



# Sheltr

System Requirements

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INFO-C451: System Implementation (Spring 2024)



# Table Of Contents

**CUSTOMER PROBLEM STATEMENTS & SYSTEM REQUIREMENTS.....2**

**PROBLEM STATEMENT.....2**

**FUNCTIONAL REQUIREMENTS .....2**

**NON-FUNCTIONAL REQUIREMENTS .....4**

**SYSTEM SEQUENCE AND ACTIVITY DIAGRAMS .....5**

**USER INTERFACE SPECIFICATION .....6**

**PROJECT PLAN.....8**

**REFERENCE.....9**

**GLOSSARY OF TERMS .....9**

# Customer Problem Statements & System Requirements

## Problem Statement

Adopting a pet should be a joyful journey, not a communication maze. Animal shelter employees struggle with overwhelmed inboxes and limited hours, while potential pet parents face dead ends and delayed connections. Sheltr transforms the experience. Our user-friendly app brings shelters and adopters face-to-digital-face, enabling instant communication, streamlined scheduling, and effortless meet-and-greets. With Sheltr, finding your furry forever friend is just a tap away, leaving frustration behind and paving the way for happy pets and pet parents.

## Functional Requirements

Requirement #	Priority	Impact Group	Description
REQ-01	1 - HIGH	All Users	All users should be able to browse animal profiles based on various filters like breed, size, age, energy level, etc.
REQ-02	2 - MEDIUM	All Users	All users should be able to view detailed animal profiles featuring photos, personality descriptions, and additional information.
REQ-03	1 - HIGH	All Users	All users should be able to create an account with a valid email address.
REQ-04	3 - LOW	Shelter Staff, System Administrators	Shelter accounts should undergo an approval process before posting adoption profiles.
REQ-05	2 - MEDIUM	Shelter Staff	Shelter staff members should be able to create detailed profiles for each animal, including photos, personality descriptions, adoptability criteria, and vet records.
REQ-06	2 - MEDIUM	Shelter Staff	Shelter staff members should be able to edit and update animal profiles as needed.
REQ-07	1 - HIGH	Shelter Staff	Shelter staff members should be able to mark animals as available or adopted.
REQ-08	2 - MEDIUM	Shelter Staff	Shelter staff members should be able to view and process meet-and-greet requests from potential adopters.
REQ-09	2 - MEDIUM	Shelter Staff	Shelter staff members should be able to approve or decline meet-and-greet requests.

