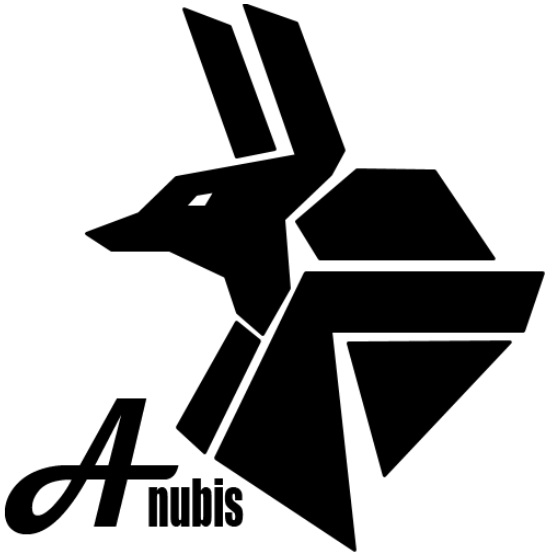

Requirements Document V1

Team Anubis

November 23, 2016

Sponsor:

Cindy Brown, Assistant Director of Development at NAU
on behalf of the NAZ Animal Welfare Task Force

Faculty Mentor:

Steven Jacobs, Lecturer SICCS

Frankie Berry
Steven Gruenewald
Marjorie Hahn
Riley Shelton
Matthew Siewierski

Accepted as baseline requirements for the project:
Client: _____
Date:_____
Team: _____
Date:_____

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1. Introduction

We are Team Anubis. Our members include Frankie Berry, Steven Gruenewald, Marjorie Hahn, Riley Shelton, and Matthew Siewierski. Our project is to create a pet adoption website for the NAZ Animal Welfare Task Force. The task force together helps over 4800 pets each year. The website will allow potential student adopters to input data about themselves and be matched to a pet that fits their lifestyle.

The project sponsor, Cindy Brown, is the Assistant Director of Development at NAU, and the former director of the Second Chance Center for Animals in Flagstaff. The NAZ Animal welfare task force consists of all the major pet adoption agencies in northern Arizona including the Coconino Humane Society, Paw Placement, and Second Chance Center for animals. Other members of the task force include Diane Jarvis (board of directors at paw placement), Sean Harkins (Executive director at Second Chance) and Carolyn Burrell (board of directors at Coconino Humane Society). This task force came together less than a year ago to help animal welfare in northern Arizona and this project is its first culmination. The CIO of NAU, Steve Burrell, has offered to fund and host the project for us.

This document is used to specify the requirements of the project in detail. We will begin by describing the problem that we are trying to solve with our system, then we will go over the solution that we have determined to be the best course of action. This will be followed by the requirements for the system and project in detail, which will be broken down to the functional requirements, non-functional requirements, and environmental requirements. We will discuss the potential risks involved with the system, and our plan for development. Finally, we will end the document with a conclusion and our references.

2. Problem Statement

The NAZ Animal Welfare Task Force came together to help get animals in northern Arizona the aid and care that they need. The first problem that the task force has decided to solve is the frequent rate at which students are abandoning animals. Many NAU students come up to Flagstaff and decide to adopt a pet while they are going to school. Later to realize that they cannot provide for it properly and end up returning it to the shelter or, even worse, abandoning it. Such events can be traumatizing to the animals, so the task force is looking for a tool that will help adopters choose an animal that they will keep permanently and help prevent irresponsible students from adopting an animal in the first place.

