

# Software Engineering

## (IT314)



**Use Cases & User Stories**

**Functional/Non-Functional Requirements,**

# IT314-Software Engineering

## G1-Pet Adoption System

### ❖ Introduction

The Pet Adoption System simplifies the pet adoption process by providing an intuitive digital platform for adopters and shelters. It enables users to browse pets, apply for adoptions, and interact with a supportive community, while shelters can manage pet profiles and applications efficiently.

### ❖ Description

The system will be built incrementally over four sprints, focusing on core functionalities first and then expanding with advanced features. The development follows an agile approach to ensure flexibility and continuous improvement, making the platform secure, responsive, and user-friendly.

### ❖ Functional and Non-Functional Requirements for Pet Adoption System

#### **Functional Requirements**

1. **User Account Management**
  - Users can create accounts with a sign-up page.
  - Users can log in with their credentials.
  - Shelter owners can update their account and pet details.
2. **Pet Listing and Details**
  - Users can view pet descriptions, including breed, age, gender, and other characteristics.
  - Users can view individual pet details.
3. **Search and Filtering**
  - Users can search for pets based on specific criteria.
  - Users can apply filters (e.g., species, breed, age).

#### 4. **Adoption Application**

- Users can apply for pet adoption through an application process.
- Shelter owners can view, accept, or reject adoption applications.
- Users can track their application status.

#### 5. **Pet Visit Scheduling**

- Users can schedule a visit with the shelter to meet a pet.

#### 6. **Feedback and Blogs**

- Users can submit feedback on their experience.
- Users can view and write blogs.
- Users can upload photos to a gallery.

#### 7. **Donations**

- Users can donate to the shelter through a dedicated page.

### **Non-Functional Requirements**

#### 1. **Performance**

- The system should load pages within 3 seconds under normal load.
- The search and filter features should respond within 2 seconds.

#### 2. **Usability**

- The user interface should be intuitive and user-friendly.
- The system should provide visual cues and feedback for successful or unsuccessful actions (e.g., form submissions).

#### 3. **Security**

- User data, including login credentials, must be stored securely.
- The system should use HTTPS for secure data transmission.

#### 4. **Reliability and Availability**

- The system should have at least 99% uptime.
- Data consistency and accurate status updates for adoption requests are mandatory.

#### 5. **Scalability**

- The system should support concurrent users without significant degradation in performance.

#### 6. **Compatibility**

- The platform should be compatible with modern web browsers.

### **❖ Use Cases**

#### 1. **User Registration/Login**

- **Actor:** User
- **Description:** Users can sign up and log in to access their accounts.

- **Main Flow:**
  1. User opens the registration/login page.
  2. User enters their details.
  3. System validates and creates an account or logs in.
- **Alternate Flow:**
  1. **Invalid Login Credentials:** If the user enters incorrect credentials, the system will display an error message and prompt the user to try again.
- **Precondition:**
  1. The user must have access to the registration/login page.
  2. The system must be online and available.
- **Postcondition:**
  1. The user's account is successfully created or logged in, granting access to the system.
  2. If login fails, the user is presented with an error message and remains on the login page.

## 2. View Pet List and Details

- **Actor:** User
- **Description:** Users can browse through available pets and view detailed profiles.
- **Main Flow:**
  1. User accesses the pet list.
  2. User clicks on a pet to see details.
  3. System displays detailed pet information.
- **Alternate Flow:**
  1. **No Pets Available:** If no pets match the search criteria, the system displays a "No Results Found" message and suggests modifying the criteria.
  2. **Inactive Pet:** If a pet's profile becomes inactive during viewing, the user is redirected to the pet list
- **Precondition:**
  1. The user must be logged into the system.
  2. Pets must be available in the system database.
- **Postcondition:**
  1. The user successfully views the list of pets or a specific pet's detailed profile.
  2. If no pets are available, the user sees a "No Results Found" message.

