is no longer supported | Choose alternative library or coding from scratch | Low | High |
| 6 | Illness or absence of team members | Ensure that the absence of a member will not affect the plan and schedule. Always have plans to deal with this problem | Low | Low |

Table - Risk identification

**\*Probability – Impact matrix**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Probability | High |  | R3 |  |
| Medium |  |  | R1, R2 |
| Low | R6 | R4 | R5 |
|  |  | Low | Medium | High |
|  |  | Impact | | |

### 2.5.4. Communication plan

Project report and meeting:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** | **Activity** | **Stakeholder** | **Time** | **Description** |
| 1 | Weekly report | * Team member * Supervisor | Monday | * Report in meeting minutes * Review status based on weekly report * Plan for the next week |
| 2 | Daily report | Project manager | Daily | * Report issue and planning * Support to solve issues |
| 3 | Ad-hoc report | Team members | Event-based | * Report and talking face to face |

Table - Project report and meeting

Project communication:

|  |  |  |
| --- | --- | --- |
| **No** | **Style** | **Description** |
| 1 | Weekly meeting schedule | Spend one day in a week for meeting to review and update solution for problems. |
| 2 | Unscheduled meeting | If any member has problems that he wants to solved immediately, we will have a chat box. |
| 3 | Communication channel | Our main communication is physical meeting, chat box, Facebook messenger. |

Table - Project communication

### 2.5.5. Coding convention

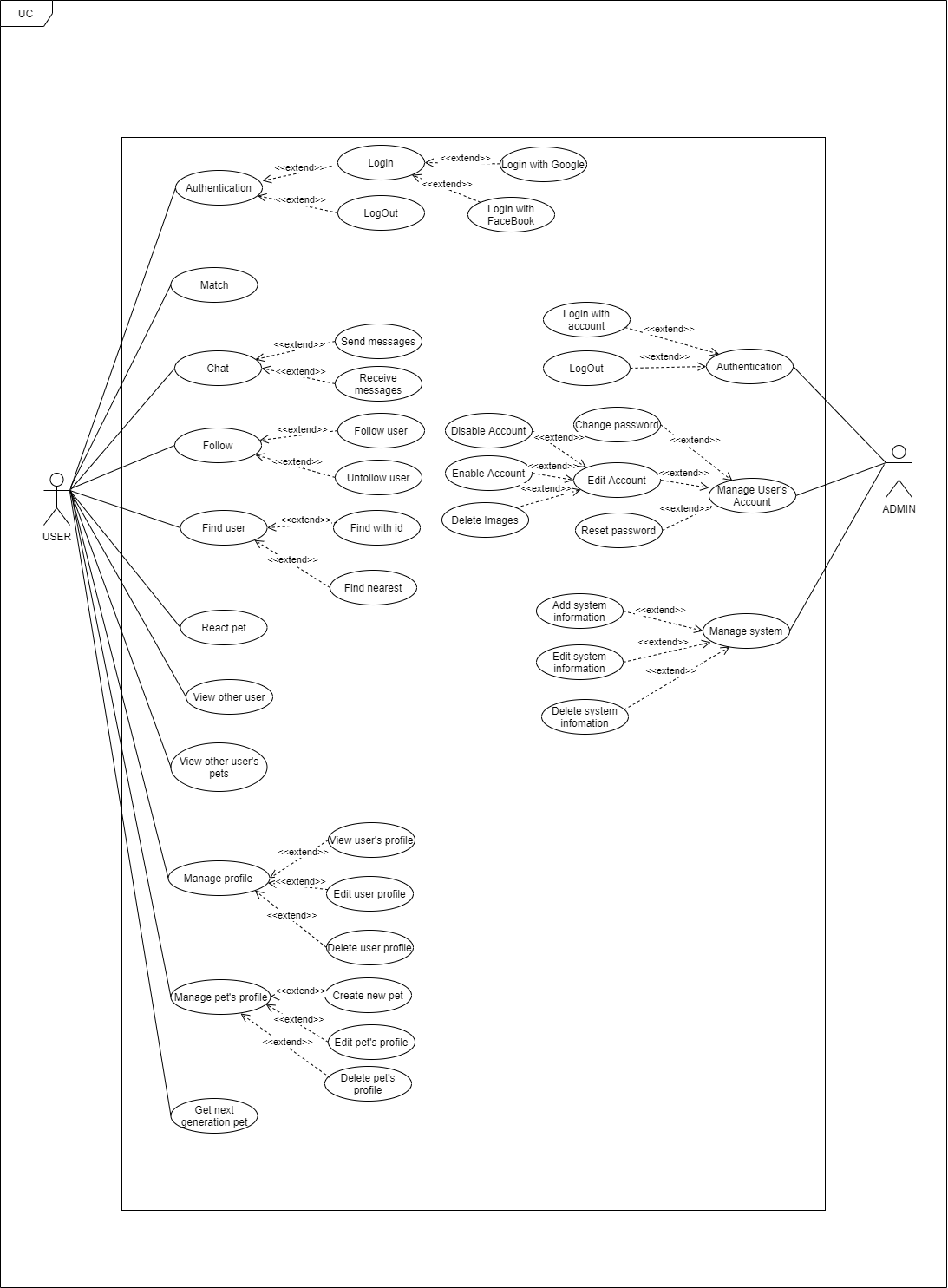
# CHAPTER 3: SOFTWARE REQUIREMENT SPECIFICATION

