



Happy Tails

*SW Engineering CSC648/848 Spring
2015*

<i>Milestone 5</i>	<i>Local Group 4</i>
<i>Aleksandr Kibis</i>	<u>kibis858@gmail.com</u>
<i>John Santos</i>	<u>santos.john24@gmail.com</u>
<i>James Klinkhammer</i>	<u>j.klinkhammer@yahoo.com</u>
<i>Harini Parthasarathy</i>	<u>parth.harini@gmail.com</u>
<i>Mats Jensen</i>	<u>matsjens1@gmail.com</u>

Date	Revision Number	Description
5/18/2015	v5.0	Final Document Submission

Table of Contents

1. Milestone 1: Requirements
2. Milestone 2: Mockups and Storyboard
3. Milestone 3: Horizontal Prototype
4. Milestone 4: Integration
5. Final Screen Shots
6. Team Member Contributions
7. Challenges

1. Milestone 1: *Requirements Gathering*

(Page left blank intentionally)



Happy Tails

*SW Engineering CSC648/848 Spring
2015*

<i>Milestone 1</i>	
<i>Aleksandr Kibis</i>	Kibis858@gmail.com
<i>John Santos</i>	Santos.john24@gmail.com
<i>James Klinkhammer</i>	j.klinkhammer@yahoo.com
<i>Harini Parthasarathy</i>	Parth.harini@gmail.com
<i>Mats Jensen</i>	Matsjens1@gmail.com

Table of Contents

1. Executive Summary
2. Use Cases
 - a) Children
 - b) Parents
 - c) Elderly
 - d) Admin
3. Data Glossary
4. Functional Specs
5. Non-Functional Specs
6. Competitive Analysis
7. System Architecture
8. Team

1. Executive Summary

Happy Tails is a team of developers set to provide superior software for animal adoption. Our team, comprised of five software engineers, focuses on incorporating the latest and the best technology in order to provide a great experience for both pets and their owners. Through these methods, we aim to facilitate the adoption of animals who are in desperate need of new homes.

The purpose of our product is to provide people who are seeking to adopt new pets with a simple, intuitive, and attractive set of tools to quickly and easily find pets which are in desperate need of new homes. In addition, we will provide a friendly environment where people that can no longer keep or take care of their pets can advertise their pet's need for a new home online to people looking to adopt new pets. This allows people to keep their pets in their own home while still able to do so, as well as have contact with would be adopters to ensure that their pets are going to good homes, rather than leaving them in the hands of a

shelter. This direct communication between adopter and adoptee is what will set us apart from the competition.

We will offer a sizeable collection of pets available for adoption. Our website will allow users to navigate through its pages and browse for these available animals easily. Additionally we will provide search filters allowing users who already know what they are looking for to find their desired pet quickly and efficiently.

Pet profiles will provide detailed information about the pets available for adoption. Users will be able to view images and, in some cases, a video of prospective animals to get to know them. They will also be able to read the pet's description, learn a little about its personality, and see if the pet fits their or their family's needs. This navigation will be obvious and simple so that users of all skill levels and ages will be able to browse and search for animals with ease.

Unlike other adoption sites, ours will also offer the ability for people to offer their pets up for adoption. This process will be as straight forward and intuitive as registering to adopt a pet. Users will register their profile and then register a profile for their pet. They will be guided through these steps to make this process as easy as possible and a pleasant experience for the user. They can upload videos and pictures of their pet as well as give a description so people get an accurate view of their pet's personality.

Users wishing to offer their pets up for adoption will be happy to know that they can keep their pets at home while waiting for someone to adopt it. For the adoptees sake, their contact information will only be given to registered users on request to prevent harassment and help make sure potential adopters are serious. Once someone has requested to adopt the pet, they will be able to contact the adoptee who can make sure their pet goes to a good home.

Our mission is to connect adopters, pets, and pet owners on a personal level and provide an excellent user experience for all parties involved. Our site will provide all of this in a mobile ready platform so that if the need ever arises our product could easily be expanded with mobile specific capability to provide a better dedicated mobile user experience.

2. Use Cases

a) Children: Browsing Pets

Andy is an 8 year old boy. His **computer skills are low**, but he knows how to browse a simple website and knows what he wants. His parents said he could have a dog for his birthday so Andy set out to find the perfect one. Andy visits our website and immediately notices an attractive picture of a dog with a label indicating that it is available for adoption. On clicking this picture, Andy is redirected to a page **listing** pictures of dogs which are up for adoption. He finds the perfect dog, clicks on it's

picture and is redirected to the dog's **profile**. Andy reads in the profile that this dog came from a family with children and is great with kids. He then sees that above the description there is a video that was uploaded by the current owners of the dog playing with their children. Impressed, Andy decides this is the dog for him and races off to show it to his parents.

