

# **Purr-fect Paw Placement**

**by**

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**CSE 344 Software Engineering  
Analysis Report**



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# Introduction

## 1. Purpose:

This document serves as an in-depth analysis report for the development of a Pet Adoption System, designed to address the pressing issues surrounding stray animals in Turkey. It outlines the background of the domain, the motivation behind the project, and articulates how the proposed system aims to mitigate existing problems. Additionally, it provides a structured overview of the document, delineating the various sections and their respective contents.

## 2. Background:

The domain of pet adoption in Turkey is characterized by complex challenges, primarily stemming from the plight of stray animals. Stray animals often face mistreatment and neglect on the streets, and their presence has become a contentious political issue. Incidents such as the recent controversial case involving Eros, along with reports of mass culling, highlight the urgent need for comprehensive solutions in animal welfare. Moreover, the absence of a structured adoption system exacerbates the problem, leaving countless animals vulnerable and devoid of access to proper care and shelter.

## 3. Motivation:

The motivation behind the development of this Pet Adoption System stems from a deep-seated concern for the welfare of stray animals in Turkey. Beyond mere sympathy, there is a profound recognition of the moral imperative to address the suffering inflicted upon these innocent creatures. Additionally, there exists a compelling societal need to shift public perception regarding strays from one of nuisance to one of compassion and rehabilitation. By providing a platform that facilitates the adoption process, our project aspires to foster a culture of empathy and responsible pet ownership within the community.

## 4. Statement of Problems with the Existing System:

Without a formalized pet adoption system in Turkey, several critical issues persist. Stray animals are often subjected to inhumane treatment and face the constant threat of harm or extermination. The lack of centralized adoption channels exacerbates their vulnerability, leaving them with limited avenues for finding loving homes. Furthermore, the negative perceptions surrounding strays hinder efforts towards their rehabilitation and reintegration into society.

## 5. The New System:

Our Pet Adoption System, The Purr-fect Paw Placement, is a pioneering solution poised to revolutionize the way stray animals are cared for and matched with prospective adopters in Turkey. Anchored on a robust set of functional requirements, this system offers a seamless and intuitive user experience, benefiting both shelters and individuals seeking to provide loving homes for animals in need.

# **Functional Requirements:**

## **1. Description of the System Functionalities:**

### **a) Registration System:**

General Users can register by providing basic information including first name, last name, email, phone number, and region, along with choosing a unique username and password. Shelters, however, must provide their government-issued practice license number, which acts as their unique username, along with a password. This license number undergoes validation against a national database containing practice license numbers for all shelters in the country.

### **b) Pet Adoption System:**

This platform facilitates the adoption of stray animals, allowing shelters to create comprehensive listings for available pets. Each listing comprises detailed information such as name, age, breed, disabilities, pictures, allergies, availability, gender, health status, and videos. General Users can search for pets based on species, breed, age, and location, with an availability indicator reflecting the current status of each listed animal, as set by the shelters.

### **c) Adoption Application System:**

General Users can access the application form with their basic information pre-filled. The system checks if the General User has previously submitted an application for the specific pet; if not, they can complete the remaining questions regarding their number of children, pets, residence type, income range, activity level, time availability, prior pet experience, and additional notes. Shelters have access to view submitted applications.

## **2. Description of the System Users:**

### **General Users:**

These individuals can register by selecting a username and password and providing personal details such as first name, last name, email, phone number, and region. They have access to log into the system, browse listings for available Pets or Shelters, filter their feed, view Pet and Shelter Profiles, and fill out Adoption Application Forms.