## 3.1. Purpose

This chapter outlines functional and non-functional requirements of our system. It also provides some format constraints in common requirements and project success criteria. The content of this chapter is used as the basis for the work in the subsequent chapters.

## 3.2. Functional Requirement

### 3.2.1. Use case diagram



### 3.2.2. Business rules

|  |  |
| --- | --- |
| **ID** | **Description** |
| 1 | Google+ account or Facebook account must be validated. |
| 2 | Admin’s password must not be stored as plain text. Instead it must be hashed using a secure hash algorithm. |
| 3 | The field must be filled by characters consist of alphabet and numbers. |
| 4 | The field must be filled by characters consist of alphabet. |
| 5 | The field must be not empty. |
| 6 | The characters of field are greater than 10. |
| 7 | The characters of field are greater than 3. |
| 8 | The characters of field are greater than 5. |
| 9 | The maximum characters of field are 30. |
| 10 | The maximum characters of field are 20. |
| 11 | Image file type must be image type. |

Table - Business rules

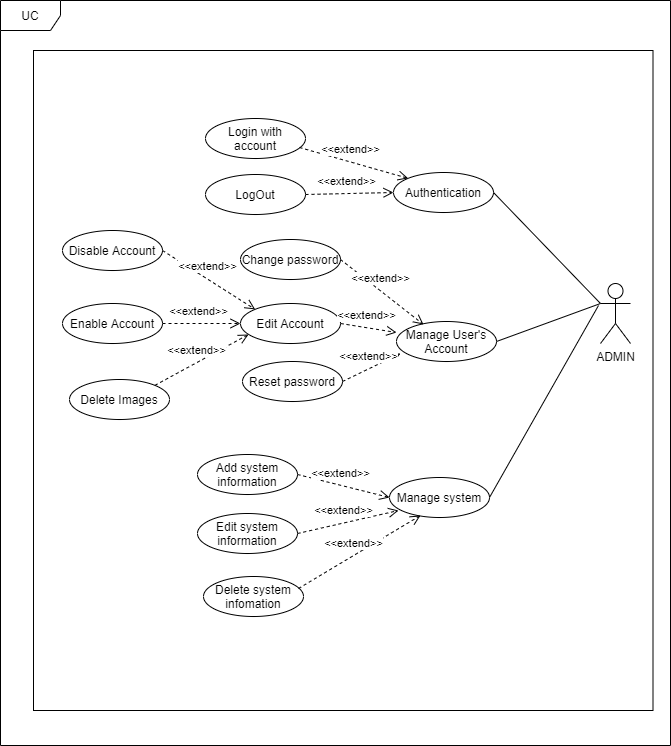
### 3.2.3. Use case list

|  |  |
| --- | --- |
| **Actors** | **Description** |
| User | Everyone who has an account on the PetDating system and used it. |
| Admin | People who has responsibilities about system |

|  |  |  |
| --- | --- | --- |
| **ID** | **Actor** | **Name** |
| AD-UC-1.0 | Admin | Login with account |
| AD-UC-2.0 | Logout |
| AD-UC-3.0 | Change password |
| AD-UC-4.0 | Edit Account |
| AD-UC-5.0 | Manage User’s Account |
| AD-UC-6.0 | Reset password |
| AD-UC-7.0 | Manage system |
| AD-UC-8.0 | Add system information |
| AD-UC-9.0 | Edit system information |
| AD-UC-10.0 | Delete system information |
| US-UC-1.0 | User | Login with Google/Facebook/ (Phone number) |
| US-UC-2.0 | Logout |
| US-UC-3.0 | Match |
| US-UC-4.0 | Send messages |
| US-UC-5.0 | Receive message |
| US-UC-6.0 | Follow |
| US-UC-7.0 | Find user with ID |
| US-UC-8.0 | React pet |
| US-UC-9.0 | View another user |
| US-UC-10.0 | View other user’s pets |
| US-UC-11.0 | Modify user’s profile |
| US-UC-12.0 | View user’s profile |
| US-UC-13.0 | Create new pet |
| US-UC-14.0 | Edit pet’s profile |
| US-UC-15.0 | Delete pet’s profile |
| US-UC-16.0 | View pet’s profile |
| US-UC-17.0 | Find nearest |
| US-UC-18.0 |  | Get next generation pet |