## 3. Search and Filter Pets

- **Actor:** User

- **Description:** Users can search and apply filters to the pet list.
- **Main Flow:**
  1. User inputs search criteria.
  2. User selects filter options.
  3. System returns relevant results.
- **Alternate Flow:**
  1. **Invalid Filter Input:** If the user enters an invalid filter value, the system should display an error message and reset the filter criteria.
- **Precondition:**
  1. The user must have access to the pet listing page.
  2. Pets must be available in the database to match search/filter criteria.
- **Postcondition:**
  1. Relevant pets matching the search/filter criteria are displayed to the user.
  2. If the filter criteria are invalid, the system identifies that "0 pet".

#### 4. Apply for Adoption

- **Actor:** User
- **Description:** Users can apply to adopt a pet.
- **Main Flow:**
  1. User selects a pet for adoption.
  2. User fills in the application form.
  3. System submits the application for review by a shelter owner.
- **Alternate Flow:**
  1. **Incomplete Application:** If the user fails to complete all required fields, the system prompts the user to fill in the missing information before submission.
  2. **Pet Already Adopted:** If the selected pet is adopted before the user's request is processed, the system informs the user and provides options to apply for other pets.
- **Precondition:**
  1. The user must be logged in.
  2. The user must select a pet available for adoption.
- **Postcondition:**
  1. The adoption application is submitted and queued for shelter owner review.
  2. If the application is incomplete, the system prompts the user to provide missing information.
  3. If the pet is already adopted, the user is notified and given alternative options.

#### 5. Manage Adoption Applications

- **Actor:** Shelter Owner

- **Description:** Shelter owner can accept/reject adoption applications.
- **Main Flow:**
  1. Shelter owner views incoming applications.
  2. Shelter owner accepts or rejects applications.
  3. System updates application status for the user.
- **Alternate Flow:**
  1. **Conflicting Adoption Requests:** If multiple requests are accepted for the same pet, the system alerts the shelter owner and prompts for resolution (e.g., cancellation or reassignment).
  2. **Application Withdrawal:** If a user withdraws their application, the shelter is notified, and the request is removed from their queue.
- **Precondition:**
  1. The shelter owner must be logged into their account.
  2. Adoption applications must be present in the system for review.
- **Postcondition:**
  1. The status of adoption applications is updated to "Accepted" or "Rejected."
  2. If there is a conflict or withdrawal, the system notifies the shelter owner and updates the application queue accordingly.

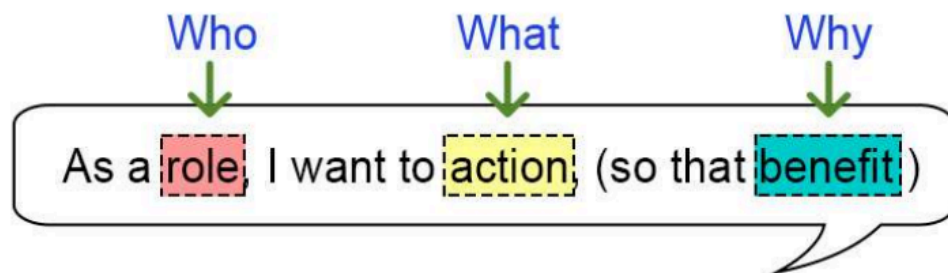
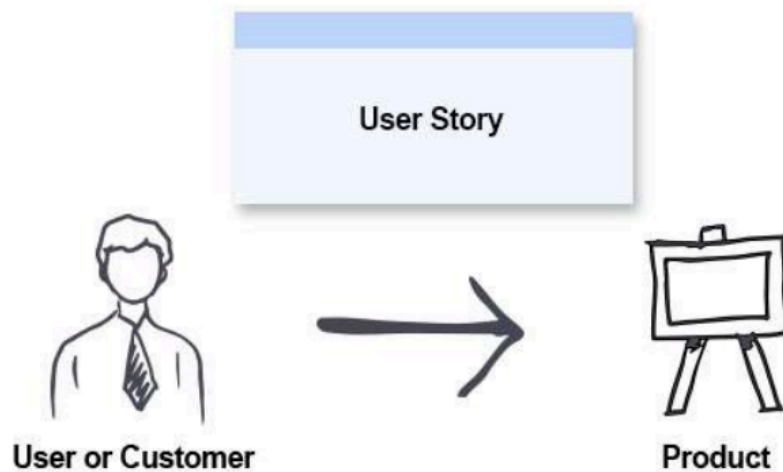
## 6. Schedule Pet Visit