Current Work Flow

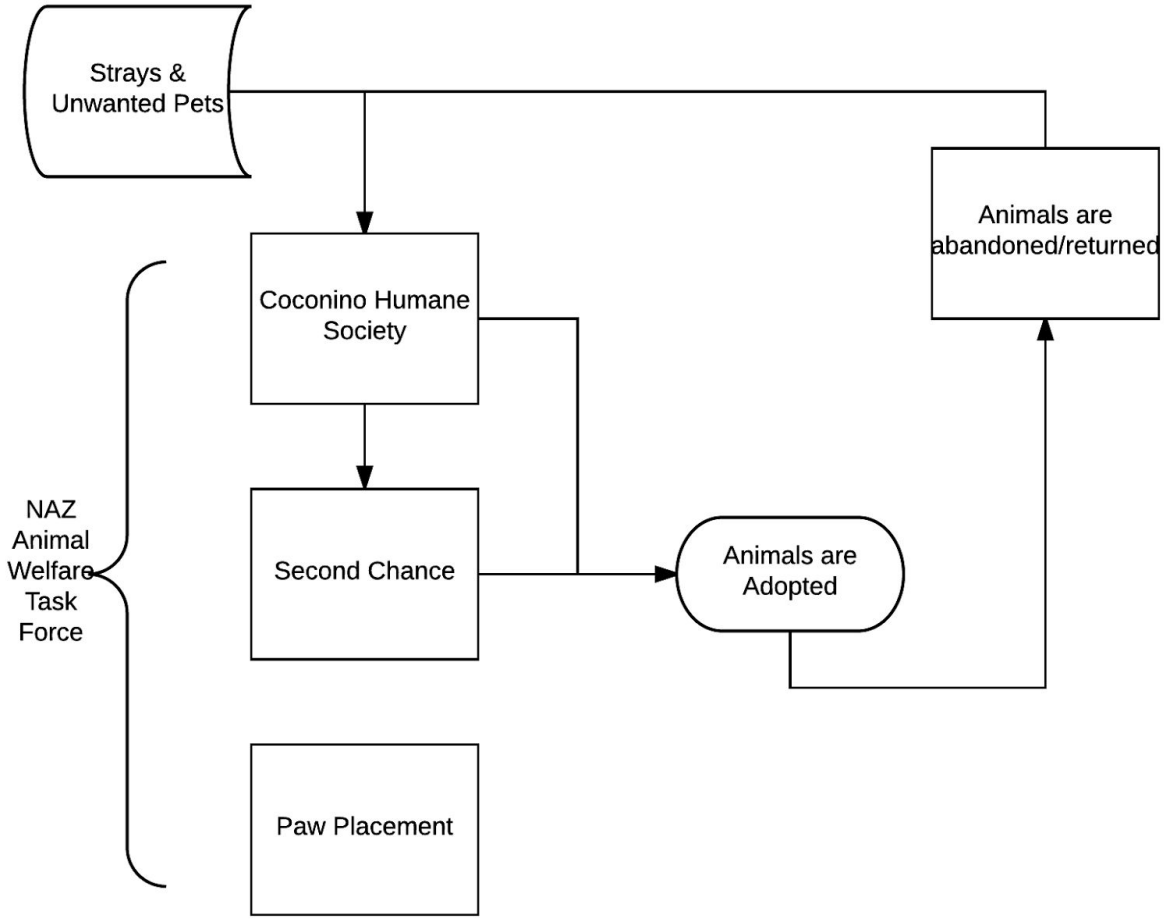


Figure 1

Problem Summary:

- Anyone can adopt a pet even if they are not financial able to or emotionally ready for it.
- The following items can result in an unhealthy environment for a pet:
    - Small space
    - Not enough attention
    - Not enough exercise
    - Not enough money to pay for veterinary medical care
- These concerns are evident:
    - Unwanted pets are abandoned or returned to the shelter

    - Animals are traumatized, making it difficult to readopt them

Current System Issues [Fig 1]:

- Only provides web links to other pet adoption organizations.
- Selection is based on looks and breed of the animal.
- No education system for the adopter.
- No screening of pet adoption readiness.

Obstacles for New System:

- Maintainability for the task force.
- Integration with current pet databases.

3. Solution Overview

3.1. Overall Solution

The solution that we have proposed to fit the client's needs is a website application that will match students to shelter animals based on compatibility traits regarding lifestyle and personality. This will help ensure that students do not return pets to the shelter as often since they will be more likely to keep an animal with which they are matched with.

