

DAN SRS
Software Requirements Specification
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1. SRS Revision History	1
2. The Concept of Operations (ConOps)	1
2.1. Current System or Situation	2
2.2. Justification for a New System	2
2.3. Operational Features of the Proposed System	2
2.4. User Classes	2
2.5. Modes of Operation	3
2.6. Operational Scenarios (Also Known as “Use Cases”)	3
3. Specific Requirements	3
3.1. Functional Requirements	4
3.2. Usability Requirements	4
3.3. Additional Features Outside Current Scope	4
4. References	5
5. Acknowledgments	5

1.0 SRS Revision History

<u>Date</u>	<u>Author Initials</u>	<u>Description</u>
5.8.22	NM	Created draft/outline
	EB, JW	Sections 2-3
5.9.22	EB	Additions to sections 2-3, section 2.5 and 2.6
5.16.22	NM	Added information garnered from field interviews and online articles
5.17.22	EB	Additions to 2.1, edits to section 2.3, additions to section 3
5.28.22	NM	Cited academic literature in sections 2.1 and 2.2
6.6.22	EP, NM	Updated to include Flask and other MySQL changes

2.0 Concept of Operations (ConOPs)

The DAN web application is designed with the intention of pairing prospective dog owners with a pet that best fits their lifestyle and needs. Based on conversations we have had with veterinary practitioners and local dog adoption centers, we felt it would be best to have this application also emphasize the need of the dogs as much as the needs of the users. This application will also stress the time and budgetary commitments needed to fulfill the dog's needs.

The system will filter the profiles of adoptable dogs in the area based on the user's indicated lifestyle and each dog's care needs.

Dogs will be profiled and filtered based on needs including: exercise and social habits; health considerations; grooming and shedding preferences; and preferred lifespan.

2.1 Current System or Situation

Currently, there are multiple websites and apps that can be used to find a nearby dog to adopt. There are two major systems used by adoption agencies in the Eugene area to list their available pets. Petfinder (used by S.A.R.A.'s pet shop) and Petango (used by Greenhill Humane Society) both maintain dog profiles for thousands of adoption centers, and allows a user looking for a dog to filter by zip code (and distance from zip code), breed, age, size, and "good with" (other dogs, cats, children). Petfinder has additional filters including "days on Petfinder", coat length, and care/ behavior (house trained or special needs).

There are also quizzes that allow people who may be inexperienced with dogs to find what dog would emotionally and environmentally be the right breed of dog for them. The results of these quizzes are generally a specific breed.

2.2 Justification for a New System

This system is too regimental and makes it more difficult for mutts and dogs whose personalities don't match their breed to get adopted. In addition, lots of people go through the adoption process only to return the dog later because they weren't able to support the dog's needs. The COVID-19 pandemic saw a huge demand for young puppies in order to fulfill human desires for companionship (Ho *et al.* 2021). Following this demand was an almost equally large number of people returning their puppies (Iacobazzi 2021). The current market is not doing enough to help people find dogs that best fit their needs.

There are multiple behavioral attributes that need to be considered in order to find the right personality match (Nutrisource 2022), and dog breed is not a determinative factor for these personality traits (Grimm 2022). In addition, the responsibility and commitment that needs to be undertaken for a new pet need to be better emphasized. Our application serves as a dual-edged research tool that allows users to both find a dog that works for them and also informs them of what amount of commitment is needed on their part. A quiz is an interactive and engaging way for the system to learn what a user's preferences for a dog are, as well as their limitations, both of which the user might not know.

2.3 Operational Features of the Proposed System

The goal of the DAN application is to combine two functionalities:

- a) Finding a compatible dog that is available for adoption nearby.
- c) Summarizing the companionship needs (perhaps through a short bio) of the dog.