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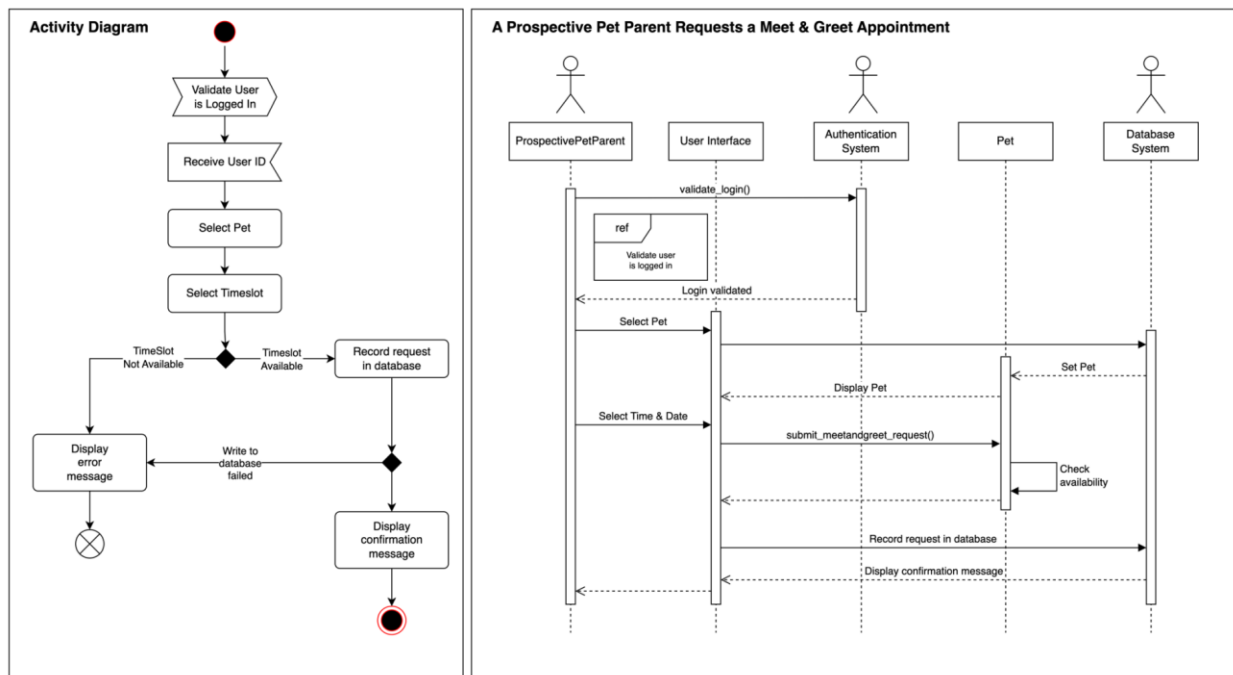
REQ-10	3 - LOW	Shelter Staff	Shelter staff members should be able to view a schedule of upcoming meet-and-greet appointments within a built-in calendar.
REQ-11	2 - MEDIUM	Shelter Staff	Shelter staff members should be able to view requester contact information (phone number or email address).
REQ-12	1 - HIGH	Shelter Staff	Shelter staff members should be able to update shelter information, including contact details, hours of operation, and adoption procedures.
REQ-13	3 - LOW	Prospective Pet Parents	Prospective pet parents should be able to mark favorite animals for easy reference.
REQ-14	2 - MEDIUM	Prospective Pet Parents	Prospective pet parents should be able to submit meet-and-greet requests directly from animal profiles with preferred dates and times.
REQ-15	2 - MEDIUM	Prospective Pet Parents	Prospective pet parents should be able to track the status of submitted requests and receive notifications of approvals or declines.
REQ-16	3 - LOW	Prospective Pet Parents	Prospective pet parents should be able to create and manage user profiles, including basic information and adoption preferences.
REQ-17	2 - MEDIUM	Prospective Pet Parents	Prospective pet parents should be able to update contact information and notification settings.
REQ-18	4 - OPTIONAL	All Users	All users should be able to access educational resources about pet care and adoption.
REQ-19	4 - OPTIONAL	All Users	All users should be able to read and leave reviews for shelters.
REQ-20	4 - OPTIONAL	All Users	All users should be able to share adopted pet stories and photos with the community.
REQ-21	4 - OPTIONAL	All Users	All users should be able to communicate directly with shelter staff within the app (initially, direct contact beyond approval/disapproval will be outside the app).