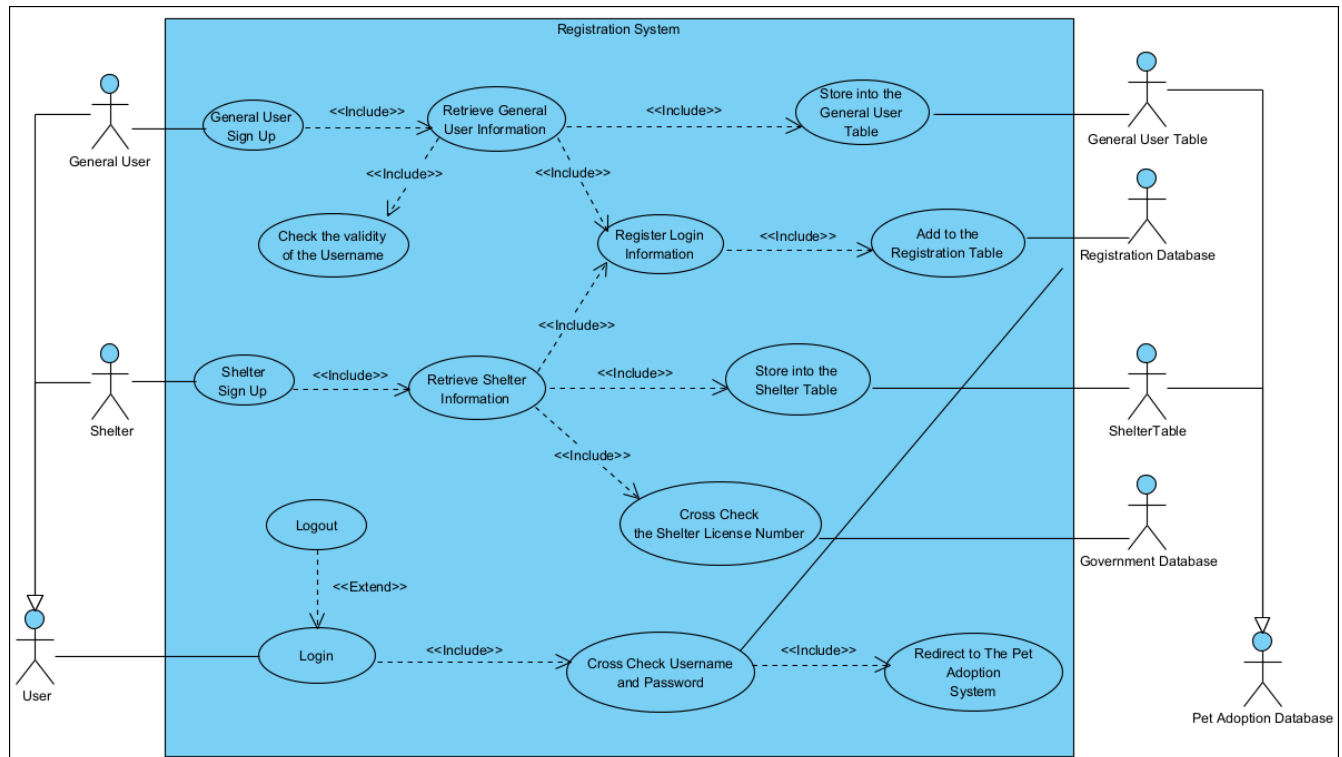
### **Shelters:**

Shelters can create profiles for animals available for adoption, manage their availability status, view their own posts, edit the posts, access application forms for Pets in their Shelter, and delete Pet Profiles.