b) Parents: Searching For a Pet

Beth is a 30 year old working mother. She has very **good computer skills** and knows her way around the web. She and her husband have agreed to adopt a pet for their son Andy. Andy has already shown her the profile of the dog he wants. She looks over the profile and checks which location is the pet is currently based in. Noticing that the location is not very far from where she lives, she decides to go ahead and contact the dog's current owners to fulfil the adoption formalities. She clicks on the button to adopt the pet and is redirected to the registration page. She enters her details, such as address, email, and her name in order to create an account. After her registration is confirmed, she logs in with the login credentials provided during registration. Once again she clicks to confirm her intention to adopt the dog and is now provided with the contact information of the owner, allowing her to contact them and adopt the dog.

c) Elderly: Putting a Pet Up For Adoption

Carl is a 74 year old **retiree**. He knows how to navigate the web, but his vision is not so good anymore. He is moving to New Mexico in a few months to be closer to his daughter. The apartment he is moving to does not allow pets so he must find a new home for his beloved cat Chester. He visits our website and finds a large and **easily legible** link to find a new home for pets. He clicks on this and is redirected to a information page mentioning steps to place an advertisement to give away pets for adoption. In this page he reads that with our site he can keep his cat Chester at home with him until he finds suitable new owners with whom he will have the opportunity to talk, or even meet to make sure they will take good care of chester. He decides to use our site and clicks the button to **register** his pet for adoption. He enters his personal information including **contact** details for a prospective customer to see when they decide to adopt chester and register. Carl is now redirected to the pet profile creation page. Here he uploads several pictures and is even shown an option to upload a video of Chester for people to see. Carl then fills out Chester's profile where he gives a good description of Chester including his behavior, age, as well as any information he may have about Chester's breed. He then submits the profile. A while later, he receives a

notification that Chester's profile has been reviewed by an admin and has been accepted and published on the site.

d) Admin: Monitoring the Website

Daniel is 43 years old and has **excellent computer skills**, given that she is the **administrator**. She gets a notification that a new user has registered their pet for adoption. She takes a look at the user's contact information to make sure that this is a genuine advertisement. She then reviews the pet's profile to ensure that the description and any pictures or videos that were uploaded with the profile are legitimate and are not **obscene or inappropriate**. Confirming the legitimacy of the profile, she approves it and makes it available on the website for users to see.

3. Data Glossary

Child: any person between the ages of 5 and 17.

Parent(s): any person with a child.

Elderly: any person over 55 years of age.

Admin/Administrator: any person with direct AND authorized access to the web server.

Skill Level:

- *Ok* – has basic knowledge of web browsing
- *Good* – is adept at browsing the web
- *Excellent* – anyone with computer programming knowledge

Contact Information: any and all information related to a user which may be used to log into the system, or get in contact with user.

Intuitive: access and understanding of content does not require prior research. A user should be able to easily comprehend what is displayed in front of them.

Diverse Selection: 3 or more category items.

Pet-owner: Person who owns a pet and can put its pet up for adoption.

Pet-adopter: Person who adopts pets from our website.

Pets: Pets are animals that can be adopted or put up for adoption from our website by a pet-owner or pet-adopter. It can be dogs or cats.

4. Functional Specs

#	Details
1	The application shall log users into their account if it exists.
2	The application shall log user out of their account if it exists.
5	The user shall be able to upload media to their listing.
6	The user shall be able to remove uploaded media for their listing.
7	The application shall display search/browsing results within a frame.
8	The application shall initiate database connection to query data.
9	The user shall be able to create an adoption listing if they have an account.
10	The user shall be able to remove only listings that are posted under their account.
11	The application shall add user account to website.
12	The application shall allow a user to delete their profile from the website.
13	The application shall play user submitted video on listing page if one exists.
14	The application shall rotate through pet images submitted by user on listing page.
16	The application shall generate an anonymous email link to protect user's identity.
17	With user permission, the application shall post adoption info to Facebook.
18	With user permission, the application shall post adoption info to Twitter.
19	The application shall present user with a list of likely-adoptable pets based on user preferences.
20	The application shall provide email communication. <ul style="list-style-type: none">● System -> All Users● Adoptee -> Poster● Admin -> Poster
21	The application shall retrieve a list of top 10 popular pets on the website, by view count.
22	The application shall retrieve pets who are in danger of being euthanized unless adopted soon.
23	The user shall be able to add a pet listing to a their "Favorites" tab.
24	The user shall be able to remove a pet listing from their "Favorites" tab.

5. Non-Functional Specs

Item	Details
1. Performance	<ul style="list-style-type: none"> • A non-cached version of the website shall load in 10 seconds or less • Page transitions shall take 5 seconds or less • Search query results shall display in 4 seconds or less
2. Expected Load	The website shall comply with the above performance requirements up to a maximum of 50 concurrent users.
4. Storage	Each user will be allowed to upload up to 50MB of content per listing.
6. Fault Tolerance	<ul style="list-style-type: none"> • The website shall keep constant backups of its data. • Server snapshots shall be made on a daily basis.
7. Accessibility	The website will be color blind friendly
8. Privacy	<ul style="list-style-type: none"> • A user's personally identifiable information shall not be given or sold to a 3rd party • Any personally identifiable user information shall be stored securely • All privacy policies will be appropriately communicated to the users
9. Scalability	The website shall be built with future expandability in mind
10. System requirements	All computers can be used to access the website but speed may vary depending on system build
11. Usability requirements:	Drastically improve usability for novice users, without impeding power users
12. Marketing, Legal	<ul style="list-style-type: none"> • Each WWW page shall have official company logo in upper left corner • The website shall <u>prominently</u> display the following text on all pages "SFSU/FAU/Fulda Software Engineering Project, Spring 2015. For Demonstration Only". • students must ensure that they have legal rights to use all posted content by taking pictures/videos themselves. Instructors will also provide some basic content e.g. images and videos.
13. Content	<ul style="list-style-type: none"> • File size in no time shall exceed 2 Mbytes • Files used to render content (MPEG, PDF, JPEG etc.)