The system will match students to animals using a questionnaire that a student would fill out upon creating an account. Furthermore, this website will also serve as an educational tool for students by informing them about the responsibilities and costs of becoming a pet owner. This will help dissuade students who should not adopt an animal from becoming pet owners, and thus decrease the number of pets returned or abandoned.

The following bullet points reveal specific features that the website will have so as to fulfill the requirements, separated by student, shelter and admin users:

- Administrators will be able to:
    - Add, remove, and edit pet information on the website.
    - Modify the questionnaire that students will fill out to allow for future maintainability of the website.
    - Add new administrators to the system.
    - Generate reports on the system.
- Students users will be able to:
    - Create an account so that they can refer back to their pet matches.
    - Fill out a questionnaire so as to be matched to compatible animals.

    - View educational advice on adopting an animal.
    - Get redirected to rent-a-puppy or fostering events if adoption is not a suitable option.
- Shelter users will be able to:
    - Added and modify one animal at a time into the system.
    - Import an excel sheet or CSV file into the system containing the information of the animals.
    - Connect with an existing database.
    - Get notifications when a student user has expressed interest with an animal, and will receive their corresponding report concerning if they have been deemed fit for adoption by the system.

3.2. Data Processes

The system will utilize existing databases of animal information from sources such as PetPoint. PetPoint is a database management system that many shelters in northern Arizona use to store information that they have on animal rescues. [1] We are expecting to have a few, large imports of this data in the beginning so all the current shelter data does not have to be entered in manually. Once these larger imports are finished, administrators on our website will be able to maintain it on their own by modifying, removing, and adding animals to the system through the website itself.

We will also be storing things including login information and animal match results. These will be generated by the system as users create their accounts and fill out questionnaires. This way, users will be able to log back in and still see all of their animal matches.

The main data transformations are illustrated in Fig 2. Students and administrators creating new accounts will have their information saved in our database. Administrators adding, modifying, or removing animal data will alter the database accordingly. Administrators modifying the questionnaire that students fill out will alter what questions the student sees. Students filling out this questionnaire will have their results stored in the database so that they can view their matches at any time.

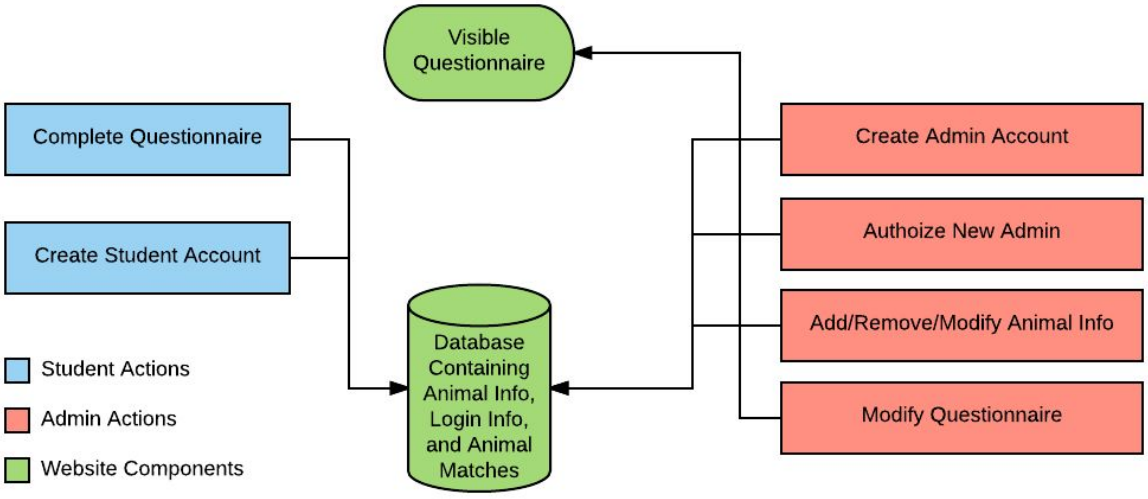


Figure 2

3.3. Software Usage

This website will not necessarily change the way that the current adoption process works. Users will be matched to animals, and then it will be their responsibility to go to the shelter and complete the adoption themselves. Adoptions will not be handled through this website. Instead, what this system will change is the number of pets that end up getting returned to the shelter or abandoned because a student was not yet ready to adopt a pet, or adopted a pet that did not suit their lifestyle or personality.

