

# Software Engineering

## (IT314)



**Black box Testing**

## IT314-Software Engineering

### G1-Pet Adoption System

**Page Title:** Happy Tails - [Signup Page](#)

### Fields and Functionalities

- **Username Field**

- Type: Text
- Constraints:
  - Required.
  - Minimum: 1 character.
  - Maximum: 50 characters.
  - Allowed: Alphabets and spaces only.
- Validation: Error message for missing or invalid input.

- **Email Field**

- Type: Email
- Constraints:
  - Required.
  - Valid email format (e.g., `user@example.com`).
  - Should contain '@' sign with character before and after.
  - Should not already be registered.
- Validation: Error message for missing or invalid email.

- **Password Field**

- Type: Password
- Constraints:
  - Password must contain capital letter [A-Z].

- must contain small letters [a-z]
    - must contain number [0-9] .
    - must contain special character [!@#\$%^&\*] .
    - must contain between 8-12 characters
  - Validation: Error message for missing or weak password.
  - Password confirmation: Must be the same as Password.
  - **Sign Up Button**
    - Type: Submit
    - Functionality:
      - Submits the form if all validations pass.
      - Displays relevant error messages otherwise.
  - **Sign u**
  - **p with google**
    - **Type:Button Type:**
      - OAuth Integration Button
    - **UI Element:** Styled as a "Sign Up with Google" button with the Google logo and text indicating the functionality.
    - **Functionality:**
      - The "Sign Up with Google" button enables users to sign up using their Google account credentials via OAuth 2.0 authentication.
- 

- **Equivalent Classes for Input Fields**

Field	Valid Equivalence Classes	Invalid Equivalence Classes
Username	Non-empty strings (1–50 chars)	Empty string, strings exceeding 50 chars, invalid symbols
Email	Valid email formats	Missing @ or domain, empty string
Password	8–20 characters	Less than 8 chars, more than 20 chars

Equivalence Class	Email	Password	Confirm Password	Result
E1	Valid	Valid	Matches Password	Success
E2	Invalid	Valid	Matches Password	Error: "Invalid Email"
E3	Valid	Invalid	Matches Password	Error: "Password is too weak or invalid"
E4	Valid	Valid	Does not match Password	Error: "Passwords do not match"
E5	Valid	Invalid	Does not match Password	Error: "Invalid password and passwords do not match"
E6	Invalid	Valid	Does not match Password	Error: "Invalid email and passwords do not match"
E7	Invalid	Invalid	Matches Password	Error: "Invalid email and password"
E8	Invalid	Invalid	Does not match Password	Error: "Invalid email, password, and passwords do not match"

- **Boundary value analysis:**

E-mail	Password	Confirm Password	Expected Output	Actual Output	Reason
a@	Abcd@123	Abcd@123	Fail	Fail	Email constraint (Invalid email format).
@gmail.com	Abcd@123	Abcd@123	Fail	Fail	Email constraint (Invalid email format).
abc@gmail.co m	abcd@123	abcd@123	Fail	Fail	Password constraint (Missing uppercase or special characters).
abc@gmail.co m	ABCD@123	ABCD@123	Fail	Fail	Password constraint (Missing lowercase)

					characters).
abc@gmail.com	Abcd1234	Abcd1234	Fail	Fail	Password constraint (Missing special character).
abc@gmail.com	Abcd@1	Abcd@1	Fail	Fail	Password constraint (Less than 8 characters).
abc@gmail.com	Abcd@123	Abcd1234	Fail	Fail	Passwords do not match.
abc@gmail.com	Abcd@123	Abcd@123	Success	Success	All constraints satisfied.

**Create new Account**  
Already have an account? [Login](#)

User Name

Email  
 Please enter a part following '@'. 'a@' is incomplete.

Password

Retype Password

[Sign Up](#)

Password strength: Weak

[G Sign up with Google](#)

### Create new Account

Already have an account? [Login](#)

User Name

Email  
 Please enter a part following '@'. '@gmail.com' is incomplete.

