Software Engineering
Software Requirements Specification (SRS) Document

OnlyPets

02/14/23

1.0

By: Erin Argo, Andrea Bonola and Duncan Bruce

Integrity Policy Statement My words and actions will reflect AcademicIntegrity. I will not cheat or lie or steal in academic matters. I will promote integrity in the UNCG community.

Table of Contents

1. Introduction

1.1. Purpose

The goal of the OnlyPets application is to allow animal lovers to share pictures of their beloved pets so that other animal lovers can admire them and show their appreciation.

1.2. Document Conventions

The purpose of this Software Requirements Document (SRD) is to document the client-view and developer-view requirements of the OnlyPets project. In it, we will keep track of the different types of users to our system as well as the requirements

1.3. Definitions, Acronyms, and Abbreviations

Java	A programming language originally developed by James Gosling at Sun Microsystems. We will be using this language to build the Restaurant Manager.
MySQL	Open-source relational database management system.
.HTML	Hypertext Markup Language. This is the code that will be used to structure and design the web application and its content.
SpringBoot	An open-source Java-based framework used to create a micro Service. This will be used to create and run our application.
MVC	Model-View-Controller. This is the architectural pattern that will be used to implement our system.
Spring Web	Will be used to build our web application by using Spring MVC. This is one of the dependencies of our system.
Thymeleaf	A modern server-side Java template engine for our web environment. This is one of the dependencies of our system.
NetBeans	An integrated development environment (IDE) for Java. This is where our system will be created.
API	Application Programming Interface. This will be used to implement a function within the software where the current date and time is displayed on the homepage.

1.4. Intended Audience

The audience is as follows; Admins, Moderators, General users. Developers Andrea Bonola, Duncan Bruce, and Erin Argo have stakes in their grades for this assignment.
For the Admins, Mods, and Users, sections 1.1, 2.1, 2.2, 2.3, 2.4, 4.2.1, 5.3
For the mods and admins: 3.2
For the developers: Everything

1.5. Project Scope

The goal of this web application is to provide a fun online community to connect with and interact with other animal lovers.

The benefits of the project include:

- ★ Users are moderated on this platform, making sure that the content remains purely in the realm of the spirit of the application, which is sharing pictures of pets.
- ★ Real sense of love and happiness as users will have access to see the content posted by other users, which means more cute animals to like!
- ★ A competitive side can be satiated as users will have the ability to rate pictures of other users' pets.

1.6. Technology Challenges

Most of the technology listed in the 1.3 definitions section is new technology for the developers. One of our developers has had to work on getting mySQL to work on their environment.

1.7. References

2. General Description

2.1. Product Perspective

OnlyPets found its origin in a pet owner’s desire to share their love for their pet with the world and allow others to do the same without the constant derails and distraction present in other, more general social media platforms. The idea was originated by a pet owner for pet owners.

2.2. Product Features

The product features, starting with users, will allow for users to create accounts, post pictures of their own pets as well as rate the pictures and to rate the pictures of other community members. At the next level, moderators may timeout users they believe are not following community guidelines and the level above that, the administrator will be able to completely remove users or manipulate their content.

2.3. User Class and Characteristics

Our website application only requires users to know how to navigate web browsers. Most of the features available will be very intuitive to use.

2.4. Operating Environment

This application will be available only on the web, but should work on most if not all browsers.

2.5. Constraints

2.6. Assumptions and Dependencies

The software will be dependent on Spring Web and Thymeleaf in order to create and execute the MVC architecture that will be developed within whatever IDE each developer chooses to use.

3. Functional Requirements

3.1. Primary

★ FR0: The system will display a feed of pet pics posted by the community.
★ FR1: The system will allow the user to enter a new pet picture into the collection of already posted pet pics.
★ FR2: The system will allow the user to rate the pet pics in the pet feed.

3.2. Secondary

★ Password protection for information only accessible to users, moderators and administrators.
★ Authorization scheme so that users can only alter their own content and no other users' orders. Moderators can penalize users not following guidelines and only administrators can remove users completely.

4. Technical Requirements

4.1. Operating System and Compatibility

The application will be compatible with any operating system that is able to view and to interact with traditional web pages.