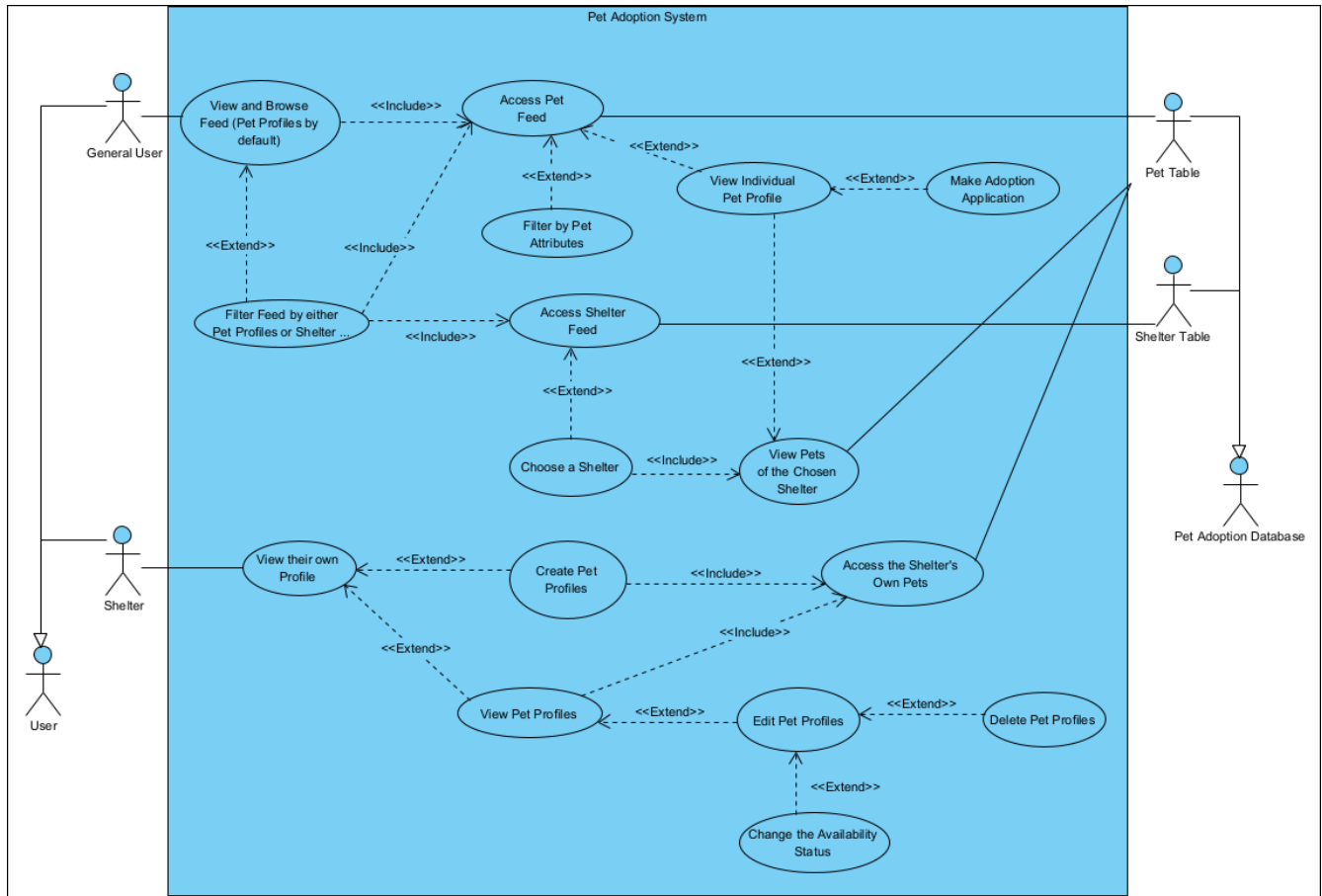
### 3. Specific Requirements:

#### 3.a) Use Case Diagram:

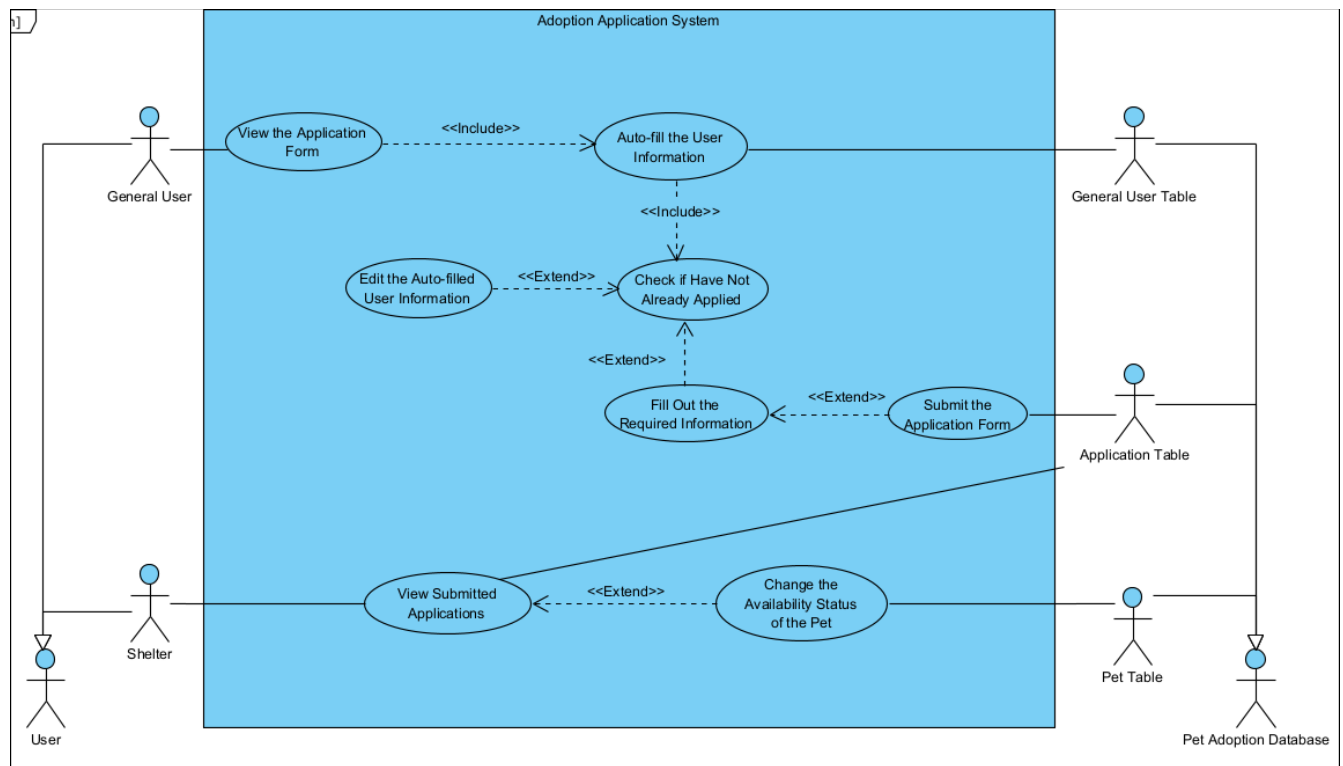
##### *Registration System:*



## ***Pet Adoption System:***



## Adoption Application System:



### 3.b) Use Case Priority List:

#### *Registration System:*

Use Case Name	Description	Priority Level	Estimated Effort
<b>General User Sign Up</b>	Abstraction of the General User's Sign Up process.	High	Medium
<b>Retrieve General User Information</b>	Fetches credentials provided by the General User.	High	Low
<b>Check the Validity of the Username</b>	Checks if username is appropriate; no duplicate usernames, size limit of 8-16.	High	Medium
<b>Store into the General User Table</b>	The General User Information is stored into the General User Table upon registration.	High	Low
<b>Shelter Sign Up</b>	Abstraction of the Shelter's Sign Up process.	High	Medium
<b>Retrieve Shelter Information</b>	Fetches credentials provided by the Shelter.	High	Low
<b>Cross Check the Shelter License Number</b>	Provided Shelter license number is cross checked with a Government Database to ensure its legitimacy.	High	Medium
<b>Store into the Shelter Table</b>	The Shelter Information is stored into the Shelter Table upon registration.	High	Low
<b>Register Login Information</b>	Password and username of either type of the User is fetched.	Medium	Low
<b>Add to the Registration Table</b>	Aforementioned login credentials are stored in a Registration Table.	Medium	Low
<b>Login</b>	Abstraction of either User type's log in process.	High	Low
<b>Logout</b>	User may choose to log out.	Low	Low
<b>Cross Check Username and Password</b>	To check if User exists, provided login information is cross-checked with the information in the Registration Database.	Medium	Low
<b>Redirect to the Pet Adoption System</b>	If login is successful, User is directed to the Pet Adoption System.	High	Low