Password

Retype Password

[Sign Up](#)

Password strength: Weak

[G Sign up with Google](#)

**Create new Account**

Already have an account? [Login](#)

User Name	<input type="text" value="rajan@123"/>
Email	<input type="text" value="abc@gmail.com"/>
Password	<input type="password" value="*****"/>
Retype Password	<input type="password" value="*****"/>
<a href="#">Sign Up</a>	
Password strength: Weak	
<a href="#">G Sign up with Google</a>	

User Name	<input type="text" value="Rajan Moradiya"/>
Email	<input type="text" value="abc@gmail.com"/>
Password	<input type="password" value="*****"/>
Retype Password	<input type="password" value="*****"/>
<a href="#">Sign Up</a>	
Password strength: Strong	
<a href="#">G Sign up with Google</a>	

## Page Title: Happy Tails - [Login Page](#)

### Test Constraints

- **Email:**
  - Required field.
  - Must be registered in the system.
- **Password:**
  - Required field.
  - Checked against the stored hash (no real-time constraint validation during login).
- **Log in with google:**
  - The "Login with Google" button must authenticate users via OAuth.
  - ensuring the email is valid, verified, and matches an existing registered account in the system.

### ● Equivalence Class Partitioning

Equivalence Class	Email	Password	Result
E1	Valid	Valid	Success
E2	Invalid	Valid	Error
E3	Valid	Invalid	Error

E4	Invalid	Invalid	Error
----	---------	---------	-------

**Note:** Each attribute of the equivalence table which satisfies their constraints is considered as the valid input otherwise it will be considered as invalid input.

- **Boundary Value Analysis**

Input	Password	Expected Output	Actual Output	Reason
a@	Abcd@123	Fail	Fail	Email constraint (Invalid email).
@gmail.com	Abcd@123	Fail	Fail	Email constraint (Missing local part).
abc@gmail.com	abcd@123	Fail	Fail	Password mismatch with stored hash.
abc@gmail.com	Abcd@123	Success	Success	Valid email and password.
abc@gmail.com	Abcd@123	Fail	Fail	Email not registered.

Our pets are eagerly looking for you!  
Come find the furry friend who needs your love.

**Sign In to your Account**  
Don't have an account? Register

Email:  Please enter a port followed by '@' if data[ac] is incomplete

Password:

**Sign In** **G Log in with Google**

[Forgot Password?](#)

Our pets are eagerly looking for you!  
Come find the furry friend who needs your love.

**Sign In to your Account**  
Don't have an account? Register

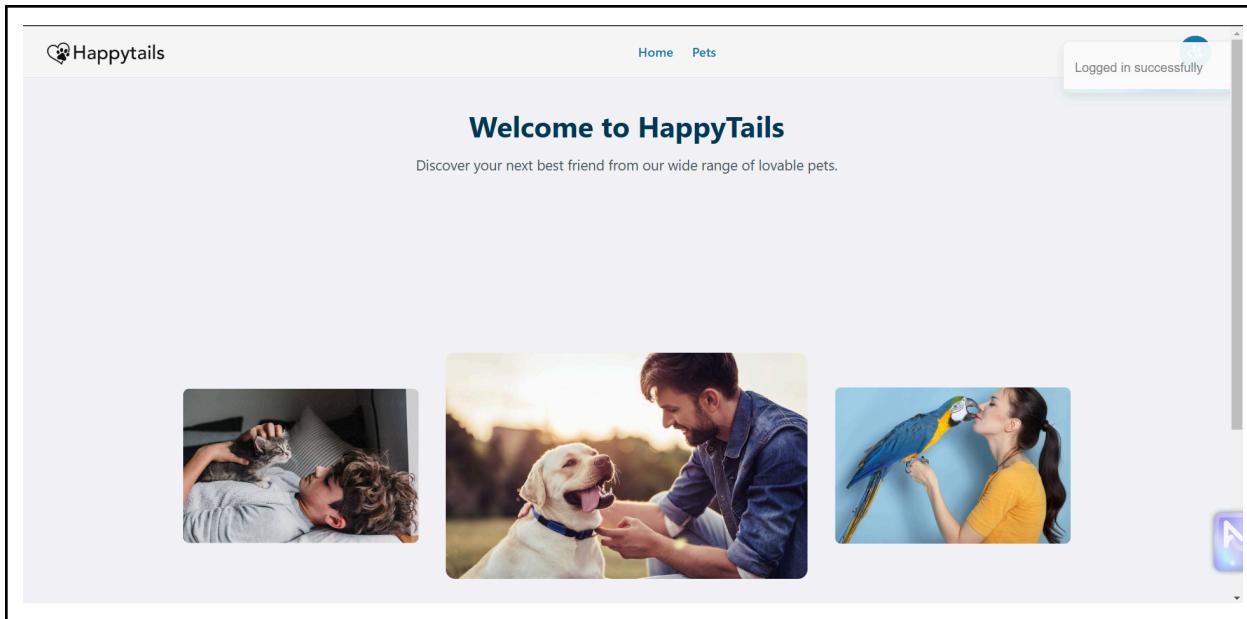
Invalid email or password.