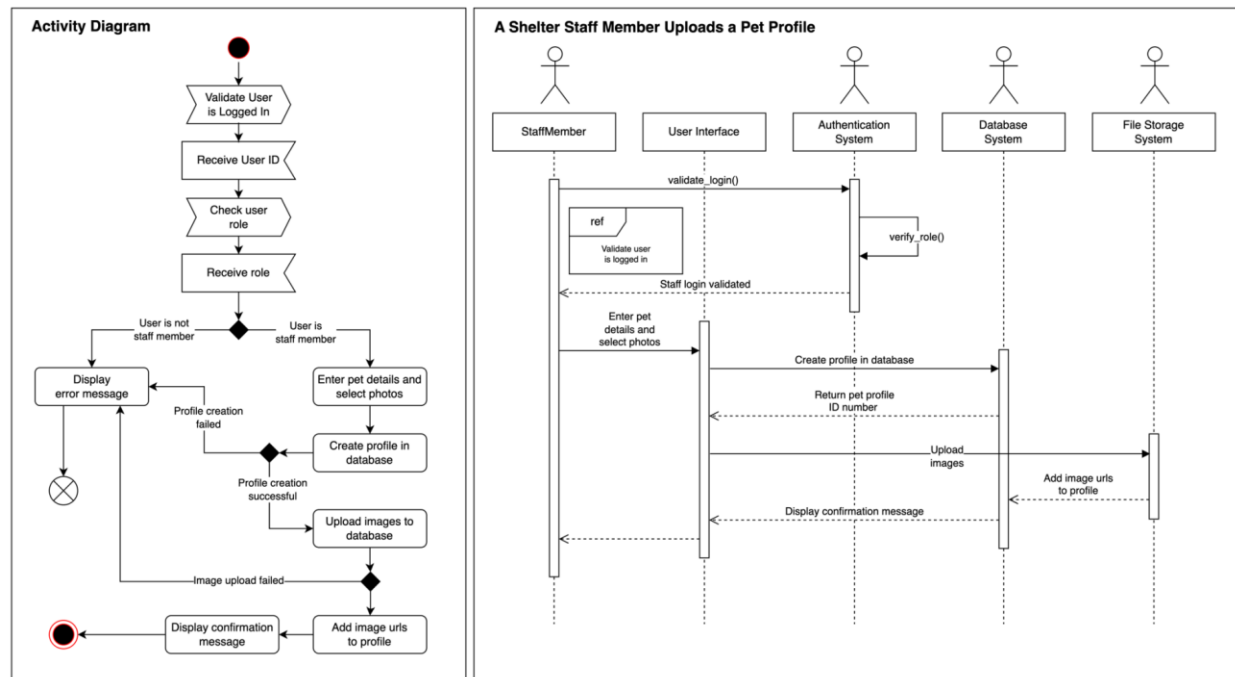
## Non-Functional Requirements

Requirement #	Category	Subcategory	Priority	Description
REQ-22	Functionality	Completeness	1 - HIGH	The system should meet all core functionalities for each user role (guests, administrators, shelter staff, prospective pet parents), as specified in this document.
REQ-23	Functionality	Compatibility	2 - MEDIUM	The system's behavior and functionalities should be consistent across all platforms and devices.
REQ-24	Functionality	Security	1 - HIGH	User data, pet information, and system access should be protected with proper authentication, authorization, and encryption measures.
REQ-25	Functionality	Interoperability	4 - OPTIONAL	The system might be able to integrate with other/existing shelter databases or apis where needed.
REQ-26	Usability	User Interface (UI)	2 - MEDIUM	The app interface should be intuitive, user. Friendly, and visually appealing for to all users.
REQ-27	Usability	User Experience (UX)	2 - MEDIUM	The system should be easy to navigate and learn, offering a smooth and enjoyable experience for all users.
REQ-28	Usability	Accessibility	1 - HIGH	The app should be accessible to users with disabilities, complying with accessibility standards.
REQ-29	Usability	Help And Support	3 - LOW	Clear and easily accessible help documentation and support should be available in the app.
REQ-30	Reliability	Availability	1 - HIGH	The system should be highly available with minimal downtime. Users should be able to access the system whenever needed.
REQ-31	Reliability	Fault Tolerance	4 - OPTIONAL	The system should be resilient to errors and failures. There should be mechanisms for automatic recovery and data backups.
REQ-11	Reliability	Performance	1 - HIGH	The app should have fast loading times and responsiveness, avoiding lags or delays that hinder user experience.
REQ-12	Performance	Scalability	2 - MEDIUM	The system should be scalable to accommodate a growing user base and increasing data volume without performance degradation.