***Pet Adoption System:***

<b>Use Case Name</b>	<b>Description</b>	<b>Priority Level</b>	<b>Estimated Effort</b>
<b>View and Browse Feed (Pet Profiles by default)</b>	General Users may access their feed which contains unsorted Pet Profiles by default.	High	Low
<b>Access Pet Feed</b>	Load Pet Profiles from the database onto the feed.	High	Low
<b>Filter Feed by either Pet Profiles or Shelter Profiles</b>	Content of the General User's feed may be toggled to contain Pet Profiles or Shelter Profiles.	Medium	Medium
<b>Filter by Pet Attributes</b>	General Users may filter Pet Profiles based on their preferences.	Low	Medium
<b>View Individual Pet Profiles</b>	Upon clicking on a Pet Profile on their feed, General Users may get further details about the chosen Pet.	High	Low
<b>Access Shelter Feed</b>	Load Shelter Profiles from the database onto the feed.	Low	Low
<b>Choose a Shelter</b>	Upon clicking on a Shelter on their feed, General Users may access more information about a Shelter.	Medium	Medium
<b>View Pets of the Chosen Shelter</b>	General Users may view Pets housed by a specific Shelter.	High	High
<b>Make Adoption Application</b>	General Users may apply to adopt a given Pet, which is achieved through an Application Form, redirecting the General User to the application system.	Medium	Low
<b>View their own Profile</b>	Shelters may view their profiles and get an overview of their functionalities.	High	Medium
<b>Create Pet Profiles</b>	Shelters may create Pet Profiles.	High	Low
<b>View Pet Profiles</b>	Shelters may choose to have an overview of their submitted Pet Profiles.	High	Low
<b>Edit Pet Profiles</b>	Shelters may modify the Pet Profiles they have posted.	High	Medium
<b>Delete Pet Profiles</b>	Shelters may delete their Pet Profiles.	Medium	Low
<b>Change the Availability Status</b>	Shelters may switch the Availability Status of their Pets, depending on whether a suitable adopter has been found.	Medium	Low
<b>Access the Shelter's Own Pets</b>	Any and all changes to the Pet Profiles are to be stored in a Pet Table within the Pet Adoption Database.	High	Medium



***Adoption Application System:***

<b>Use Case Name</b>	<b>Description</b>	<b>Priority level</b>	<b>Estimated effort</b>
<b>View the Application Form</b>	General User may have an overview of the Application Form.	High	Low
<b>Auto-fill the User Information</b>	Certain fields within the field may be auto-filled using Information found within the General User Table.	Low	High
<b>Check if Have Not Already Applied</b>	Ensures that a General User can apply for a Pet only once.	High	High
<b>Edit the Auto-filled User Information</b>	If General User desires, they may modify their auto-filled data.	Low	Medium
<b>Fill Out the Required Information</b>	General User is asked to fill the rest of the Form.	High	Low
<b>Submit the Application Form</b>	General User submits the Form via a confirmation button.	High	Low
<b>View Submitted Application</b>	Shelters may oversee Applications committed to their Sheltered Pets.	High	Low
<b>Change the Availability Status of the Pet</b>	If a suitable candidate is found upon the Application examination, the Shelter may mark the Pet in question as “Unavailable”. If, for any reason, the adoption does not go through after the Application examination, the Pet may be marked as “Available” again.	Low	Low

### 3.c) Use Case Specifications:

#### *General User Sign Up:*

<b>Use Case</b>	General User Sign Up
<b>Primary Actors</b>	General User
<b>Secondary Actors</b>	General User Table, Registration Database
<b>Description</b>	General User registers to the system.
<b>Priority Level</b>	High
<b>Pre-Condition</b>	General User must not have signed up before.
<b>Post-Condition(s)</b>	(i) General User's login credentials are saved into the Registration Database. (ii) General User's basic information is stored in the General User Table.
<b>Basic Path</b>	(i) General User enters their username, password, and basic information into the registration form. (ii) Given credentials are cross-checked with the Registration Database, to see if provided username or email was not previously registered. (iii) A new General User is created successfully.
<b>Alternative Paths</b>	—
<b>Exception Paths</b>	(iii) If provided username already exists in the database, the registration is unsuccessful. (iv) General User is redirected to the registration page.

#### *Shelter Sign Up:*

<b>Use Case</b>	Shelter Sign Up
<b>Primary Actors</b>	Shelter
<b>Secondary Actors</b>	Shelter Table
<b>Description</b>	Shelter registers to the system.
<b>Priority Level</b>	High
<b>Pre-Condition</b>	Shelter must not have signed up before.
<b>Post-Condition(s)</b>	(i) Shelter's login credentials are saved into the Registration Database. (ii) Shelter's basic information is stored in the Shelter Table.
<b>Basic Path</b>	(i) Shelter enters their Shelter ID and password. (ii) Shelter ID is cross-checked with a Government Database, to see if provided Shelter ID is valid. (iii) Information about the Shelter are retrieved automatically. (iv) The Shelter is successfully registered.
<b>Alternative Paths</b>	—
<b>Exception Paths</b>	(iii) If Shelter ID is invalid, registration is unsuccessful. (iv) Shelter is redirected to the registration page.