Email:  Please enter a port followed by '@' if data[ac] is incomplete

Password:

**Sign In** **G Log in with Google**

[Forgot Password?](#)



## Page Title: Happy Tails - [Forgot Password Page](#)

### Test Constraints

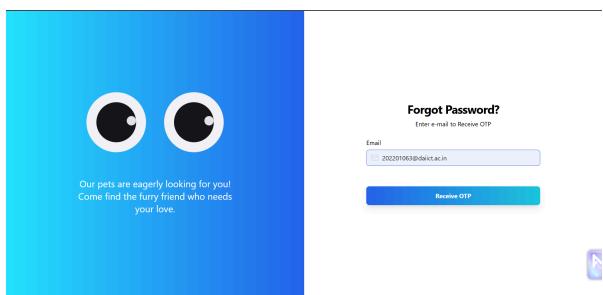
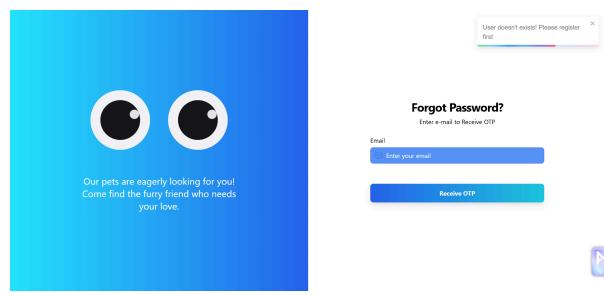
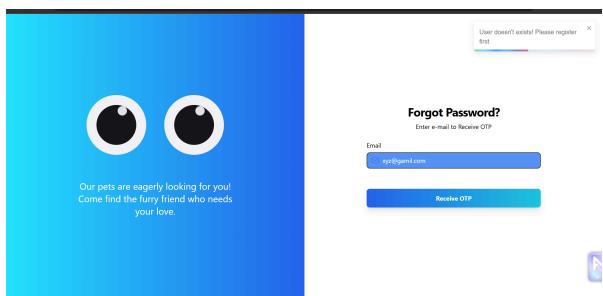
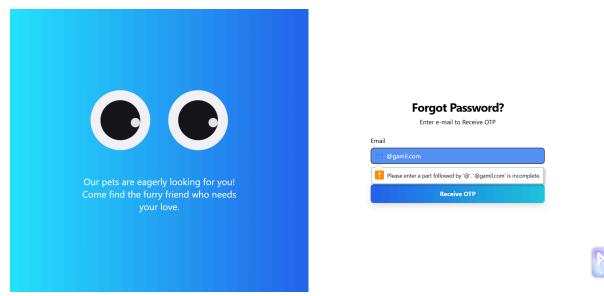
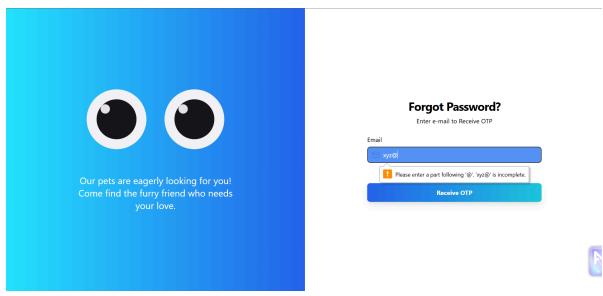
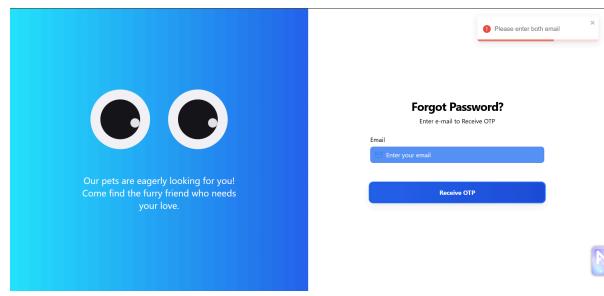
- **Email:**
  - Required field (cannot be empty).
  - Must be in a valid email format.
  - Must match a registered account in the system.
- **System Behavior:**
  - Valid email should trigger a password reset link to the user's registered email.
  - Invalid or unregistered email should return an appropriate error message without sending an email.