Originally, our sponsor wanted a mobile application that could help to match pets to student. However, we decided that this would not be the best option since, unless the user is fostering quite a few animals, adopting a pet is not something that the user will do very often. It seemed odd to us to develop this tool as a mobile application since the user would have to download it to find an animal to adopt, and then not have anymore use for it. A website made more sense to us since it will be available to any user with an appropriate web browser and an Internet connection, without the need for downloading a specific application.

In the future, it is possible that this application will be extended to other universities to help inform students interested in adopting an animal about the responsibilities involved as well as connect them to potential pets that are suitable for them. Learning to take care of another creature is a vital part of becoming a responsible adult and member of a community. Abandoning pets on the side of the road or returning them to a shelter are not the traits of a responsible member of the community. Thus, this website could become a tool that many universities use to help teach their students what it means to take care of something other than themselves and help their students gain some practical life skills.

4. Project Requirements

4.1. Functional Requirements

4.1.1. Regarding all System Users

4.1.1.1. The system will allow all users to login to their [system name] account.

4.1.1.2. The system will allow all users to logout of their [system name] account.

4.1.2. Regarding student Users (Potential Pet Adopters)

4.1.2.1. The system will allow student users to create a profile for use in the system.

4.1.2.2. The system will allow student users to complete a lifestyle questionnaire.

4.1.2.3. The system will allow student users to complete a personality questionnaire.

4.1.2.4. The system will assess the questionnaires to determine if the student user is ready for adoption.

4.1.2.5. The system will create “pop up” events during the completion of the questionnaire to show the student user the “correct” answer and the educational opportunity around that question.

4.1.2.6. The system will take the information given by the user and match it to potential animal matches in the system.

4.1.2.7. The system will display the matches for a user to the user.

4.1.2.8. The system will display all animals in the system for a user.

4.1.2.9. The system will show the user if there are determined by the system to not be fit for adoption, other options such as foster and rent-a-puppy events.

4.1.3. Regarding shelter Users

4.1.3.1. The system will allow shelter users to input the information for a single animal for their shelter into the system.

4.1.3.2. The system will allow shelter users to ingest information by importing a file (excel, CSV, etc.) into the system.

4.1.3.3. The system will allow shelter users to ingest information from a connection to a third party service, such as PetPoint.

4.1.3.4. The system will allow shelter user to change the information about an animal contained within the system, e.g. personality traits, photos of the animal, etc.

4.1.3.5. The system will allow shelter users to “delete” an animal from the system.

4.1.3.6. The system will notify the shelter is a student user has expressed interest in an animal.

4.1.4. Regarding administrative Users

4.1.4.1. The system will allow admin users to create shelter’s for the system.

4.1.4.2. The system will allow admin users to remove shelter’s from the system.

4.1.4.3. The system will allow admin users to create shelter users.

4.1.4.4. The system will allow admin users to “delete” shelter users from the system.

4.1.4.5. The system will allow admin users to create admin users.

4.1.4.6. The system will allow admin users to “delete” shelter users from the system.

4.1.4.7. The system will allow admin users to add additional fields to the profiles of the user when they first create the profile e.g. birth year, expected graduation date, etc.

4.1.4.8. The system will allow admin users to add additional fields to the profile for the animal.

4.1.4.9. The system will allow admin users to export reports generated by the system.

4.1.5. Regarding reports

4.1.5.1. The system will generate a report on the number of users that have created and completed a questionnaire within the system.

4.1.5.2. The system will generate a report on the student user once the questionnaire has been completed, regarding their potential as an adopter. It will send this report to the shelter if the user has expressed interest in an animal.