- **Actor:** User
- **Description:** Users can request a visit with the pet.
- **Main Flow:**
  1. User selects a date and time for a visit.
  2. System confirms the booking.
- **Alternate Flow:**
  1. **Date Conflict:** If the requested date/time is unavailable, the system suggests alternate dates/times.
  2. **Visit Cancellation:** If the shelter cancels the visit, the user is notified, and rescheduling options are presented.
- **Precondition:**
  1. The user must be logged in.
  2. The selected pet must be available for a visit.
- **Postcondition:**
  1. The visit is scheduled, and the system confirms the booking.
  2. If the date/time is unavailable, the system suggests alternate slots.
  3. If the shelter cancels, the user is notified and rescheduling options are provided.

## 7. View/Submit Feedback and Blogs

- **Actor:** User

- **Description:** Users can read and write blogs, upload pictures, and leave feedback.
- **Main Flow:**
  1. User accesses the blog/feedback page.
  2. User submits or views content.
- **Alternate Flow:**
  1. **Inappropriate Content:** If submitted content violates community guidelines, the system will flag it for moderation and notify the user.
  2. **Commenting Disabled:** If commenting is temporarily disabled, the user is informed when attempting to post.
- **Precondition:**
  1. The user must be logged in to submit content.
  2. The system must have a feedback/blog module enabled.
- **Postcondition:**
  1. The content is successfully posted or flagged for moderation if it violates guidelines.
  2. The user is informed if commenting is disabled.



## ❖ User Stories

### ➤ Sprint 1:

1. **User Story:** As a user, I want to recover my password in case I forget it so that I can regain access to my account.
  - **Acceptance Criteria:**
    - Given that I am on the login page, when I click "Forgot Password," I should be prompted to enter my registered email.
    - An email should be sent to me with a reset link.
    - Clicking the reset link should allow me to enter a new password.
2. **User Story:** As a user, I want a consistent and intuitive UI/UX design so that I can easily navigate through the system.
  - **Acceptance Criteria:**
    - UI elements should be clearly labeled and easily distinguishable.
    - Navigation between pages should be seamless with no dead-end pages.



- Buttons and fields should have hover states to indicate interactivity.
- 3. **User Story:** As a user, I want to log out from my account so that I can ensure my session is securely terminated.
  - **Acceptance Criteria:**
    - Given that I am logged in, when I click the "Logout" button, I should be redirected to the login page.
    - My session should be ended, and accessing protected pages should require me to log in again.
- 4. **User Story:** As a user, I want a visual loading indicator while the system processes my request so that I know my action is being handled.
  - **Acceptance Criteria:**
    - When I perform an action that requires processing (e.g., login, data loading), a loading icon or animation should be displayed.
    - The loading indicator should disappear when the action is completed.
- 5. **User Story:** As a user, I want to see a responsive UI design so that the system is usable on various devices (desktop, tablet, mobile).
  - **Acceptance Criteria:**
    - The UI elements should adjust appropriately based on the screen size.
    - The navigation bar should collapse into a hamburger menu on smaller screens.

➤ **Sprint 2:**

1. **User Story:** As a shelter owner, I want to add new pets to the system so that they can be viewed by users.
  - **Acceptance Criteria:**
    - Given that I am logged in as a shelter owner, when I navigate to the "Add Pet" page, I should see a form to input pet details.
    - Submitting valid data should add the pet to the listing.
    - The pet's details should be immediately viewable by users.
2. **User Story:** As a user, I want to filter pets by age and breed so that I can find pets that match my preferences.
  - **Acceptance Criteria:**
    - When I select age and breed filters, the system should display only relevant results.
    - If no pets match the criteria, a "No Results Found" message should be displayed.
3. **User Story:** As a shelter owner, I want to delete a pet from the listing so that I can remove pets no longer available for adoption.
  - **Acceptance Criteria:**
    - Given that I am logged in as a shelter owner, I should see a "Delete" button on each pet's detail page.
    - Confirming deletion should remove the pet from the list.