**Login:**

<b>Use Case</b>	Log In
<b>Primary Actors</b>	General User, Shelter
<b>Secondary Actors</b>	Registration Database
<b>Description</b>	User fills in their login credentials to log into their account.
<b>Priority Level</b>	High
<b>Pre-Condition</b>	In order to log in, the User must have Signed Up and made their accounts previously.
<b>Post-Condition(s)</b>	User is redirected to the Pet Adoption System.
<b>Basic Path</b>	(i) User enters their username and password. (ii) Given credentials are checked with General User Table and Shelter Table within the Registration Database. (iii) If User exists in the system, they are successfully logged in.
<b>Alternative Paths</b>	—
<b>Exception Paths</b>	(iii) User credentials could not be found in the Registration Database. (iv) User is redirected to the log in page.

**View and Browse:**

<b>Use Case</b>	View and Browse Feed
<b>Primary Actors</b>	General User
<b>Secondary Actors</b>	Pet Table, Shelter Table
<b>Description</b>	General Users may access their feed which contains unsorted Pet Profiles by default.
<b>Priority Level</b>	High
<b>Pre-Condition</b>	The General User needs to be logged into the system.
<b>Post-Condition(s)</b>	The Pet Profiles and Shelter Profiles are fetched from the Pet Adoption Database.
<b>Basic Path</b>	(i) The Pet Profiles are fetched from the Pet Table. (ii) The General User browses the feed by Pet Profiles. (iii) The General User accesses a Pet Profile. (iv) The General User makes an Adoption Application.
<b>Alternative Paths</b>	(i) Shelter profiles are fetched from the Shelter Table. (ii) General User browses the Feed by Shelter Profiles. (iii) The General User accesses a Shelter Profile.
<b>Exception Paths</b>	—

***View Their Own Shelter Profile:***

<b>Use Case</b>	View Their Shelter Profile
<b>Primary Actors</b>	Shelter
<b>Secondary Actors</b>	Pet Table, Shelter Table
<b>Description</b>	Shelters may view their profiles and get an overview of their functionalities.
<b>Priority Level</b>	High
<b>Pre-Condition</b>	The Shelter needs to be logged into the system.
<b>Post-Condition(s)</b>	The Shelter may end up modifying the Pet Profile.
<b>Basic Path</b>	(i) The Shelter views their Shelter Profile (ii) The Shelter Creates a Pet Profile
<b>Alternative Paths</b>	The Shelter Views/Edits Existing Pet Profile
<b>Exception Paths</b>	—

***Submit Pet Application Form:***

<b>Use Case</b>	Submit Pet Application Form
<b>Primary Actors</b>	General User
<b>Secondary Actors</b>	General User Table, Application Table
<b>Description</b>	General User fills in and submits a Form to apply for adopting a Pet.
<b>Priority Level</b>	High
<b>Pre-Condition</b>	General User must not have applied for the given Pet previously.
<b>Post-Condition(s)</b>	General User's application will be successfully inserted into the Application Table in the Pet Adoption Database.
<b>Basic Path</b>	(i) Basic information of the General User is automatically filled into the form, by retrieving data from the General User Table. (ii) General User fills in the rest of the Form manually. (iii) General User clicks the "Submit" button. (iv) Form is successfully registered into the Application Table.
<b>Alternative Paths</b>	(iv) If there are missing credentials, General User is asked to fill them as well.
<b>Exception Paths</b>	—

### ***View Submitted Applications:***

<b>Use Case</b>	View Submitted Applications
<b>Primary Actors</b>	Shelter
<b>Secondary Actors</b>	Pet Table, Application Table
<b>Description</b>	Shelters may overview applications for Pets and take necessary actions based on their own policies.
<b>Priority Level</b>	High
<b>Pre-Condition</b>	There must be applications to view.
<b>Post-Condition(s)</b>	–
<b>Basic Path</b>	(i) Shelter may access every Pet Adoption Application individually. (ii) If a suitable adopter is found, the Pet can be marked as “Unavailable”.
<b>Alternative Paths</b>	(iii) If an adopter does not respond, Shelter may mark the Pet as “Available” again.
<b>Exception Paths</b>	–