4.2. Non-Functional Requirements

4.2.1. The system will have a responsive interface that will size to the respective screen of the user.

4.2.2. The system will have a same or similar experience across all platforms.

4.2.3. The system will have an intuitive interface for creation of a profile and the completion of the different questionnaire.

4.2.4. The system will clearly show the user the potential matches.

4.2.5. The system will use a content management system.

4.2.6. The system will will be hosted by the content management system.

4.2.7. The system will be easily maintainable for a sponsor representative.

4.2.8. The system will have documentation regarding the maintenance of the system.

4.2.9. The system will be heavily commented by the development team.

4.3. Environmental Requirements

4.3.1. The system shall be capable of being viewed on the following web browsers:

4.3.1.1. Chrome

4.3.1.2. Safari

4.3.1.3. Mozilla Firefox

4.3.1.4. Microsoft Edge

4.3.1.5. Opera

4.3.2. The system shall connect to the [system name] servers to achieve functionality.

4.3.3. The system shall connect to the PetPoint servers to pull data about animals at the shelters.

4.3.4. The system shall require an internet connection to send and receive data.

4.3.5. The system shall require all users to login into their account in order to use the system.

4.3.6. The system shall be developed as a responsive web application.

5. Potential Risks

The potential risks for this system are limited, though they still exist. Due to the nature of the sponsors, the key directive of the system is to educate students about the needs of adoption and the resulting responsibilities. Therefore, the utilization of the system is important as well as the stability of the system. Each of the risks are outlined in more detail below.

5.1. Not utilized

5.1.1. The primary risk for the system is that it is not utilized by the target market. This would impact the project goal significantly by leading to a lack of education about the adoption process as well as the needs of the animal. Another potential risk surrounding the utilization of the system is that educational opportunities which are a main focus of the system are ignored by the user, similarly affecting the system.

5.2. Client changes to system

5.2.1. During the maintainability period of the system after its deployment, the client modifying the system in response to user dissatisfaction with the screening or matching questions could result in changes that have the potential to break the system. For example, the removal of a section of the questionnaire that is pivotal to the matching system may result in inaccurate results given to the student user, which may adversely affect the adoption of an animal.

5.3. Frameworks Failing

5.3.1. The risk of the frameworks failing could result in the entire site becoming inaccessible; additional development time would be necessary in this case.

5.4. Server Changes

5.4.1. The possibility of a server change is highly probable due to the system being developed in a non-permanent development environment. This could result in complications with the system as a whole, as there may be compatibility issues with the final server hosting option.

5.5. Security Breach

5.5.1. Like any system, although it is unlikely, the potential for a security break is there. Due to this unlikelihood, the impact of this risk is fairly low. In any case, the information we are gathering is still sensitive in nature, so there is a need for security.

5.6. Legal

5.6.1. Due to the nature of the system and the collection of personal information, there is the risk of legal action from the user. Another legal concern would be if an animal that was matched through the system were to cause harm to someone. The system would not be held liable in this case due to the fact that it was only facilitating the match and not performing the final adoption; the liability would be placed on the shelter.

6. Project Plan

The project plan thus far is as follows and is subject to change [Fig 3].

6.1. Technology Feasibility Report

6.1.1. This document will outline the technologies we intend to use for the project and show to a degree that these choices are viable.

6.2. Requirements First Draft

6.2.1. This document will outline the project and its requirements in detail. This is subject to change.

6.3. Meetings with Sponsors

6.3.1. In this phase we will discuss question the team have with the project and show the sponsors what we have done since the last meeting.

6.4. Requirements Second Draft

6.4.1. This document will outline the project and its requirements in detail. This is subject to change after presenting it to the clients.

6.5. Learning of Technologies By the Development Team

6.5.1. In this phase we want to make sure the whole team understands what is required to use the decided technologies.

6.6. Functional Prototype

6.6.1. A fully functional prototype of the system, not all functionalities will be implemented.

6.7. Initial Design Review

6.7.1. In this we will present our project so far, outlining the details, the technology, and the requirements of the project.