### ● Equivalence Class Partitioning

Equivalence Class	Email	Result
E1	Valid, registered	Success (Reset link sent)
E2	Valid, unregistered	Error (Email not found)
E3	Invalid format	Error (Invalid email format)
E4	Empty	Error (Field required)

## ● Boundary Value Analysis

Input (Email)	Expected Output	Actual Output	Reason
202201063@daiict.a c.in	Success (Reset link sent)	Success	All constraints satisfied.
xyz@gmail.com	Error: "Email not found"	Error	Email is not registered.
abc@	Error: "Invalid email format"	Boundary Value AnalysisError	Email format constraint.
@gmail.com	Error: "Invalid email format"	Error	Email format constraint.
empty	Error: "Email is required"	Error	Required field constraint.
202201063@daiict.a c.in	Error: "en all details"	error	Not all details filled

**Create New Password**

Email  
@daiict.ac.in  
Please enter a part followed by '@': '@daiict.ac.in' is incomplete.

Enter OTP

Password  
Enter your password

Change Password

**Create New Password**

Email  
202201063@daiict.ac.in

OTP  
1234

Password  
Enter your password

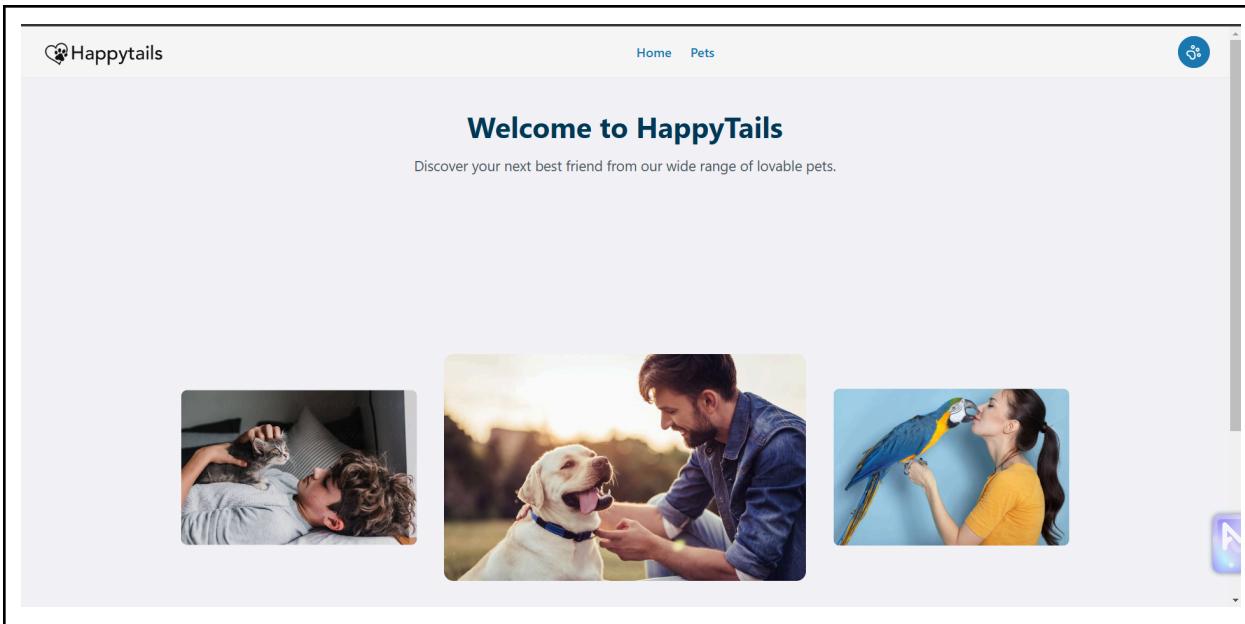
Change Password

## Page Title: Happy Tails - [Pet Home Page](#)

- **Description:**

The Home Page of **HappyTails** serves as the primary entry point for users, offering a warm and inviting introduction to the platform. It features a welcoming message.

There are no applicable Equivalence Class Partitioning scenarios for this page, as it is static and does not involve input fields or dynamic data processing.



## Page Title: Happy Tails - [Pet Listing Page](#)

### Constraints:

- **Category Filter:**
  - **Constraint:** Only valid categories (Dog, Cat, Bird, Hamster) can be selected.
- **Gender Filter:**
  - **Constraint:** Only valid genders (Male, Female) can be selected.
- **Pet List Display:**
  - **Constraint:** The system should display pets based on selected filters (if any) and return to the full list when filters are reset.
  - **Behavior:** The list of pets should update dynamically when filters are applied. It should display only pets that meet the selected category and gender criteria.
  - **Error Handling:** If no pets match the selected filters, the system should display a message indicating that **0 pets**.
- **"Apply" Button:**
  - **Constraint:** The "Apply" button must be present on each pet card and functional for each pet.
  - **Behavior:** Clicking the "Apply" button should allow the user to initiate the application or inquiry process for that pet.
  - **Error Handling:** If the application fails (e.g., server error or missing user data), the system should display an error message prompting the user to try again.

## ● Equivalence Class Partitioning

Equivalence Class	Condition	Expected Outcome
E1	Valid category and gender selected	Filtered list of pets matching selection
E2	Invalid category selected	Display error or reset filter
E3	No category or gender selected	Display all pets
E4	Valid pet selection and "Apply" click	Application for pet initiated
E5	Empty description	No description displayed for the pet