### **Non-Functional Requirements:**

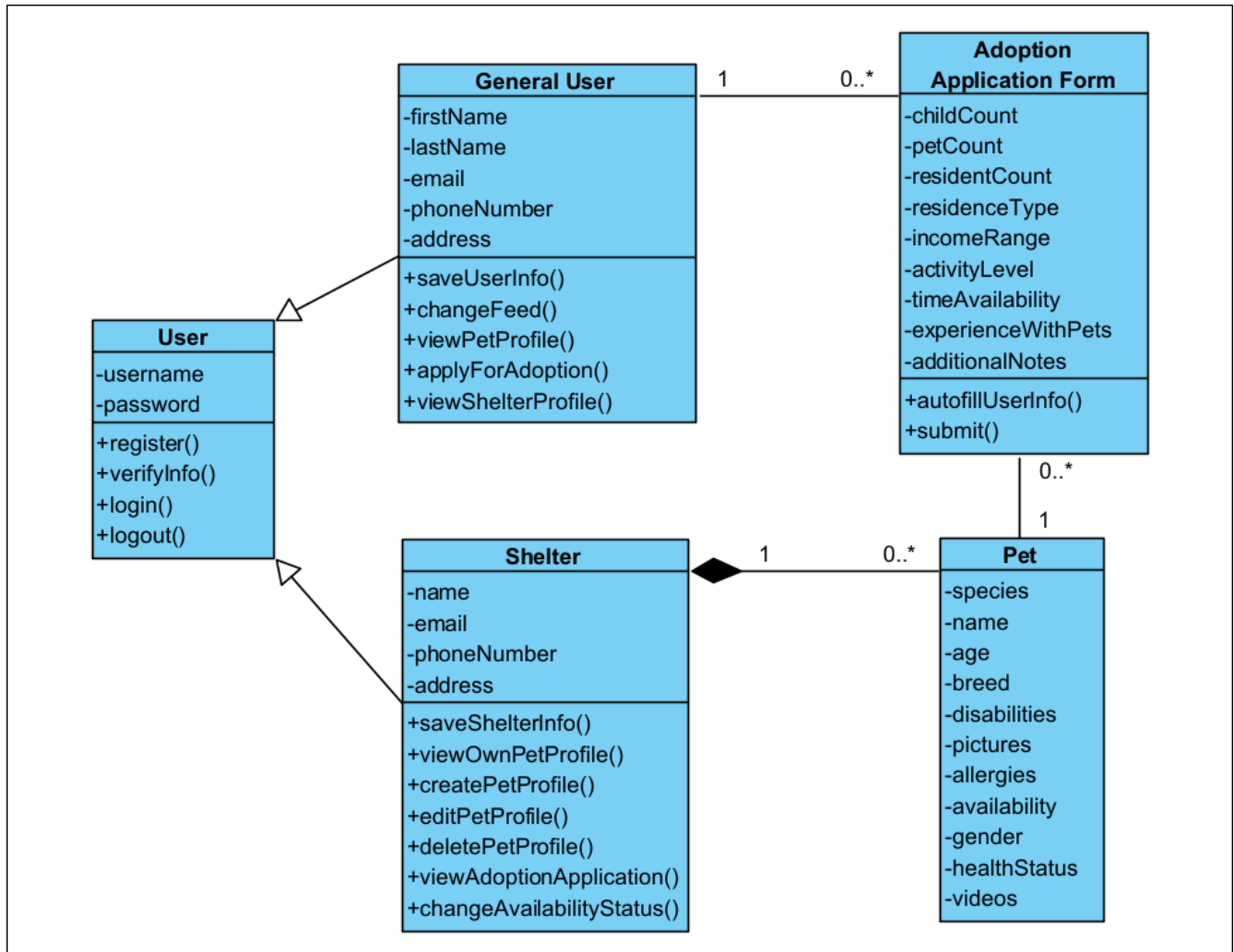
#### **a. Volere Templates:**

<b>Volere Requirement Specification Template © Atlantic Systems Guild Ltd.</b>			
<b>Requirement ID:</b>	1	<b>Requirement Type:</b>	Security
<b>Description:</b>	Upon Registration, Shelter ID is to be cross-checked with a secure Government Database.		
<b>Rationale:</b>	If Shelter ID is not cross-checked correctly, anyone could make a Shelter profile, leading to impersonation and fraudulence.		
<b>Fit Criterion:</b>	A simulated Government Database filled with Shelter IDs is used to test the verification process using a batch of correct and incorrect inputs.		

<b>Volere Requirement Specification Template © Atlantic Systems Guild Ltd.</b>			
<b>Requirement ID:</b>	2	<b>Requirement Type:</b>	Security
<b>Description:</b>	Login credentials are to be cross-checked with the Registration Database.		
<b>Rationale:</b>	Each User should be allowed to access only their account, so as to protect the private data of each User.		
<b>Fit Criterion:</b>	Different combinations of dummy Login credentials (username and password) from a simulated Registration Database (i.e. correct username and correct password, correct username and incorrect password, incorrect username and correct password, incorrect username and incorrect password).		

## System models:

### 1. UML Class Diagram for Domain Analysis:






## 2. User Interface – Navigational Paths and Screen Mock-ups:

### Purr-fect Paw Placement 🐾

**Username**

**Password**

Don't have an account? [Sign up here](#)



If you are a prospective pet parent, sign up from here :)

**First Name**

**Last Name**

**Username**

**Email**

**Phone Number**

**Region**

**Password**

**Re-enter Password**

If you are a shelter, sign up from here :)