6. Competitive Analysis

	Happy Tails	Petfinder	SFSPCA	Craigslist
User Experience	+	+	-	+
Pet Search	++	++	+	+
Adoption Listings	+	-	+	-

Animal Diversity	+	+	++	++
Multimedia Functionality	++	+	-	+
Newest Technology	+	-	-	-

*Our product will offer **more features** for users than our competitors on top of an **intuitive**, and **aesthetically pleasing** user interface. By limiting our pets to just cats and dogs, we can provide better search functionality than competitors who use more complicated search criteria. The most significant feature we will provide users with is the ability to put animals up for adoption as well as seek them out. The only competitor that offers this functionality is Craigslist, and our product will provide a superior user experience. In addition, we will provide **improved multimedia functionality** over competitors including the ability to view and upload videos of pets, as well as integration with popular social media services such as Facebook and Twitter. Finally, while our product will not provide the same quality of mobile usability as our competitors, it will still provide basic mobile compatibility via a scrolling layout, allowing for further expansion in the future.*

7. System Architecture

In order to conform to industry standards, we will be hosting our website in the cloud.

Item	Details
Architecture	<p>Three-Tier Architecture using LAMP stack</p> <p>Linux</p> <p>Apache</p> <p>Web Access: http://sfsuswe.com</p> <p>Location: Amazon EC2 Cloud</p> <p>Type: Ubuntu Server 14.04.1 LTS x64</p> <p>MySQL 5.5.32</p> <p>Web Access: http://sfsuswe.com/phpmyadmin</p> <p>Database Name: student_s15g04</p> <p>PHP 5.3.10</p>
Supported Browsers	<p>Standard desktop/laptop/mobile browsers</p> <p>Google Chrome v42.0.x and v41.0.x</p> <p>Mozilla Firefox 36.0.1 and 35.0.1</p>
Version Control	EC2-hosted SVN repository
Tools	NetBeans 8.0.2 IDE with PHP and SVN Plugins

Frameworks	Twitter Bootstrap v3.3.2 jQuery v2.1.3
Languages	HTML5 CSS3 JavaScript 1.8
Analytics	Google Analytics

8. Team

Aleksandr Kibis – *Chief Executive Officer*

John Santos – *Chief Technical Officer*

James Klinkhammer – *Business Analyst*

Harini Parthsarathy – *User Experience Lead*

Mats Jensen – *Senior Software Engineer*

2. Milestone 2: *Mockups and Storyboard*

(Page left blank intentionally)



Happy Tails

*SW Engineering CSC648/848 Spring
2015*

<i>Milestone 2</i>	<i>Local Group 4</i>
<i>Aleksandr Kibis</i>	kibis858@gmail.com
<i>John Santos</i>	santos.john24@gmail.com
<i>James Klinkhammer</i>	j.klinkhammer@yahoo.com
<i>Harini Parthasarathy</i>	parth.harini@gmail.com
<i>Mats Jensen</i>	matsjens1@gmail.com

Date	Revision Number	Description
4/1/2015	v2.0	Initial document submission
4/6/2015	v2.1	Revised per Dr. Petkovics recommendations

Table of Contents

1. Executive Summary
2. Use Cases
 - a) Children
 - b) Parents
 - c) Elderly
 - d) Admin
3. Data Glossary
4. Functional Specs
5. Non-Functional Specs
6. Competitive Analysis
7. UI Mockups and Storyboard
8. System Architecture and Data Organization
9. High-Level UML Diagram
10. Key Risks
11. Team

1. Executive Summary

Happy Tails is a team of developers providing superior software for animal adoption. Our team, comprised of five software engineers, focuses on incorporating the latest and the best technology in order to provide a great experience for both pets and their owners. Through these methods, we aim to facilitate the adoption of animals who are in desperate need of new homes.

The purpose of our product is to provide people who are seeking to adopt new pets with a simple, intuitive, and attractive set of tools to quickly and easily find pets which are in desperate need of new homes. In addition, we will provide a friendly environment where people that can no longer keep or take care of their pets can advertise their pet's need for a new home online to people looking to adopt new pets. This direct communication between adopter and adoptee is what will set us apart from the competition.

We will offer a sizeable collection of pets available for adoption. Our website will allow users to navigate through its pages and browse for these available animals easily. Additionally we will provide search filters allowing users who already know what they are looking for to find their desired pet quickly and efficiently.