4.2. Interface Requirements

4.2.1. User Interfaces

The home screen will have the following elements:

- Hamburger menu in the top left; This menu will have the following anchor links (displayed as icons) that will display when the button is clicked (fixed display)
    - Home
    - Settings
    - Logout (only displayed when user is logged in)
- Sign up/Log in anchor links in the top right (fixed display)
- OnlyPets logo at the top in the center
- A wrapper in the center and slightly below the logo for the main content (Images of pets)
    - Below the pet images, buttons for rating the image 1-5

4.2.2. Hardware Interfaces

OnlyPets will run on any hardware device that has access to the internet, the ability to display webpages, and the ability to interact with webpages. This includes, but is not limited to, desktop computers, laptops, smart phones, and tablets.

4.2.3. Communications Interfaces

It must be able to connect with the internet and upload image files.

4.2.4. Software Interfaces

We will use React and Spring Boot ThymeLeaf to help build the frontend, as well as JPA for the backend database functionality. We will also use Spring Boot with Java to connect the frontend to the backend.

5. Non-Functional Requirements

5.1. Performance Requirements

- NFR0(R): The novice user will be able to create an account in less than 3 minutes
- NFR1(R): The novice user will be able to post a picture in less than 2 minutes
- NFR2(R): The novice user will be able to log in in less than a minute.
- NFR3(R): The Website will update the Database with a new user in less than 10 seconds.
- NFR4(R): The Website will update posts upon refresh and take less than 20 seconds to populate.

5.2. Safety Requirements

To prevent users posting harmful content, Moderators and admins will be able to take their content down. Moderators will be able to time users out and admins will be able to ban the users.

5.3. Security Requirements

- NFR5(R): Only authorized users will be able to use the post and rating features.
- NFR6(R): User accounts will be password protected.
- NFR7(R): Session ID tokens will be used to authenticate the user.

5.4. Software Quality Attributes

5.4.1. Availability

Ideally, as a website, OnlyPets would be available as a website 24/7 with an expected 100% uptime. However, for the project, OnlyPets is available to those who have the source code and can run it.

5.4.2. Correctness

It should be expected that the app behaves as expected in all scenarios. However, you can refer to 5.8 for more information on what can go wrong.

5.4.3. Maintainability

We will probably not maintain this app but seeing as it's using well documented frameworks and we are keeping everything as simple as possible, it should be possible to maintain it well into the future

5.4.4. Reusability

It should be highly reusable - whatever code that's specific to only pets can be scrapped and you should still be left with a template website

5.4.5. Portability

Not very portable with a heavy java backend. Should be able to be run on any modern desktop but you'd have to do some work to get it to run on anything else. The front end should be able to run in any modern browser.

5.5. Process Requirements

5.5.1. Development Process Used

Agile Model.

5.5.2. Time Constraints

A prototype must be created and ready for presentation by 3/21/2023.

The design document for the OnlyPets project must be completed by 3/16/2023.