### 3.2.4. Use case specification

#### 3.2.4.1. Admin



##### 3.2.4.1.1. Authentication

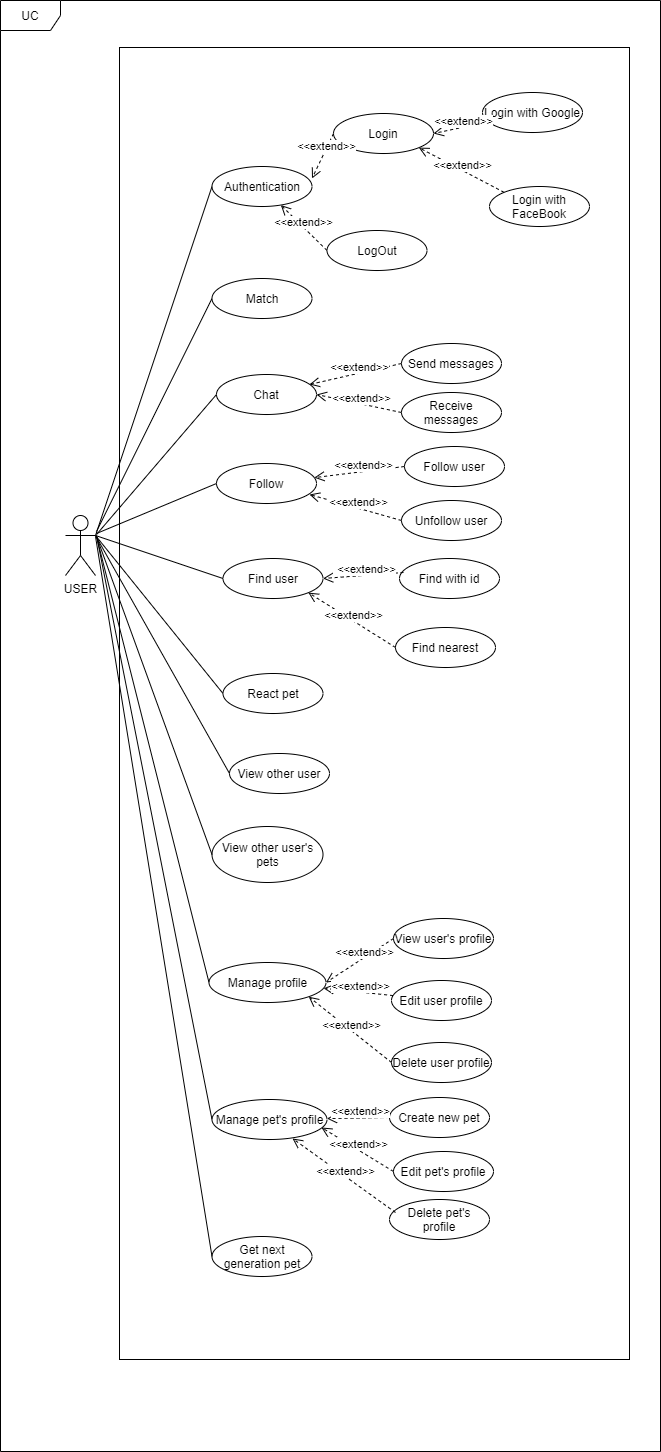
**\*Login with account**

|  |  |  |  |
| --- | --- | --- | --- |
| **USECASE AD-UC-1.0** **SPECIFICATION** | | | |
| **Use case ID** | AD-UC-1.0 | **Use case version** | V1.0 |
| **Use case name** | Login with account | | |
| **Author** | Nguyen Do Anh Khuong | | |
| **Date** | 09/07/2020 | **Priority** | High |
| **Primary actor** | Admin | **Secondary actor** | N/A |
| **Description** | Allows admin login to PD system in website. | | |
| **Pre-condition** | Admin has an account and the account is still working. | | |
| **Post-condition** | When the normal flow completes successfully, the login status is set to true, and the access token is saved on the website. | | |
| **Trigger** |  | | |
| **Main flow:**   |  |  |  | | --- | --- | --- | | **No.** | **Actor events** | **System respond** | | **1.** | Admin goes to login page |  | | **2.** |  | Website displays the details, which includes the following:  Title: Đăng nhập vào hệ thống PD  TextInput: Tài khoản  TextInput: Mật khẩu  Button: Đăng nhập | | **3.** | Admin fills account and password then clicks “Đăng nhập” button. |  | | **4.** |  | System generates cookies and save them. | | **5.** |  | Website navigates to homepage. |   **Alternative Flows: Admin logged and not yet log out.**   |  |  |  | | --- | --- | --- | | **No.** | **Actor events** | **System respond** | | **1.** | Admin goes to homepage |  | | **2.** |  | Website checks cookies then navigates to login page if not exist cookies. |   **Extension Flows: N/A**  **Exception:**  **AD1.0-E1 – Cannot connect with Account API**  System displays error message.  **AD1.0-E2 – Wrong account or password**  System displays error message and requests login again.    **Business Rules: B3, B4** | | | |
|  | | | |