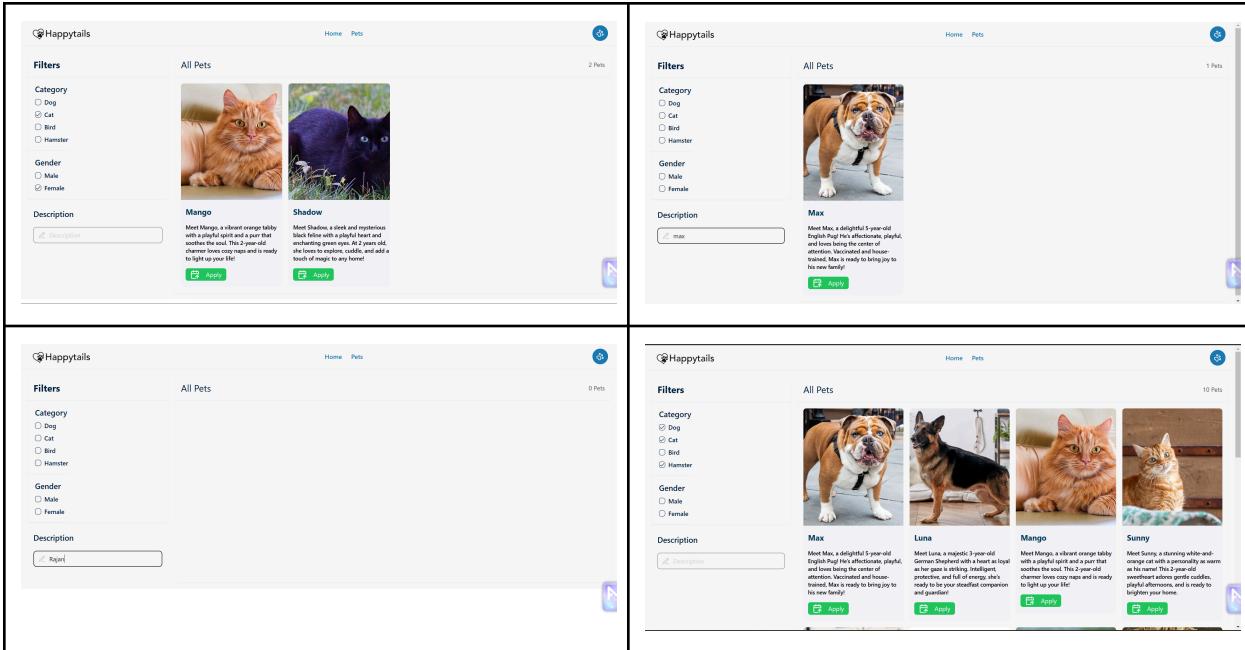
## ● Boundary Value Analysis

Input/Action	Expected Output	Actual Output	Reason
Category: Dog, Gender: Male	The list displays only male dogs	Success	Boundary case for selecting one category and gender
Category: Bird, Gender: Female	The list displays only female birds	Success	Boundary case for selecting rare category and gender
No filters selected	Displays all pets in the system	Success	Boundary case

The image consists of two side-by-side screenshots of a website called "Happytails". Both screenshots show a search interface with filters for Category (Dog, Cat, Bird, Hamster), Gender (Male, Female), and a Description input field with a placeholder "(Description)" and a green "Apply" button.

**Screenshot 1 (Left):** The filters are set to "All Pets". The results show four dogs: Max (English Bulldog), Luna (German Shepherd), Charlie (Golden Retriever), and Bubbles (Pug). Each result includes a small photo, the dog's name, and a brief description. Below the results is a "5 Pets" link.

**Screenshot 2 (Right):** The filters are set to "Dog" and "Male". The results show three dogs: Max (English Bulldog), Charlie (Golden Retriever), and Goli (a brown dog). Each result includes a small photo, the dog's name, and a brief description. Below the results is a "3 Pets" link.



## Happy Tails - application for pet:

### Fields and Functionalities

- **Name Field**
- **Type:** Text
- **Constraints:**
  - Required.
- **Validation:**
  - Error message for missing input: "*Name is required.*"
