

# Test Plan for Furrfect Project

## Part I: Description of Overall Test Plan

The Furrfect project aims to create an application that connects pet owners to pet service providers. To ensure a high-quality user experience, our testing strategy will involve a mix of unit, integration, functional, and performance testing. Our approach includes testing individual components in isolation (unit testing) and verifying the interactions between modules (integration testing). We will employ Blackbox testing to validate functionality based on user requirements and perform boundary and stress tests to identify potential system failures under extreme conditions.

Testing will be conducted in two phases:

1. Component-level testing using simulated data to validate core functionality and edge cases.
2. System-level testing in a controlled environment to ensure the platform handles real-world scenarios, including high user loads.

## Part II: Test Case Descriptions

### Test Case 1

- **Identifier:** TC1
- **Purpose:** Verify user registration functionality.
- **Description:** Test the ability for new users to create an account.
- **Inputs:** Username: "test\_user", Email: "[test@example.com](mailto:test@example.com)", Password: "Secure123!".
- **Expected Outputs:** User receives a confirmation email, and the account is created successfully.
- **Condition:** Normal
- **Type:** Blackbox
- **Focus:** Functional
- **Scope:** Unit

### Test Case 2

- **Identifier:** TC2
- **Purpose:** Validate login functionality with valid credentials.
- **Description:** Ensure users can log in successfully.
- **Inputs:** Username: "test\_user", Password: "Secure123!".
- **Expected Outputs:** User is redirected to the dashboard.
- **Condition:** Normal
- **Type:** Blackbox
- **Focus:** Functional
- **Scope:** Unit

### Test Case 3

- **Identifier:** TC3
- **Purpose:** Test login functionality with invalid credentials.
- **Description:** Ensure login fails with incorrect password.
- **Inputs:** Username: "test\_user", Password: "WrongPass".
- **Expected Outputs:** Error message: "Invalid credentials."
- **Condition:** Abnormal
- **Type:** Blackbox
- **Focus:** Functional

- **Scope:** Unit

#### Test Case 4

- **Identifier:** TC4
- **Purpose:** Validate the social feed feature.
- **Description:** Test the ability to display and interact with posts.
- **Inputs:** User scrolls through the feed, likes a post, and adds a comment.
- **Expected Outputs:** The feed displays posts, likes are registered, and comments are posted successfully.
- **Condition:** Normal
- **Type:** Blackbox
- **Focus:** Functional
- **Scope:** Unit

#### Test Case 5

- **Identifier:** TC5
- **Purpose:** Test profile update functionality.
- **Description:** Ensure users can update their profile information.
- **Inputs:** Name: "Nishit Grover", Contact: "123-456-7890".
- **Expected Outputs:** Profile updated successfully.
- **Condition:** Normal
- **Type:** Blackbox
- **Focus:** Functional
- **Scope:** Unit

#### Test Case 6

- **Identifier:** TC6
- **Purpose:** Validate pet service booking functionality.
- **Description:** Test the booking process for pet services.
- **Inputs:** Service: "Grooming", Date: "2025-02-01", Time: "10:00 AM".
- **Expected Outputs:** Booking confirmation.
- **Condition:** Normal
- **Type:** Blackbox
- **Focus:** Functional
- **Scope:** Integration

#### Test Case 7

- **Identifier:** TC7
- **Purpose:** Test the messaging system.
- **Description:** Ensure users can send and receive messages.
- **Inputs:** User A sends a message to User B.
- **Expected Outputs:** Message appears in User B's inbox and User A's sent messages.
- **Condition:** Normal
- **Type:** Blackbox
- **Focus:** Functional
- **Scope:** Integration

#### Test Case 8

- **Identifier:** TC8
- **Purpose:** Validate application performance under load.
- **Description:** Test system response time with 1000 concurrent users.
- **Inputs:** Simulated user logins and actions.
- **Expected Outputs:** System handles the load with no crashes and acceptable response times (<2 seconds).
- **Condition:** Boundary
- **Type:** Blackbox
- **Focus:** Performance
- **Scope:** Integration

## Full System Tests

### Test Case 9

- **Identifier:** FS1
- **Purpose:** Validate end-to-end system functionality.
- **Description:** Ensure users can register, log in, browse feeds, message other users, and book services without errors.
- **Inputs:** User actions covering registration, login, interactions, and bookings.
- **Expected Outputs:** Seamless workflow without interruptions or failures.
- **Condition:** Normal
- **Type:** Blackbox
- **Focus:** Functional
- **Scope:** Integration

### Test Case 10

- **Identifier:** FS2
- **Purpose:** Stress test system under heavy load.
- **Description:** Simulate thousands of concurrent users performing actions.
- **Inputs:** Simulated concurrent user activity.
- **Expected Outputs:** System stability and acceptable response times under load.
- **Condition:** Boundary
- **Type:** Blackbox
- **Focus:** Performance
- **Scope:** Integration

## Web Admin and Agent Tests

### Test Case 11

- **Identifier:** WA1
- **Purpose:** Validate web admin login functionality.
- **Description:** Ensure administrators can log into the backend.
- **Inputs:** Admin credentials.
- **Expected Outputs:** Admin is redirected to the dashboard.
- **Condition:** Normal
- **Type:** Blackbox
- **Focus:** Functional
- **Scope:** Unit

### Test Case 12

- **Identifier:** A1
- **Purpose:** Test agent data synchronization.
- **Description:** Ensure the system synchronizes data from different sources properly.
- **Inputs:** New data records.
- **Expected Outputs:** Data is processed and stored correctly.
- **Condition:** Normal
- **Type:** Blackbox
- **Focus:** Functional
- **Scope:** Integration

**Part III: Test Case Matrix**

Test Case ID	Purpose	Condition	Type	Focus	Scope
TC1	Verify user registration	Normal	Blackbox	Functional	Unit
TC2	Validate login with valid credentials	Normal	Blackbox	Functional	Unit
TC3	Test login with invalid credentials	Abnormal	Blackbox	Functional	Unit
TC4	Validate social feed feature	Normal	Blackbox	Functional	Unit
TC5	Test profile update functionality	Normal	Blackbox	Functional	Unit
TC6	Validate pet service booking	Normal	Blackbox	Functional	Integration
TC7	Test messaging system	Normal	Blackbox	Functional	Integration
TC8	Validate performance under load	Boundary	Blackbox	Performance	Integration
FS1	Validate end-to-end system functionality	Normal	Blackbox	Functional	Integration
FS2	Stress test system under heavy load	Boundary	Blackbox	Performance	Integration
WA1	Validate web admin login	Normal	Blackbox	Functional	Unit
A1	Test agent data synchronization	Normal	Blackbox	Functional	Integration