\***Logout**

|  |  |  |  |
| --- | --- | --- | --- |
| **USECASE AD-UC-2.0** **SPECIFICATION** | | | |
| **Use case ID** | AD-UC-2.0 | **Use case version** | V1.0 |
| **Use case name** | LogOut | | |
| **Author** | Nguyen Do Anh Khuong | | |
| **Date** | 09/07/2020 | **Priority** | High |
| **Primary actor** | Admin | **Secondary actor** | N/A |
| **Description** | Log out the PD System. | | |
| **Pre-condition** | Has logged into PD system. | | |
| **Post-condition** | When the normal flow completes successfully, the login status is set to false, and the access token is cleared. | | |
| **Trigger** |  | | |
| **Main flow:**   |  |  |  | | --- | --- | --- | | **No.** | **Actor events** | **System respond** | | **1.** | Clicks icon “Account” on top right of website. |  | | **2.** |  | Website displays “Account Management” pop-up | | **3.** | Admin/Mod clicks “Đăng xuất” on top right of website. |  | | **4.** |  | Website navigates to Login page. |   **Alternative Flows: N/A**  **Extension Flows:**  **Exception: N/A**  **Business Rules: N/A** | | | |
|  | | | |

#### 3.2.4.2. User



##### 3.2.4.2.1. Authentication

**\*Login with Google or Facebook**

|  |  |  |  |
| --- | --- | --- | --- |
| **USECASE US-UC-1.0** **SPECIFICATION** | | | |
| **Use case ID** | US-UC-1.0 | **Use case version** | V1.0 |
| **Use case name** | Login with Google+ or Facebook | | |
| **Author** | Nguyen Đỗ Anh Khuong | | |
| **Date** | 09/07/2020 | **Priority** | High |
| **Primary actor** | User | **Secondary actor** | N/A |
| **Description** | Allows User login to PD system in mobile application. | | |
| **Pre-condition** | People has a Google/Facebook account and the account is still working. | | |
| **Post-condition** | When the normal flow completes successfully, the login status is set to true, and the access token is saved on the application. | | |
| **Trigger** |  | | |
| **Main flow:**   |  |  |  | | --- | --- | --- | | **No.** | **Actor events** | **System respond** | | **1.** | User opens PD application |  | | **2.** |  | App displays title “Đăng nhập vào PET-DATING”, “Đăng nhập với Google+” button and “Đăng nhập với Facebook” button. | | **3.** | User clicks “Đăng nhập với Google+” or “Đăng nhập với Facebook”. |  | | **4.** |  | App shows a pop-up login. | | **5.** | User fills email and password or choose account (if signed in before) |  | | **6.** |  | System generates access token, user profile and save it on application. | | **7.** |  | App navigates to inside app. |   **Alternative Flows: User logged and not yet log out.**   |  |  |  | | --- | --- | --- | | **No.** | **Actor events** | **System respond** | | **1.** | User opens PD application |  | | **2.** |  | Application checks data then navigates to inside app. |   **Extension Flows: N/A**  **Exception:**  **US1.0-E1 – Cannot connect with Google API**  System displays error message.  **US1.0-E2 – Cannot connect with Facebook API**  System displays error message.    **Business Rules: B1** | | | |
|  | | | |

##### 3.2.4.2.2. Match

|  |  |  |  |
| --- | --- | --- | --- |
| **USECASE US-UC-3.0** **SPECIFICATION** | | | |
| **Use case ID** | US-UC-3.0 | **Use case version** | V1.0 |
| **Use case name** | Match | | |
| **Author** | Nguyen Do Anh Khuong | | |
| **Date** | 09/07/2020 | **Priority** | High |
| **Primary actor** | User | **Secondary actor** | N/A |
| **Description** | User selects pet for dating. | | |
| **Pre-condition** | User has logged into application. | | |
| **Post-condition** |  | | |
| **Trigger** |  | | |
| **Main flow:**   |  |  |  | | --- | --- | --- | | **No.** | **Actor events** | **System respond** | | **1.** | User choose Matching screen. |  | | **2.** |  | Application displays matching Screen | | **3.** | User choose “X” button. Or drag pet card left to skip |  | | **4.** | User choose “V” button. Or drag pet card right to match |  | | **5.** |  | Application display list of users valid. |   **Alternative Flows: N/A**  **Extension Flows: N/A**  **Exception:**  **US10.0-E1 – Cannot communicate with API server**  System displays error message.  **Business Rules: N/A** | | | |
|  | | | |