6.8. Requirements Final Draft

6.8.1. This document will outline the project and its requirements in detail. This is the final copy of the document.

6.9. Product Integration

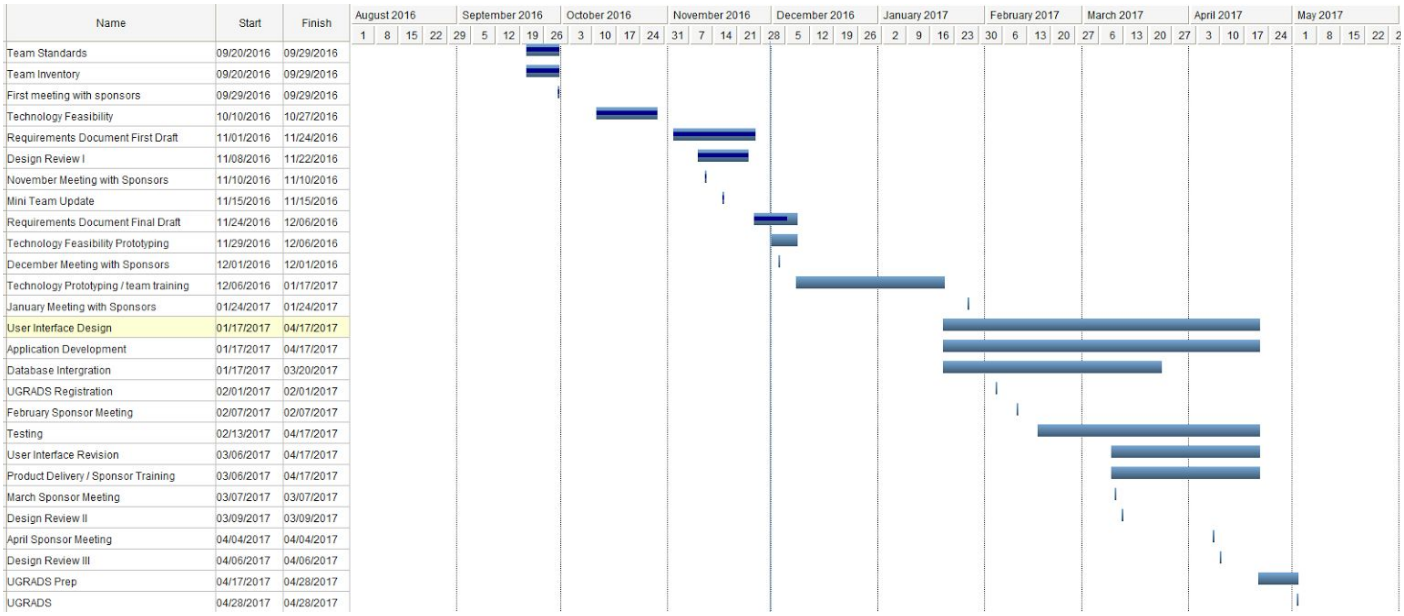
6.9.1. In this phase we will integrate all functions into the system