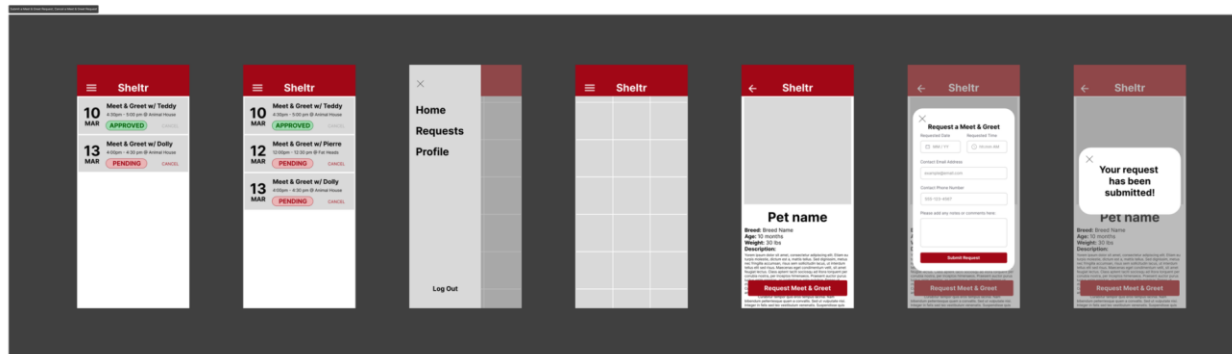
REQ-13	Performance	Efficiency	3 - LOW	The system should utilize resources efficiently, avoiding unnecessary CPU or memory usage.
REQ-14	Performance	Response Time	2 - MEDIUM	The app should respond quickly to user actions and requests, meeting responsiveness expectations.
REQ-15	Supportability	Maintainability	3 - LOW	The system code should be well documented, modular, and easy to Understand for future maintenance and updates.
REQ-16	Supportability	Testability	1 - HIGH	The system should be designed with testability in mind. It should allow for thorough testing and debugging.
REQ-17	Supportability	Configurability	3 - LOW	The system should be configurable. The data model should be able to adapt to Specific needs of different shelters and environments.

## System Sequence And Activity Diagrams





## User Interface Specification



### User Action 1 - Request A Meet & Greet:

1. Tap on a picture on the pet grid to navigate to the profile
2. Press the “request a meet & greet” button
3. Enter time, date, contact information, and any notes for the shelter
4. Press the “submit request” button
5. A success message will be displayed, which can be dismissed by pressing the x button or anywhere outside of the modal.

### User Effort: MEDIUM

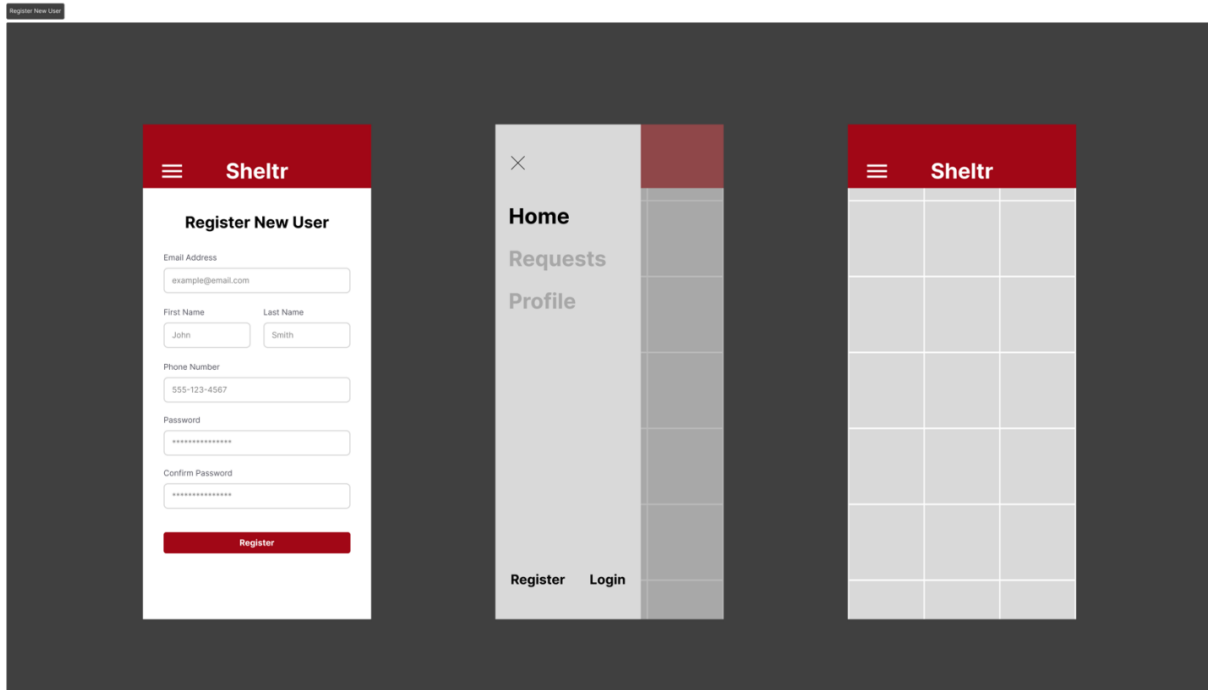
This action requires up **to nine taps** for a logged in user from the home screen (pet grid) to complete, assuming all form fields in the request are completed. There are two dropdown menus (date and time) and three text fields (email, phone, and notes) in this flow.