##### 3.2.4.2.3. Chat

###### 3.2.4.2.3.1. Send message

|  |  |  |  |
| --- | --- | --- | --- |
| **USECASE US-UC-4.0** **SPECIFICATION** | | | |
| **Use case ID** | US-UC-4.0 | **Use case version** | V1.0 |
| **Use case name** | Send message | | |
| **Author** | Nguyen Do Anh Khuong | | |
| **Date** | 09/07/2020 | **Priority** | High |
| **Primary actor** | User | **Secondary actor** | N/A |
| **Description** | User sends messages to others user. | | |
| **Pre-condition** | User has logged into application. | | |
| **Post-condition** |  | | |
| **Trigger** |  | | |
| **Main flow:**   |  |  |  | | --- | --- | --- | | **No.** | **Actor events** | **System respond** | | **1.** | Do US-UC-2.0 then view receiver profile. |  | | **2.** |  | Application displays receiver profile. | | **3.** | User clicks “Chat” button in receiver profile. |  | | **4.** |  | Application displays “Chat” screen. | | **5.** | User enters message then clicks icon send. |  | |  |  | Application sends message to receiver. |   **Alternative Flows:**   |  |  |  | | --- | --- | --- | | **No.** | **Actor events** | **System respond** | | **1.** | User click message icon on top tab bar |  | | **2.** |  | Application displays “ConversationList” screen. | | **3.** | User clicks specific conversation |  | | **4.** |  | Application displays “Chat” screen. | | **5.** | User fills receiver name and enter message then clicks icon send. |  | |  |  | Application sends message to receiver. |   **Extension Flows: N/A**  **Exception:**  **US5.0-E1 – Cannot communicate with API server**  System displays error message.  **US5.0-E2 – User does not exist or empty**  System cannot send message.  **Business Rules: B9** | | | |
|  | | | |

###### 3.2.4.2.3.2. Receive message

|  |  |  |  |
| --- | --- | --- | --- |
| **USECASE US-UC-5.0** **SPECIFICATION** | | | |
| **Use case ID** | US-UC-5.0 | **Use case version** | V1.0 |
| **Use case name** | Receive message | | |
| **Author** | Nguyen Do Anh Khuong | | |
| **Date** | 09/07/2020 | **Priority** | High |
| **Primary actor** | User | **Secondary actor** | N/A |
| **Description** | User receives messages from others user. | | |
| **Pre-condition** | User has logged into application. | | |
| **Post-condition** |  | | |
| **Trigger** |  | | |
| **Main flow:**   |  |  |  | | --- | --- | --- | | **No.** | **Actor events** | **System respond** | | **1.** |  | Application display notification | | **2.** | User click message icon on top tab bar |  | | **3.** |  | Application displays “ConversationList” screen. | | **4.** | User clicks sender name to read message. |  | | **5.** |  | Application displays chatting screen with sender. |   **Alternative Flows: N/A**  **Extension Flows: N/A**  **Exception:**  **US6.0-E1 – Cannot communicate with API server**  System displays error message.    **Business Rules: N/A** | | | |
|  | | | |

##### 3.2.4.2.4. Find user

###### 3.2.2.4.1. Find with ID

|  |  |  |  |
| --- | --- | --- | --- |
| **USECASE US-UC-7.0** **SPECIFICATION** | | | |
| **Use case ID** | US-UC-7.0 | **Use case version** | V1.0 |
| **Use case name** | Find user with ID | | |
| **Author** | Nguyen Do Anh Khuong | | |
| **Date** | 09/07/2020 | **Priority** | Medium |
| **Primary actor** | User | **Secondary actor** | N/A |
| **Description** | User search others user. | | |
| **Pre-condition** | User has logged into application. | | |
| **Post-condition** |  | | |
| **Trigger** |  | | |
| **Main flow:**   |  |  |  | | --- | --- | --- | | **No.** | **Actor events** | **System respond** | | **1.** | User clicks top left icon on top tab bar |  | | **2.** |  | Application displays screen, which includes:  Search bar | | **3.** | User clicks search bar then fills keyword and clicks search button on bottom right of keyboard |  | | **4.** |  | Application displays list of users which have same keyword. | | **5.** | User clicks the right user name. |  |   **Alternative Flows: N/A**  **Extension Flows: N/A**  **Exception:**  **US4.0-E1 – Cannot communicate with API server**  System displays error message.  **US4.0-E2 – User does not exist and not match**  System displays nothing.  **Business Rules: N/A** | | | |