Pet profiles will provide detailed information about the pets available for adoption. Users will be able to view images and, in some cases, a video of prospective animals to get to know them. They will also be able to read the pet's description, learn a little about its personality, and see if the pet fits their or their family's needs. This navigation will be obvious and simple so that users of all skill levels and ages will be able to browse and search for animals with ease.

Unlike other adoption sites, ours will also offer the ability for people to offer their pets up for adoption. This process will be as straight forward and intuitive as registering to adopt a pet. Users will register their profile and then register a profile for their pet. They will be guided through these steps to make this process as easy as possible and a pleasant experience for the user. They can upload videos and pictures of their pet as well as give a description so people get an accurate view of their pet's personality.

Users wishing to offer their pets up for adoption will be happy to know that they can keep their pets at home while waiting for someone to adopt it. For the adoptees sake, their contact information will only be given to registered users on request to prevent harassment and help make sure potential adopters are serious. Once someone has requested to adopt the pet, they will be able to contact the adoptee who can make sure their pet goes to a good home.

Our mission is to connect adopters, pets, and pet owners on a personal level and provide an excellent user experience for all parties involved. Our site will provide all of this in a mobile ready platform so that if the need ever arises our product could easily be expanded with mobile specific capability to provide a better dedicated mobile user experience.

2. Use Cases

a) Children: Browsing Pets

Andy is an 8 year old boy. His **computer skills are low**, but he knows how to browse a simple **intuitive** website and knows what he wants. His parents said he could have a dog for his birthday so Andy set out to find the perfect one. Andy visits our website and immediately notices a section of **newest tails** where he sees picture dogs and cats recently made available for adoption. He sees the perfect **pet**, clicks on its picture and is redirected to its profile. Andy reads in the profile that this dog came from a family with children and is great with kids. He then sees that above the description there is a video that was uploaded by the current owners of the dog playing with their children. Impressed, Andy decides this is the dog for him and races off to show it to his parents.

b) Parents: Searching For a Pet

Beth is a 30 year old working mother. She has very **good computer skills** and knows her way around the web. She and her husband have agreed to adopt a pet for their son Andy. She looks at our site and checks out the **about us** section to see what our site does. Andy has already told her the name and **breed** of the dog he wants. She does a quick **search** using the dog's breed to find the pet. She looks over its profile and checks which location the pet is currently based in. Noticing that the **location** is not very far from where she lives, she decides to go ahead and contact the dog's current owners to fulfil the adoption formalities. She selects the option to adopt the pet and is redirected to the user registration page. She enters her details, such as her **address**, email, name, **username**, and **password** in order to create an account and then fills out the **CAPTCHA**. She notices an option to **mask E-mail** and selects it to protect her privacy. She submits the form and receives an error message saying that her password is too short, and that it needs to be at least 8 characters. She changes her password to fulfill the requirements and her registration is approved. After her registration is confirmed, she logs in. Once again she clicks to confirm her intention to adopt the dog and is now provided with the **contact information** of the owner, allowing her to contact them and begin the adoption process.

c) Elderly: Putting a Pet Up For Adoption

Carl is a 74 year old retiree and pet **owner**. He knows how to navigate the web, but his vision is not so good anymore. He is moving to New Mexico in a few months to

be closer to his daughter. The apartment he is moving to does not allow pets so he must find a new home for his beloved cat Chester. He visits our website and finds a large and navigates to the page to **put up for adoption**. In this page he reads that with our site he can keep his cat Chester at home with him until he finds suitable new owners with whom he will have the opportunity to talk with, or even meet, to make sure they will take good care of Chester. He decides to use our site and clicks the button to **register** his pet for adoption. He enters his personal information including contact details for a prospective customer to see when they decide to adopt chester and register. Carl is now redirected to the pet profile creation page. Here he uploads several pictures into a **slide gallery** and is given the option to upload a video of Chester for people to see. He gets an error message saying that his image-type is not supported, and that the only supported image-type is JPEG and PNG. He then finds another image that is supported. Carl then fills out Chester's profile where he gives a good description of Chester including his **age, gender, color, and size** as well as any information he may have about Chester's breed. He then submits the profile. A while later, he receives a notification that Chester's profile has been reviewed by an admin and has been accepted and published on the site. His pet is now available for viewing by potential **adopters**.

d) Admin: Monitoring the Website

Daniel is 43 years old and has **excellent computer skills**, given that she is the **administrator**. She gets a notification that a new user has registered their pet for adoption. He takes a look at the user's contact information to make sure that this is a genuine advertisement. He then reviews the pet's profile to ensure that the description and any pictures or videos that were uploaded with the profile are legitimate and are not obscene or inappropriate. Confirming the legitimacy of the profile, she approves it and makes it available on the website for users to see. Later, Daniel gets another notification of the same kind. Only this time the content is inappropriate and he does not allow it to get published. The person posting it also get a warning email.

3. Data Glossary

Child: any person between the ages of 5 and 17.

Parent(s): any person with a child.

Elderly: any person over 55 years of age.

Admin/Administrator: any person with direct AND authorized access to the web server.

Skill Level:

- *Ok* – has basic knowledge of web browsing
- *Good* – is adept at browsing the web
- *Excellent* – anyone with computer programming knowledge

Contact Information: any and all information related to a user which may be used to log into the system, or get in contact with user.