**User Action 2 – Delete A Meet & Greet Request:**

1. Tap on the “hamburger” menu icon to access the menu drawer
2. Tap on “requests” to view all upcoming meet & greet requests
3. Press the “cancel” button on the corresponding request to cancel

User Effort: LOW

This action requires **three taps** for a logged-in user from the home screen (pet grid) to complete.



**User Action 3 – Register A New Meeting:**

1. Tap on the “hamburger” menu icon to access the menu drawer
2. Tap on “register” to navigate to the “register new user” form
3. Enter an email address, first name, last name, phone number, and confirmed password 4) press the “register” button
4. A successfully registered user will be routed back to the home screen as a logged-in user

User Effort: HIGH

This action requires **nine taps** for a guest user from the home screen (pet grid) to complete.



View a live interactive demo of the user interface prototype in Figma [here](#)



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## Project Plan

Week #	Milestone	Complete?
3	Design class diagrams and begin drafting UI prototype in Figma	✓
4	Integrate google cloud services into project, validate authentication and data i/o services are successfully deployed	✓
5	Build initial menu and page scaffolding for app, connect backend providers to each contextual view (ensure authentication session carries over from one context to another)	✓
6		
7	Design widgets for pet profiles, parent profiles, implement “add new pet” and “edit pet” functionality, validate image storage is functioning as expected	
8		
9	Implement search and filter functionality for adoptable pets	
10		
11	Design widgets for and implement “meet and greet request”, “upcoming appointments”, and “meet and greet approval” screens	
12		
13	Implement user experience segmentation. Restrict functionalities available to the user based on their role as guest, shelter, adopter, or system administrator.	
14	Leave this time open to allow for any delays, potentially implement any of the optional features listed in the system requirements section	
15	Perform final testing, capture validation screenshots, assemble final report	
16	Present application and final report	

## Reference

### Glossary Of Terms

- **User:** anyone using the sheltr app, including guests, prospective pet parents, shelter staff, and system administrators.
- **Guest:** unregistered user browsing animal profiles without an account.
- **Prospective pet parent:** a registered user interested in adopting an animal through sheltr.
- **Shelter staff:** authorized users representing an animal shelter on the sheltr.
- **System administrator:** user with ability to manage user accounts, data, and settings.
- **Animal profile:** a detailed page showcasing information about an adoptable animal.
- **Meet-and-greet:** an arranged meeting between a prospective pet parent and a shelter representative regarding a specific animal.