###### 3.2.4.2.4.2. Find Nearest

|  |  |  |  |
| --- | --- | --- | --- |
| **USECASE US-UC-17.0** **SPECIFICATION** | | | |
| **Use case ID** | US-UC-17.0 | **Use case version** | V1.0 |
| **Use case name** | Find nearest user | | |
| **Author** | Nguyen Do Anh Khuong | | |
| **Date** | 09/07/2020 | **Priority** | Medium |
| **Primary actor** | User | **Secondary actor** | N/A |
| **Description** | User find others user. | | |
| **Pre-condition** | User has logged into application. | | |
| **Post-condition** |  | | |
| **Trigger** |  | | |
| **Main flow:**   |  |  |  | | --- | --- | --- | | **No.** | **Actor events** | **System respond** | | **1.** | User clicks top left icon on top tab bar |  | | **2.** |  | Application displays screen, which includes:  Search bar | | **3.** | User clicks search bar then fills keyword and clicks search nearest button on bottom right of keyboard |  | | **4.** |  | Application displays list of users which have same keyword. | | **5.** | User clicks the right user name. |  |   **Alternative Flows: N/A**  **Extension Flows: N/A**  **Exception:**  **US4.0-E1 – Cannot communicate with API server**  System displays error message.  **US4.0-E2 – User does not exist and not match**  System displays nothing.  **Business Rules: N/A** | | | |

##### 3.2.4.2.5. React Pet

|  |  |  |  |
| --- | --- | --- | --- |
| **USECASE US-UC-8.0** **SPECIFICATION** | | | |
| **Use case ID** | US-UC-8.0 | **Use case version** | V1.0 |
| **Use case name** | React pet | | |
| **Author** | Nguyen Do Anh Khuong | | |
| **Date** | 10/07/2020 | **Priority** | High |
| **Primary actor** | User | **Secondary actor** | N/A |
| **Description** | User react a pet to rank pet on system | | |
| **Pre-condition** | User has logged into application. | | |
| **Post-condition** | Privacy of user is public | | |
| **Trigger** |  | | |
| **Main flow:**   |  |  |  | | --- | --- | --- | | **No.** | **Actor events** | **System respond** | | **1.** | User choose react on UC-3.0 |  | | **2.** |  | Application displays target pet’s profile. | | **3.** | User clicks react icon in target pet profile. |  | | **4.** |  | Application displays success message. |   **Alternative Flows: N/A**  **Extension Flows:**   |  |  |  | | --- | --- | --- | | **No.** | **Actor events** | **System respond** | | **1.** | Click on post |  | | **2.** |  | Application displays target profile. | | **3.** | User clicks follow icon in target profile. |  | | **4.** |  | Application displays success message. |   **Exception:**  **US8.0-E1 – Cannot communicate with API server**  System displays error message.  **Business Rules: N/A** | | | |

##### 3.2.4.2.6. View another user

|  |  |  |  |
| --- | --- | --- | --- |
| **USECASE US-UC-9.0** **SPECIFICATION** | | | |
| **Use case ID** | US-UC-9.0 | **Use case version** | V1.0 |
| **Use case name** | View other user | | |
| **Author** | Nguyen Do Anh Khuong | | |
| **Date** | 10/07/2020 | **Priority** | Medium |
| **Primary actor** | User | **Secondary actor** | N/A |
| **Description** | User views others user’s profile. | | |
| **Pre-condition** | User has logged into application. | | |
| **Post-condition** |  | | |
| **Trigger** |  | | |
| **Main flow:**   |  |  |  | | --- | --- | --- | | **No.** | **Actor events** | **System respond** | | **1.** | User clicks top left icon on top tab bar |  | | **2.** |  | Application displays profile screen, which includes:  List user | | **3.** | User roll down to choose user’s profile, which user want to view |  |   **Alternative Flows: N/A**  **Extension Flows: N/A**  **Exception:**  **US7.0-E1 – Cannot communicate with API server**  System displays error message.    **Business Rules: N/A** | | | |
|  | | | |