6.10. Product Styling

6.10.1. In this phase we will ensure the design of the system meets the needs and desires of the client.

6.11. Product Delivery

6.11.1. In this phase we will deliver the product to the client.



Name	Start	Finish
Team Standards	09/20/2016	09/29/2016
Team Inventory	09/20/2016	09/29/2016
First meeting with sponsors	09/29/2016	09/29/2016
Technology Feasibility	10/10/2016	10/27/2016
Requirements Document First Draft	11/01/2016	11/24/2016
Design Review I	11/08/2016	11/22/2016
November Meeting with Sponsors	11/10/2016	11/10/2016
Mini Team Update	11/15/2016	11/15/2016
Requirements Document Final Draft	11/24/2016	12/06/2016
Technology Feasibility Prototyping	11/29/2016	12/06/2016
December Meeting with Sponsors	12/01/2016	12/01/2016
Technology Prototyping / team training	12/06/2016	01/17/2017
January Meeting with Sponsors	01/24/2017	01/24/2017
User Interface Design	01/17/2017	04/17/2017
Application Development	01/17/2017	04/17/2017
Database Intergration	01/17/2017	03/20/2017
UGRADS Registration	02/01/2017	02/01/2017
February Sponsor Meeting	02/07/2017	02/07/2017
Testing	02/13/2017	04/17/2017
User Interface Revision	03/06/2017	04/17/2017
Product Delivery / Sponsor Training	03/06/2017	04/17/2017
March Sponsor Meeting	03/07/2017	03/07/2017
Design Review II	03/09/2017	03/09/2017
April Sponsor Meeting	04/04/2017	04/04/2017
Design Review III	04/06/2017	04/06/2017
UGRADS Prep	04/17/2017	04/28/2017
UGRADS	04/28/2017	04/28/2017

Figure 3. Project Schedule

7. Conclusion

Students often decide to adopt a pet while they are at school without knowing how much of a commitment it is to take care of them. This project will help reduce the number of pets adopted by NAU students who are unable to take care of them, and reduce the number of pets that end up back in a shelter.

Our goal for this project is to prevent students who are not ready to adopt a pet from adopting a pet. This is important because it can be traumatizing for animals to be relocated repeatedly, or abandoned on the street. This website will screen potential adopters to make sure they are in a position to be able to take care of an animal, and make sure they know what they are getting themselves into. The website will match students to shelter animals based on compatibility traits so there is less of a chance the animal will be returned.

This document defines the problem we are trying to solve, and provides an overview of our solution. It also details the requirements that must be met to complete this project. It also provides a schedule to follow to complete the milestones given in the project plan.

8. Definitions, Acronyms, and Abbreviations

8.1. System

8.1.1. The Northern Arizona Animal Welfare Taskforce pet adoption tool will be referred to as the system.

8.2. [System name]

8.2.1. This is a placeholder for the name of the system. This information has not been provided at the creation of this document. Once this information has been received from the sponsor(s) it will be updated accordingly.

8.3. Responsive Web Application

8.3.1. A web application that has an interface that changes according to the screen of the user. e.g. runs on a desktop, laptop, tablet, or smartphone.

8.4. Student User

8.4.1. A normal user that interacts with the system

8.4.2. Creates a profile

8.4.3. Views potential matches within the system

8.5. Admin User

8.5.1. A user that oversees the system, including updates and maintenance

8.5.2. They are able to add/remove student users

8.5.3. They are able to add/remove admin users

8.5.4. Generates reports

8.6. Digital Content

8.6.1. Digital content refers to the website and backend database for the system.

8.7. Content Management System

8.7.1. A Content Management System (CMS) is a computer application or program that supports the creation and modification of digital content

using a simple interface to abstract away low level details unless required, usually supporting multiple users working in a collaborative environment.

8.8. Lifestyle questionnaire

8.8.1. A questionnaire given to the student user (pet adoptor) to assess their lifestyle, including but not limited to the following:

8.8.1.1. Housing type

8.8.1.2. Activity level

8.8.1.3. Family status

8.8.1.4. 5-year plan

8.8.1.5. Amount of free time

8.9. Personality questionnaire

8.9.1. A questionnaire given to the user to assess their personality, including but not limited to the following:

8.9.1.1. Introvert / extrovert

8.9.1.2. Responsible, mature adult

8.10. Shelter

8.10.1. An animal shelter or shelter is a place consisting of stray, lost, abandoned, or surrendered animals which are mostly dogs and cats. The shelter is the organization that puts animals up for matching in the system.

8.11. PetPoint

8.11.1. A shelter management service used by the larger shelters in northern Arizona. E.g. Coconino Humane Society, Second Chance Animal Shelter.

8.12. Framework

8.12.1. The underlying structure of the system. More specifically, the framework is the software that the system is designed in and around.

9. References

1. PetPoint. (n.d.). Retrieved November 20, 2016, from PetPoint website: https://www.petpoint.com/.