**Shelter ID**

**Email**

**Phone Number**

**Password**

**Re-enter Password**



Purr-fect Paw Placement

Log Out

## Pet Adoption

Pet Profiles

Shelter Profiles

Select Region

Filter



Yüzsüz

Kadıköy



Pofak

Ataşehir



Uğur

Maltepe



Cerberus

Beşiktaş



Kaveh

Sarıyer



Fortuna

Kadıköy



Solaire

Sarıyer



Osman

Fatih



Archimboldo

Beykoz



Helva

Beşiktaş

< 1 2 3 4 5 6 7 8 9 10 >



Purr-fect Paw Placement

Log Out

## Pet Adoption

Pet Profiles

Shelter Profiles

Kadıköy



Garden of  
Sun Shelter

Kadıköy



Maltepe  
Patili Dostlar  
Shelter

Kadıköy



Garden of  
Sun Shelter

Kadıköy



Angel's Farm  
Sanctuary

Kadıköy



Rivendell  
Shelter

Kadıköy



Eden Shelter

Kadıköy



Pandora  
Shelter

Kadıköy



Mahde  
Mehrbani  
Shelter

Kadıköy



Pawesome  
Friends  
Shelter

Kadıköy



Dragonfly  
Shelter

Kadıköy

< 1 2 3 4 5 6 7 8 9 10 >





## Pet Profile



🐾 Name: Yüzsüz

🐾 Species: Cat

🐾 Age: 5

🐾 Breed: Tuxedo

🐾 Disabilities: None

🐾 Allergies: Liver

🐾 Gender: Female

🐾 Availability: Yes

🐾 Health Status: Chronic Lung Problem

🏠 Give Me A Forever Home? Adopt Now ^-^



## Pet Adoption Application Form

First Name

John/Jane

Number Of People In The House

Resident Count

Last Name

Doe

Residence Type

Apartment/Condo/

Email

✉ johndoe@example.com

Income Range

xxx\$ - xxx\$

Phone Number

TR +90

How Active Are You

Activity Level

Address

Caddebostan

How Much Time Would You Be Able To Spend With Your Pet

x Hours A Day

Number Of Children

Child Count

Previous Experience With Pets

If Yes, Elaborate

Number Of Pets

Pet Count

Additional Notes

Submit

**References:**

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[https://www.researchgate.net/figure/A-use-case-specification\\_fig6\\_220428142](https://www.researchgate.net/figure/A-use-case-specification_fig6_220428142)  
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