Intuitive: access and understanding of content does not require prior research. A user should be able to easily comprehend what is displayed in front of them.

Diverse Selection: 3 or more category items.

Owner: Person who owns a pet and can put his/hers pet up for adoption if he/she is registered.

Adopter: Person who adopts pets from our website. Does not need to be registered.

Animal (Pet): An animal that can be adopted or put up for adoption from our website by an owner or adopter. It can be a dog or cat.

Breed: What kind of species the animal is.

Gender: The gender of the pet (male or female).

Color: The color of the pet.

Age: The age of the pet (puppy, young, adult, senior).

Size: The size of the pet (small, medium, large).

Service Animal: Many people require service animals, be it due to a disability or simply because of where they live. This search option makes it easy to find them.

Location:

Pet Name: The name of the pet.

Register: Animals that are registered by registered users to our website.

Username: The name the user creates under registration and uses it to login to our website.

Password: The password the user creates under registration and uses it to login to our website.

Address: Address of the **Pet_adopter** or the **Pet_owner**.

Favorites: A list of pets which have been “starred” by a user. These pets are then available for the user to review via their account panel.

About Us: A page dedicated to Happy Tails company, listing team member profiles.

CAPTCHA: An image aimed at reducing the effects of spam. A user is required to enter the text displayed by the image in a box before sending messages or creating a user account.

Newest Tails: A list of most recently added animals to the Happy Tails website.

Slide Gallery: When a user adds multiple photos of their pet, a slide gallery is displayed on the pet profile page. This allows for easy navigation through the multiple pictures using arrows.

Pet Care Info: A page listing quick tips on taking care of your newly adopted pet! External links are also available for an in-depth look.

Put Up For Adoption: If a user is logged in, clicking this menu item brings up the Put Up a Pet For Adoption page where a user can list their pet on our site. If a user isn’t logged in, they will be prompted to do so or register.

Search: A combination of filters and keyword search, making it extremely easy to find the perfect pet!

Mask E-mail: A user-selected option allowing for a domain mask to be applied to the account e-mail address. This way privacy will be retained and the e-mail will no longer be usable upon account deletion.

4. Functional Specs

#	Priority	Details
1	1	The application shall log users into their account if it exists.
2	1	The application shall log user out of their account if it exists.
3	1	The user shall be able to upload media to their listing.
4	1	The user shall be able to remove uploaded media for their listing.
5	1	The application shall allow user to search for a pet.
6	1	The user shall be able to create an adoption listing if they have an account.
7	1	The user shall be able to remove only listings that are posted under their account.
8	1	The application shall add user account to website.
9	1	The application shall allow a user to delete their account.
10	1	The application shall provide email communication between system and all users.
11	1	The application shall provide email communication between adoptee and poster.
12	1	The application shall provide email communication between admin and poster
13	1	The user shall be able to search for pets by type (dog or cat).
14	1	The user shall be able to search for pets by breed.

15	1	The user shall be able to search for pets by age.
16	1	The user shall be able to search for pets by gender.
17	1	The user shall be able to search for pets by color.
18	1	The user shall be able to search for pets by size.
19	1	The user shall be able to search for pets by location (city, state, or zip)
20	1	The user shall be able to search for pets by whether they are a service animal or not.
21	1	The ADMIN user shall be able to manage all user accounts.
22	1	The ADMIN user shall be able to manage all user postings.
23	2	The application shall play user submitted video on listing page if one exists.
24	2	The application shall rotate through pet images submitted by user on listing page.
25	2	The application shall present user with a list of newly posted pets.
26	2	The application shall retrieve a list of top 10 popular pets on the website, by view count.
27	2	The user shall be able to update their account info after creating account.
28	2	The user shall be able to get information about taking care of their adopted pet.
29	2	The application shall prevent spamming of account creation.
30	2	The application shall prevent spamming of messages.
31	2	The user shall be able to view any pets they have put up for adoption.
32	2	The user shall be able to view any pets they have marked as favorites.
33	3	The application shall generate an anonymous email link to protect user's identity.
34	3	With user permission, the application shall post adoption info to Facebook.
35	3	With user permission, the application shall post adoption info to Twitter.

36	3	With user permission, the application shall post pet pictures to Instagram.
37	3	The application shall retrieve pets who are in danger of being euthanized unless adopted soon.
38	3	The user shall be able to add a pet listing to a their “Favorites” tab.
39	3	The user shall be able to remove a pet listing from their “Favorites” tab.