- **Email Field**
- **Type:** Email
- **Constraints:**
  - Required.
  - Valid email format (e.g., `user@example.com`).
  - Must already be registered.
- **Validation:**
  - Error message for missing input: "*Email is required.*"
- **Address Field**
- **Type:** Text
- **Constraints:**
  - Required.
- **Validation:**

- Error message for missing input: "Address is required."
  - **Is This Your First Pet? Field**
  - **Type:** Dropdown or Yes/No Radio Button
  - **Constraints:**
    - Required.
  - **Validation:**
    - Error message for missing selection: "Please specify if this is your first pet."
  - **Why Do You Want to Adopt? Field**
  - **Type:** Textarea
  - **Constraints:**
    - Required.
  - **Validation:**
    - Error message for missing input: "Reason for adoption is required."
  - **Submit and cancel button:**
  - Submit and cancel button working.
- 

- **Equivalence Class Partitioning**

Equivalence Class	Name	Email	Address	First Pet?	Adoption Reason	Result
E1	Valid Input	Valid	Valid	Valid	Valid	Success
E2	Missing Name	valid	Valid	Valid	Valid	Error: "Name is required"
E3	valid Input	Missing Email	Valid	Valid	Valid	Error: "Email is required"
E4	valid Input	Invalid	Valid	Valid	Valid	Error: "Invalid email format"
E5	valid Input	Valid	Missing	Valid	Valid	Error: "Address is required"
E6	valid Input	Valid	Valid	Valid	Missing	Error: "Reason for adoption required"
E7	valid Input	Valid	Valid	Missing/Empty	Valid	Error: "Please specify if this is your first pet"