##### 3.2.4.2.7. View other user’s pets

|  |  |  |  |
| --- | --- | --- | --- |
| **USECASE US-UC-10.0** **SPECIFICATION** | | | |
| **Use case ID** | US-UC-10.0 | **Use case version** | V1.0 |
| **Use case name** | View other user | | |
| **Author** | Nguyen Do Anh Khuong | | |
| **Date** | 10/07/2020 | **Priority** | Medium |
| **Primary actor** | User | **Secondary actor** | N/A |
| **Description** | User views others user’s profile. | | |
| **Pre-condition** | User has logged into application. | | |
| **Post-condition** |  | | |
| **Trigger** |  | | |
| **Main flow:**   |  |  |  | | --- | --- | --- | | **No.** | **Actor events** | **System respond** | | **1.** | When user view other user’s profile (US-UC-9.0 ) him can choose view pet’s profile |  | | **2.** |  | Application displays profile screen, which includes:  List pet | | **3.** | User roll down to choose pet’s profile, which user want to view |  |   **Alternative Flows: N/A**  **Extension Flows: N/A**  **Exception:**  **US7.0-E1 – Cannot communicate with API server**  System displays error message.    **Business Rules: N/A** | | | |
|  | | | |

##### 3.2.4.2.8. Manage profile

|  |  |  |  |
| --- | --- | --- | --- |
| **USECASE US-UC-11.0** **SPECIFICATION** | | | |
| **Use case ID** | US-UC-11.0 | **Use case version** | V1.0 |
| **Use case name** | Modify user’s profile | | |
| **Author** | Nguyen Do Anh Khuong | | |
| **Date** | 10/07/2020 | **Priority** | High |
| **Primary actor** | User | **Secondary actor** | N/A |
| **Description** | User modify own profile. | | |
| **Pre-condition** | User has logged into application. | | |
| **Post-condition** |  | | |
| **Trigger** |  | | |
| **Main flow:**   |  |  |  | | --- | --- | --- | | **No.** | **Actor events** | **System respond** | | **1.** | User clicks “Account” icon on top tab bar |  | | **2.** |  | Application displays “Account Management” screen | | **3.** |  | Application navigates to “Own Profile” screen, which include:  avata  profile  list image | | **4.** | User clicks “Modify profile”. |  | | **5.** |  | Application navigates to “Modify Profile” screen. | | **6.** | User fills and select all required information then clicks “Edit” button. |  | |  |  | Application displays success message. |   **Alternative Flows: N/A**  **Extension Flows: N/A**  **Exception:**  **US13.0-E1 – Cannot communicate with API server**  System displays error message.  **Business Rules: B5, B6, B8, B9** | | | |

##### 3.2.4.2.9. Manage pet’s profile

###### 3.2.4.2.9.1. Create pet’s profile

|  |  |  |  |
| --- | --- | --- | --- |
| **USECASE US-UC-13.0** **SPECIFICATION** | | | |
| **Use case ID** | US-UC-13.0 | **Use case version** | V1.0 |
| **Use case name** | Create pet’s profile | | |
| **Author** | Nguyen Do Anh Khuong | | |
| **Date** | 10/07/2020 | **Priority** | High |
| **Primary actor** | User | **Secondary actor** | N/A |
| **Description** | User adds own pet’s profile. | | |
| **Pre-condition** | User has logged into application. | | |
| **Post-condition** |  | | |
| **Trigger** |  | | |
| **Main flow:**   |  |  |  | | --- | --- | --- | | **No.** | **Actor events** | **System respond** | | **1.** | User clicks pet icon on top tab bar |  | | **2.** |  | Application displays “Pet Management” screen | | **3.** | User click new icon. |  | | **4.** |  | Application navigates to “Create Pet” screen. | | **5.** | User fills and select all required information then clicks “Add” button. |  | | **6.** |  | Application displays success message. |   **Alternative Flows: N/A**  **Extension Flows: N/A**  **Exception:**  **US15.0-E1 – Cannot communicate with API server**  System displays error message.  **Business Rules: B7, B9, B11** | | | |

###### 3.2.4.2.9.2. View pet’s profile

|  |  |  |  |
| --- | --- | --- | --- |
| **USECASE US-UC-16.0** **SPECIFICATION** | | | |
| **Use case ID** | US-UC-16.0 | **Use case version** | V1.0 |
| **Use case name** | View pet’s profile | | |
| **Author** | Nguyen Do Anh Khuong | | |
| **Date** | 10/07/2020 | **Priority** | High |
| **Primary actor** | User | **Secondary actor** | N/A |
| **Description** | User views own pet’s profile. | | |
| **Pre-condition** | User has logged into application. | | |
| **Post-condition** |  | | |
| **Trigger** |  | | |
| **Main flow:**   |  |  |  | | --- | --- | --- | | **No.** | **Actor events** | **System respond** | | **1.** | User clicks pet icon on top tab bar |  | | **2.** |  | Application displays “Pet Management” screen | | **3.** | User click avatar of pet to view pet’s profile |  | |  |  | Application navigates to “Pet Profile” screen |   **Alternative Flows: N/A**  **Extension Flows: N/A**  **Exception:**  **US16.0-E1 – Cannot communicate with API server**  System displays error message.  **Business Rules: N/A** | | | |
|  | | | |