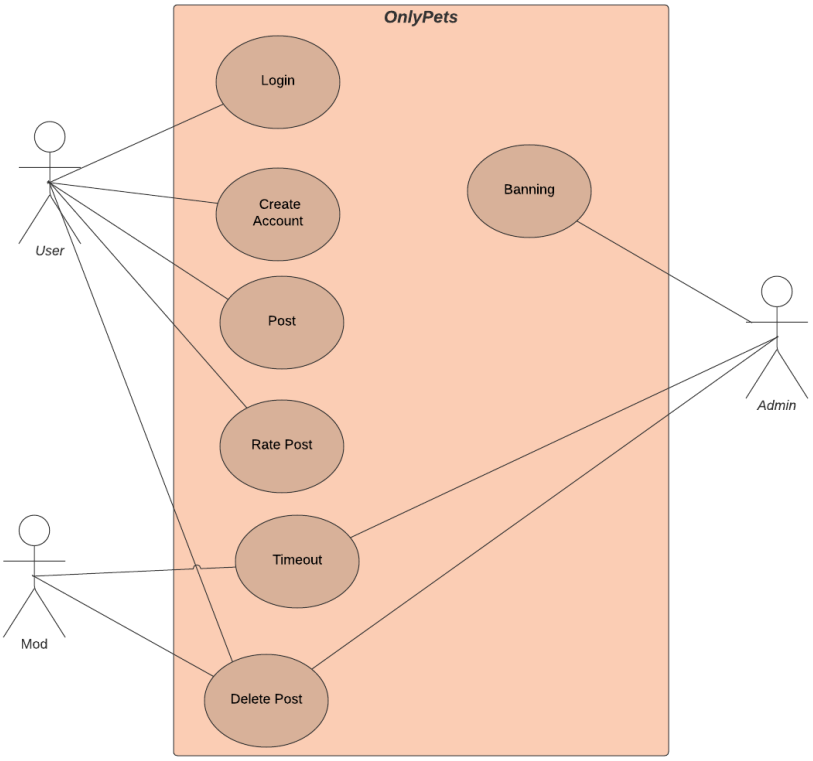
5.5.3. Cost and Delivery Date

The development cost of OnlyPets is $0.00. The delivery date for the OnlyPets web application is 4/18/2023.

5.6. Other Requirements

TBD

5.7. Use-Case Model Diagram



5.8. Use-Case Model Descriptions

5.8.1. Actor: User (Erin Argo)

- **Login**: Authenticates user
- **Post**: Posts picture to website
- **Rate Post:** Rating system for pictures, “Likes”
- **Create Account:** Creates user document (or table) in Database
- **Delete Post:** Can delete their own post

5.8.2. Actor: Moderator (Duncan Bruce)

- **Timeout**: Locks user account and prevents them from posting/rating/doing anything
- **Delete Post**: Can delete any user’s post

5.8.3. Actor: Administrator (Andrea Bonola)

- **Ban**: Prevents user from using the website

5.9. Use-Case Model Scenarios

5.9.1. Actor: User (Erin Argo)

- **Use-Case Name**: Login
    - **Initial Assumption**: User is authenticated
    - **Normal**: User can use the website
    - **What Can Go Wrong: invalid username, pass**
    - **Other Activities**:
    - **System State on Completion**: Session ID is saved
- **Use-Case Name**: Post
    - **Initial Assumption**: picture is saved
    - **Normal**: Once saved, picture is displayed to socket/session
    - **What Can Go Wrong**: Corrupted image or upload doesn’t complete
    - **Other Activities**:
    - **System State on Completion**: picture is saved
- **Use-Case Name**: Rate Post
    - **Initial Assumption**: Rating is incremented in db
    - **Normal**: displayed to socket/session
    - **What Can Go Wrong**: Displayed number is incorrect because of lag or update errors
    - **Other Activities**:
    - **System State on Completion**: rating is incremented
- **Use-Case Name**: Create Account
    - **Initial Assumption**: Account is created in DB
    - **Normal**: User should be able to login/change password
    - **What Can Go Wrong**: Cannot connect to DB
    - **Other Activities**:
    - **System State on Completion**: new user is created
- **Use-Case Name**: Delete Post
    - **Initial Assumption**: Post is deleted
    - **Normal**: Post is deleted
    - **What Can Go Wrong**: Request doesn’t get sent or is sent multiple times or multiple posts are deleted

- **Other Activities**:
- **System State on Completion**: Post is deleted

5.9.2. Actor: Moderator (Duncan Bruce)

- **Use-Case Name**: Timeout
  - **Initial Assumption**: User is flagged for timeout
  - **Normal**: Moderator sets a time in hours or days and user is deactivated until set time
  - **What Can Go Wrong**: DB Update Error
  - **Other Activities**:
  - **System State on Completion**: User is timed out

5.9.3. Actor: Administrator (Andrea Bonola)

- **Use-Case Name**: Ban
  - **Initial Assumption**: User is banned
  - **Normal**: User is denied access to the website
  - **What Can Go Wrong**: DB Update Error
  - **Other Activities**:
  - **System State on Completion**: User is banned

6. Design Documents

6.1. Software Architecture

6.2. High-Level Database Schema

6.3. Software Design

6.3.1. State Machine Diagram: Actor Name (Responsible Team Member)

6.3.2. State Machine Diagram: Actor Name (Responsible Team Member)

6.3.3. State Machine Diagram: Actor Name (Responsible Team Member)

6.4. UML Class Diagram

7. Scenario

7.1. Brief Written Scenario with Screenshots