- A confirmation prompt should appear before deletion.
- 4. **User Story:** As a user, I want to save my search criteria so that I can quickly access similar pet searches in the future.
  - **Acceptance Criteria:**
    - When I use the search and filter options, there should be a "Save Search" button.
    - Clicking the button saves my criteria and makes it available for future use.
    - The saved search should be accessible from my profile.
- 5. **User Story:** As a user, I want a notification if new pets matching my saved searches become available so that I can stay updated.
  - **Acceptance Criteria:**
    - When a new pet matches my saved criteria, a notification should be displayed in my account.
    - I should have the option to receive email notifications if enabled.

➤ **Sprint 3:**

1. **User Story:** As a shelter owner, I want to provide a reason for rejecting an adoption request so that applicants can understand the decision.
  - **Acceptance Criteria:**
    - When rejecting an application, a field for entering a reason must be displayed.
    - The user should be notified of the rejection along with the reason.
2. **User Story:** As a user, I want to view a history of my adoption applications so that I can track previous requests.
  - **Acceptance Criteria:**
    - When logged in, I should see a "My Applications" page showing past and current requests.
    - Each request should show its status (e.g., pending, accepted, rejected).
3. **User Story:** As a user, I want to cancel my adoption request so that I can change my mind about an adoption.
  - **Acceptance Criteria:**
    - When viewing my pending adoption requests, I should see a "Cancel" button.
    - Clicking the button prompts for confirmation before canceling the request.
    - The request status should update to "Cancelled" in the system.
4. **User Story:** As a shelter owner, I want to leave notes on adoption requests so that I can keep internal records about the applicants.
  - **Acceptance Criteria:**
    - When viewing an adoption request, there should be a "Notes" section visible only to the shelter owner.
    - Notes should be saved and editable at any time.
    - Notes should not be visible to the user.

5. **User Story:** As a user, I want to receive a confirmation email when my adoption request is accepted so that I am informed about the next steps.
  - **Acceptance Criteria:**
    - Upon acceptance, the system should generate and send a confirmation email to the user.
    - The email should include details about the next steps, including scheduling a visit if applicable.

➤ **Sprint 4:**

1. **User Story:** As a user, I want to comment on blogs so that I can share my thoughts and interact with the community.
  - **Acceptance Criteria:**
    - When I view a blog post, I should see a comment section.
    - Entering a comment and submitting should display it immediately.
    - Comments should be visible to all users.
2. **User Story:** As a user, I want to view shelter donation goals so that I can see how my donation makes an impact.
  - **Acceptance Criteria:**
    - When I visit the donations page, I should see the total donation goal and the current progress.
    - My donation should immediately update the progress bar upon completion.
3. **User Story:** As a user, I want to report inappropriate blog content so that the community remains a positive environment.
  - **Acceptance Criteria:**
    - When viewing a blog post or comment, I should see a "Report" option.
    - Clicking "Report" should provide a dropdown of reasons and a confirmation button.
    - The reported content should be flagged for moderator review.
4. **User Story:** As a user, I want to view a donation receipt after making a donation so that I have a record of my contribution.
  - **Acceptance Criteria:**
    - After completing a donation, a receipt should be displayed onscreen.
    - The receipt should include the donation amount, date, and a unique transaction ID.
    - A copy of the receipt should also be sent to my registered email.
5. **User Story:** As a user, I want to filter blogs by topic so that I can find posts that interest me.
  - **Acceptance Criteria:**
    - When viewing the blog section, I should see a list of available topics.
    - Selecting a topic should display only blogs tagged with that topic.
    - There should be a "Clear Filter" option to return to the full list.