###### 3.2.4.2.9.3. Edit pet’s profile

|  |  |  |  |
| --- | --- | --- | --- |
| **USECASE US-UC-14.0** **SPECIFICATION** | | | |
| **Use case ID** | US-UC-14.0 | **Use case version** | V1.0 |
| **Use case name** | Edit pet’s profile | | |
| **Author** | Nguyen Do Anh Khuong | | |
| **Date** | 10/07/2020 | **Priority** | High |
| **Primary actor** | User | **Secondary actor** | N/A |
| **Description** | User edit own pet’s profile. | | |
| **Pre-condition** | User has logged into application. | | |
| **Post-condition** |  | | |
| **Trigger** |  | | |
| **Main flow:**   |  |  |  | | --- | --- | --- | | **No.** | **Actor events** | **System respond** | | **1.** | Do US-UC-16.0 then click “Edit profile” |  | | **2.** |  | Application navigates to “Edit Pet Profile” screen | | **3.** | User fills and select all required information then clicks “Edit” button. |  | |  |  | Application displays success message. |   **Alternative Flows: N/A**  **Extension Flows: N/A**  **Exception:**  **US17.0-E1 – Cannot communicate with API server**  System displays error message.  **Business Rules: B7, B8,B9** | | | |

###### 3.2.4.2.9.4. Delete pet’s profile

|  |  |  |  |
| --- | --- | --- | --- |
| **USECASE US-UC-15.0** **SPECIFICATION** | | | |
| **Use case ID** | US-UC-15.0 | **Use case version** | V1.0 |
| **Use case name** | Delete pet’s profile | | |
| **Author** | Nguyen Do Anh Khuong | | |
| **Date** | 10/07/2020 | **Priority** | High |
| **Primary actor** | User | **Secondary actor** | N/A |
| **Description** | User delete own pet’s profile. | | |
| **Pre-condition** | User has logged into application. | | |
| **Post-condition** |  | | |
| **Trigger** |  | | |
| **Main flow:**   |  |  |  | | --- | --- | --- | | **No.** | **Actor events** | **System respond** | | **1.** | Do US-UC-16.0 then click “delete profile” |  | | **2.** |  | Application navigates to “delete Pet Profile” popup confirm | | **3.** | User see information then clicks “yes” button. |  | |  |  | Application displays success message. |   **Alternative Flows: N/A**  **Extension Flows: N/A**  **Exception:**  **US17.0-E1 – Cannot communicate with API server**  System displays error message.  **Business Rules: N/A** | | | |

##### 3.2.4.2.10. Get next generation

###### 3.2.4.2.10.1. Get next generation

|  |  |  |  |
| --- | --- | --- | --- |
| **USECASE US-UC-15.0** **SPECIFICATION** | | | |
| **Use case ID** | US-UC-15.0 | **Use case version** | V1.0 |
| **Use case name** | Get next generation | | |
| **Author** | Nguyen Do Anh Khuong | | |
| **Date** | 10/07/2020 | **Priority** | High |
| **Primary actor** | User | **Secondary actor** | N/A |
| **Description** | User get predict for next generation | | |
| **Pre-condition** | User has logged into application. | | |
| **Post-condition** |  | | |
| **Trigger** |  | | |
| **Main flow:**   |  |  |  | | --- | --- | --- | | **No.** | **Actor events** | **System respond** | | **1.** | Do US-UC-3.0 then click “view next generation” |  | | **2.** |  | Application navigates to “view next generation” screen | | **3.** | User see information then clicks “confirm” button. |  |   **Alternative Flows: N/A**  **Extension Flows: N/A**  **Exception:**  **US17.0-E1 – Cannot communicate with API server**  System displays error message.  **Business Rules: N/A** | | | |

## 3.3. Non-functional Requirement

### 3.3.1. Security

* User must use Google authentication (login with Google) or Facebook authentication (login with Facebook) in order to join the system. So, this is an absolute guarantee of account information security.
* Admin does not access to database of user.
* Your information can hide in private mode.

### 3.3.2. Availability

* The system active 24/24.

### 3.3.3. Usability

* User interface should be friendly and easy to use.
* Application supports Android.
* The guideline is clearly and easy to use.
* The system is easy to deploy.

# CHAPTER 4: SPOFTWARE DESIGN

## 4.1. Purpose

This chapter is to give the developer team an overview of what the system’s architecture  
is, and how they should be implemented. This chapter consists of:

* Overview of system architecture
* Database Design
* Detailed Design

## 4.2. Overview of System Architecture

### 4.2.1. Diagram