2.4 User Classes

1. **Experienced User:** A user experienced with dogs may already know what kind of dog they want. In which case, they can go straight to functionality b: finding a dog.
2. **Inexperienced User:** A user inexperienced with owning a dog will be encouraged to take our quiz to find what kind of dog they might be looking for.
3. **Admin:** The workers of pounds and adoption centers that would use this software. They need to be able to enter new dogs into the database. **The Admin feature is incomplete due to the unexpected difficulty of implementation. It will be finished in a future version of the application.**

2.5 Modes of Operation

1. **User Mode:** The IX server is running, and the user runs DAN which gains client access to the server and associated database. There are two different user sub-modes for experienced and inexperienced users.
2. **Administrator (Admin) Mode:** With the server running, admin users are able to make changes to the database entries. The system will have an option for the admin to create a dog profile using a “quiz” format, or by directly entering information into a new profile. **Incomplete feature - see section 2.4.3.**

2.6 Operational Scenarios (Use Cases)

2.6.1 Use Case: Inexperienced User Finds a Dog

An inexperienced user would be quizzed on what kind of dog best fits their needs. Then, the DAN application would help them find a dog nearby.

Actors: A potential dog owner (inexperienced user)

2.6.1 Use Case: Experienced User Finds a Dog

An experienced user will not need to be quizzed on what kind of dog they need. The DAN application would help them find a dog nearby.

Actors: A potential dog owner (experienced user)

2.6.2 Use Case: Administrator Creates a new dog profile

Admin users (e.g. adoption center workers) can add a new dog's profile to the database.

Actors: An admin user

Incomplete feature - see section 2.4.3.

3.0 Specific Requirements

On the day of final submission, DAN will be able to take in user preferences and match the user with a dog that best matches those preferences. Following dog matching, the user will be able to view a report of the amount of time and energy that will be needed to fulfill the needs of the dog. DAN will be a web application with a SQL database. The front-end interface will be implemented using the Python-based Flask framework.

3.1 Functional Requirements

Quiz/ User Quiz Development

- The system will allow a user to take a multiple-choice quiz. The user will be required to answer all questions on the quiz in order to continue.

Matching/ Ordering Dog Profiles

- After a user completes the quiz, the system will display all dogs that are determined to be a feasible match for that user (this display will not be limited to a single “match”).
- If a user has not completed the quiz/ is not logged into a profile, they can still view the dog profiles in the system, but they will be ordered arbitrarily.
- **[optional]** This feature is incomplete. In a future version of the software the dog profiles will be roughly ordered so that the most compatible dogs are shown first, and dogs that may be less compatible will be shown later in the list display.
- **[optional]** This feature is incomplete. In a future version the user will be able to choose to show or hide dogs that are determined incompatible
- **[optional]** This feature is incomplete. When it is completed the users will be able to manually select the filters that are used in the matching process.

Dog Profile

- Our goal was to allow the user to view the details of an individual dog’s profile in a popup window / a separate application view. We ended up having it redirect to a new webpage in the same window.

3.2 Usability Requirements

Target Platforms

- The software should run on a laptop or desktop machine in the latest version of Windows, MacOS, and Linux.
- The program should additionally run in a web browser to maximize usability.
- **[optional]** This feature was not achievable with the time we had. The web app version will run on a smartphone device, but it will not be designed or tested with a smartphone or tablet in mind.

Data Storage

- Data will be stored on a server using MySQL.

3.3 Additional Features Outside Current Scope

We believe that this product fills an existing need for users who are looking to adopt a dog from a local shelter, and we believe there are many additional functions that would serve this need and further serve the needs of adoption center administrators. However, because this is a project that is to be completed within a specified timeframe, there are a few features we will not attempt to implement, but we see as useful for future iterations of this software.

Login

This feature could not be completed. In a future version the user will have the option to save their profile after completing the quiz. In this case, they will be asked to provide an *email address* and a *password* and can use these credentials to log into their account again on startup. There should not be any additional login credentials.

Adoption Application Process

The content of our quiz is based on our research into dog needs and by forms that are used by adoption agencies to approve or deny applicants to adopt a dog. It would be possible to allow users to simply use the profile created in this application to serve as an application that can be evaluated by the staff at an adoption center.

4.0 References

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5.0 Acknowledgements

We'd like to thank Megan Burroughs, the community engagement and humane education director at Greenhill humane society for meeting with us to discuss the role our application could play in the dog adoption process. We'd also like to thank veterinarian Brenda Thomas (Elizabeth

Bailey's aunt) for telling us more about the needs of different dog breeds that new pet owners should be considering.