- **Boundary Value Analysis**

Name	Email	Address	First	Reason for	Expected	Actual Output

			Pet?	Adoption	Output	
Rajan Moradiya	202201063@daiict.ac.in	daiict	Yes	Want a companion	Success	Success
(Empty)	202201063@daiict.ac.in	daiict	Yes	Love animals	Fail: "Name is required"	Fail: "Name is required"
Rajan Moradiya	(Empty)	daiict	Yes	Love animals	Fail: "email is required"	Fail: "email is required"
Rajan Moradiya	<u>abc123@gmail.com</u>	daiict	No	Provide a better home	Fail: "email must be registered"	Fail: "email must be registered"
Rajan Moradiya	202201063@daiict.ac.in	(Empty)	Yes	Rescue a pet	Fail: "Address is required"	Fail: "Address is required"
Rajan Moradiya	202201063@daiict.ac.in	daiict	(Empty)	Want a new friend	Fail: "Please specify first pet"	Fail: "Please specify first pet"
Rajan Moradiya	202201063@daiict.ac.in	daiict	Yes	(Empty)	Fail: "Reason required"	Fail: "Reason required"

The screenshots illustrate the Happytails application's user interface for pet adoption:

- Screenshot 1:** Shows the 'Apply for Max' page. A message at the top says 'you have already applied for this pet'. The form includes fields for 'Your Name' (RAJAN MORADIYA), 'Address' (47/b, street no. 4, santa soc., gadhe), and 'Description' (to make animal friends). Buttons for 'Cancel' and 'Submit' are present.
- Screenshot 2:** Shows the same 'Apply for Max' page, but with three error messages: 'You can only apply using your registered email.' for each input field ('Your Name', 'Address', and 'Description').
- Screenshot 3:** Shows the 'All Pets' search results page with four pets: Max, Luna, Mango, and Sunny. Each pet has a 'Description' section and an 'Apply' button.
- Screenshot 4:** Shows the 'Apply for Mango' page. It displays the same error messages as Screenshot 2 ('You can only apply using your registered email.') over the input fields.

The screenshots show a 'Filters' sidebar on the left and a main content area on the right. The main area displays three pet profiles: Max (a dog), Mango (an orange tabby cat), and Sunny (a white-and-orange tabby cat). Each profile has a 'Pet Details' section and an 'Apply' button.

**Screenshot 1:** The 'Apply for Mango' modal is open. It shows the user's information: RAJAN MORADHA, 202201063@daict.ac.in, and a placeholder 'Your Email'. A red error message 'Please fill in this field' is displayed above the email input. The 'Submit' button is visible.

**Screenshot 2:** The 'Apply for Mango' modal is open. The 'Your Email' field now contains '202201063@daict.ac.in'. The error message is gone, and the 'Submit' button is now green.

**Screenshot 3:** The 'Apply for Mango' modal is open. The 'Your Email' field now contains 'rajan.moradha@gmail.com'. The 'Submit' button is now green.

**Screenshot 4:** The 'Apply for Mango' modal is open. The 'Your Email' field now contains 'rajan.moradha@gmail.com'. The 'Submit' button is now green.

## Page Title: Happy Tails -[Account Page](#)

- **View-only restrictions:** Ensures fields are non-editable
- **Logout button:** working

The left screenshot shows the 'Rajan's Account' page with a dark header. It includes sections for 'Account Settings' (with a 'Log Out' button) and 'Your Applications' (showing three images of Max).

The right screenshot shows a blue-tinted background with two large white eyes. Text at the bottom reads: 'Our pets are eagerly looking for you! Come find the fury friend who needs your love.' Overlaid on this is a 'Sign In to your Account' form. It includes fields for 'Email' (placeholder 'Enter your email'), 'Password' (placeholder 'Enter your password'), a 'Sign In' button, and links for 'Forgot Password?' and 'Log in with Google'.