5. Non-Functional Specs

Item	Details
1. Performance	<ul style="list-style-type: none"> ● Website shall load in 5 seconds or less ● Search query results shall display in 3 seconds or less
2. Expected Load	The website shall comply with the above performance requirements up to a maximum of 50 concurrent users.
3. Storage	Each user will be allowed to upload up to 50MB of content per listing.
4. Fault Tolerance	<ul style="list-style-type: none"> ● The website shall keep weekly backups of its data. ● Server snapshots shall be made on a weekly basis.
5. Security	<ul style="list-style-type: none"> ● Only signed up users can adopt and donate a pet ● Information about the users are safely stored in our database
6. Privacy	<ul style="list-style-type: none"> ● A user’s personally identifiable information shall not be given or sold to a 3rd party ● All privacy policies will be appropriately communicated to the users
7. Scalability	The website can store up to 50 images and 50 videos in our database
8. System	For faster browsing, computers shall be no longer than 5 years old
9. Usability	<ul style="list-style-type: none"> ● A user with an average computer knowledge can browse, sign up, and adopt a pet in less than 5 mins.
10. Marketing, Legal	<ul style="list-style-type: none"> ● Each WWW page shall have official company logo in upper left corner

	<ul style="list-style-type: none"> ● The website shall <u>prominently</u> display the following text on all pages "SFSU/FAU/Fulda Software Engineering Project, Spring 2015. For Demonstration Only". ● We take pictures/videos of our own. Instructors will also provide some basic content e.g. images and videos.
11. Content	<ul style="list-style-type: none"> ● File size in no time shall exceed 2 Mbytes ● Files used to render content (MPEG, PDF, JPEG etc.)
12. Analytics	We shall use Google Analytics to improve user satisfaction and website functionality

6. Competitive Analysis

	Happy Tails	Petfinder	SFSPCA	Craigslist
User Experience	+	+	-	+
Pet Search	++	++	+	+
Adoption Listings	+	-	+	-
Animal Diversity	+	+	++	++
Multimedia Functionality	++	+	-	+
Newest Technology	+	-	-	-

*Our product will offer more features for users than our competitors on top of an **intuitive**, and **aesthetically pleasing** user interface. By limiting our pets to just cats and dogs, we can provide better search functionality than competitors who use more complicated search criteria. The most significant feature we will provide users with is the ability to put animals up for adoption as well as seek them out. The only competitor that offers this functionality is Craigslist, and our product will provide a superior user experience. In addition, we will provide **improved multimedia functionality** over competitors including the ability to view and upload videos of pets, as well as integration with popular social media services such as Facebook and Twitter. Finally, while our product will not provide the same quality of mobile usability as our competitors, it will still provide basic mobile compatibility via a scrolling layout, allowing for further expansion in the future.*

7. UI Mockups and Storyboards

(left blank intentionally, see next page)

LOGO

Happy Tails

Login/Register



Search

Put Up For Adoption

Pet Care Info

About Us

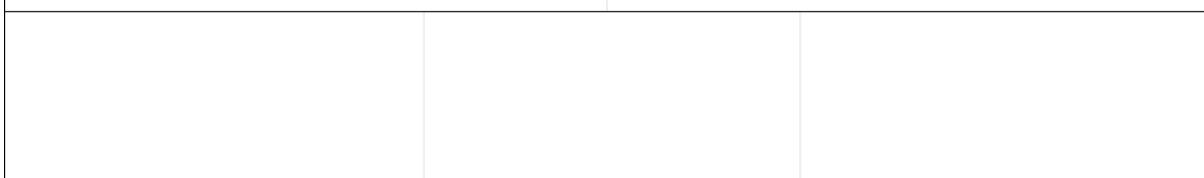
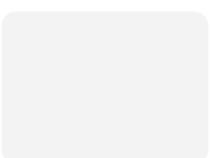
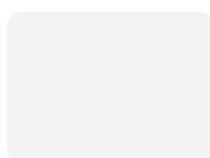
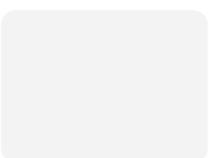
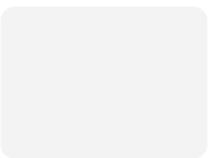
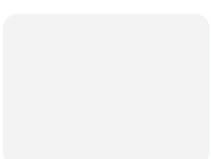
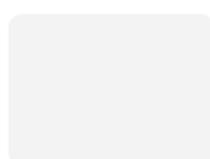
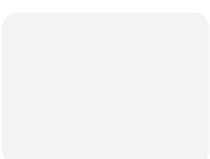
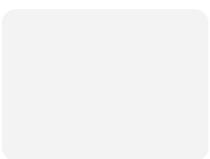
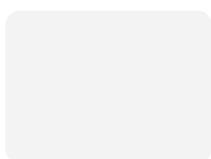
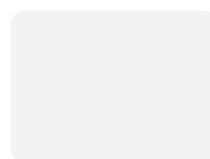
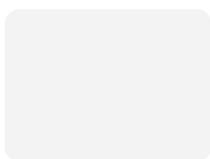
Contact



MISSION STATEMENT

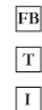


Newest Tails





Happy Tails

[Login/Register](#)[Search](#)[Put Up For Adoption](#)[Pet Care Info](#)[About Us](#)[Contact](#)

Type: Dog ▾

Breed: Labrador ▾

Color: Black ▾

Location:

Gender: Male ▾

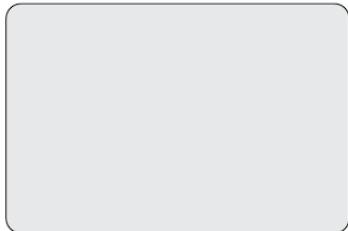
Age: Puppy ▾

Size: Medium ▾

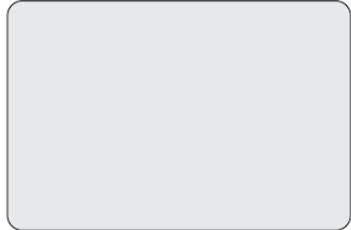
Service Animal? [GO!](#)

Search Results

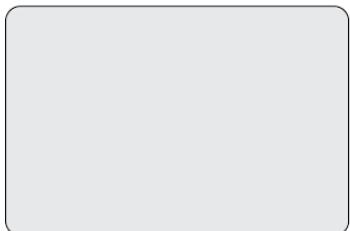
Found: 10



T C F

[ADOPT ME!](#)

T C F

[ADOPT ME!](#)

T C F

[ADOPT ME!](#)

<< < 1 2 3 4 > >>

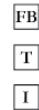
Showing: 3 of 10



LOGO

Happy Tails

Login/Register



Search

Put Up For Adoption

Pet Care Info

About Us

Contact

Pet Profile



About <Pet Name>:

[Print Page](#)

ADOPT ME!

Location: San Diego, CA

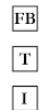
Trained?: Yes

Friendly with Children?: Yes

Friendly with Animals?: Yes



Happy Tails

[Login/Register](#)[Search](#)[Put Up For Adoption](#)[Pet Care Info](#)[About Us](#)[Contact](#)

Put a Pet Up For Adoption

* = required

* Type: Dog ▾

Contact Phone:

* Gender: Male ▾

* Contact E-mail: Mask E-mail?

* Breed: Labrador ▾

Age: Puppy ▾

* Description:

Color: Black ▾

Size: Medium ▾

* Location: Service Animal? * + Upload Photo: + Upload Video:



LOGO

Happy Tails

Login/Register



Search

Put Up For Adoption

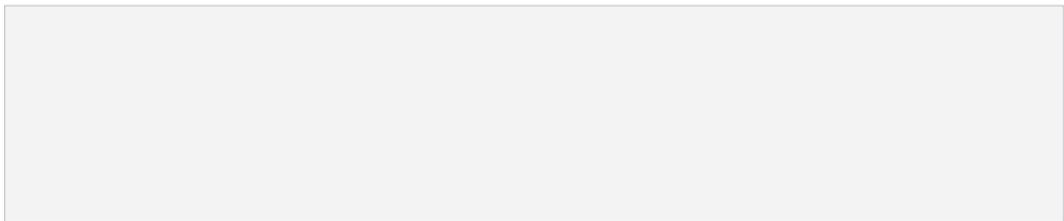
Pet Care Info

About Us

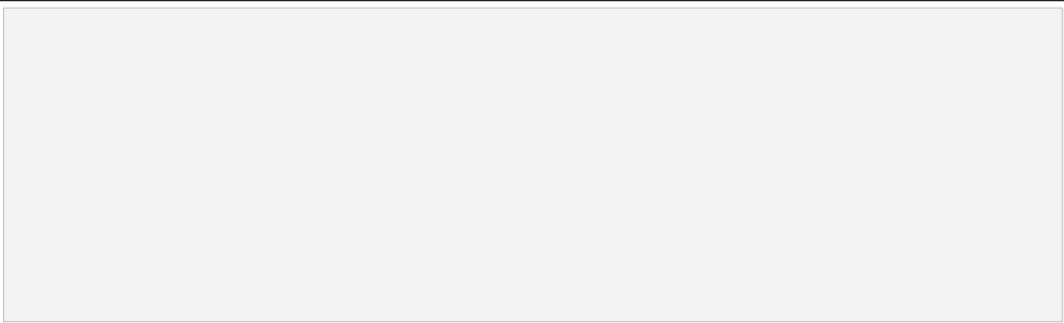
Contact

Pet Care Info

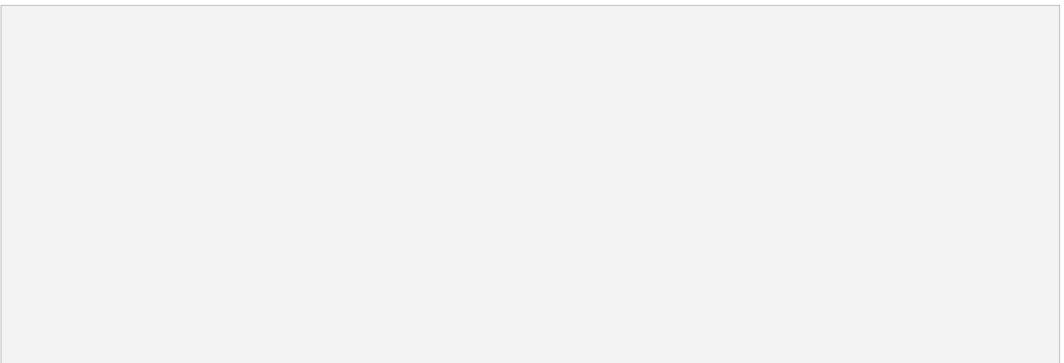
Cats



Dogs



External Links





LOGO

Happy Tails

Login/Register



Search

Put Up For Adoption

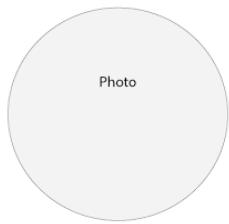
Pet Care Info

About Us

Contact

About Us

Summary about Happy Tails



Team member bio

E-mail:

Team member bio

Photo

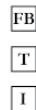
E-mail:



LOGO

Happy Tails

Login/Register



Search

Put Up For Adoption

Pet Care Info

About Us

Contact

Contact

Name:

E-mail:

Subject:

Message:

CAPTCHA image

SEND MESSAGE

Enter CAPTCHA:



Happy Tails

[Login/Register](#)[Search](#)[Put Up For Adoption](#)[Pet Care Info](#)[About Us](#)[Contact](#)**SIGN IN**

Username:
Password:

SIGN UP

First Name: Last Name:
E-mail:
Password: Confirm Password:

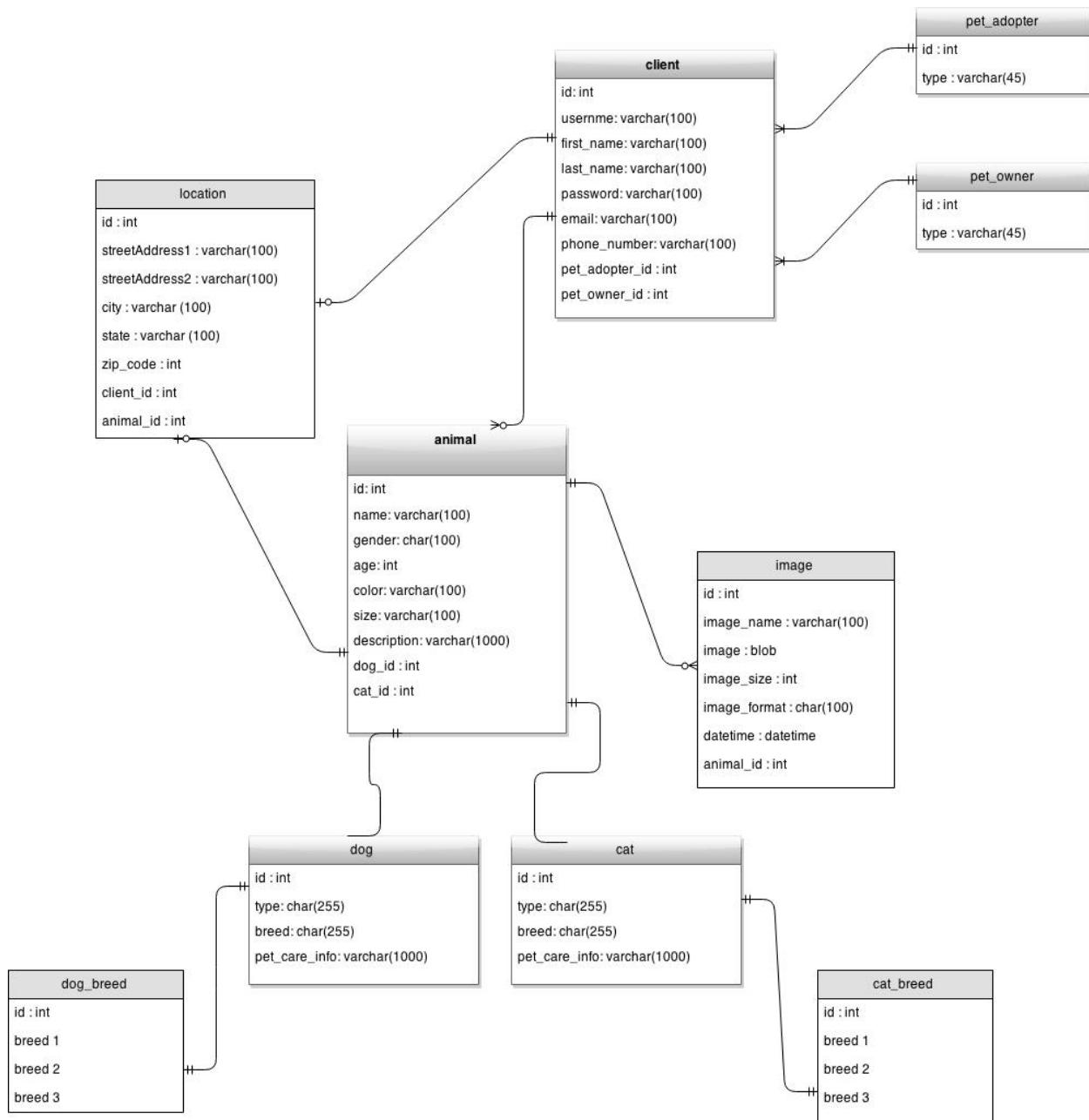
8. System Architecture and Database Organization

In order to conform to industry standards, we will be hosting our website in the cloud.

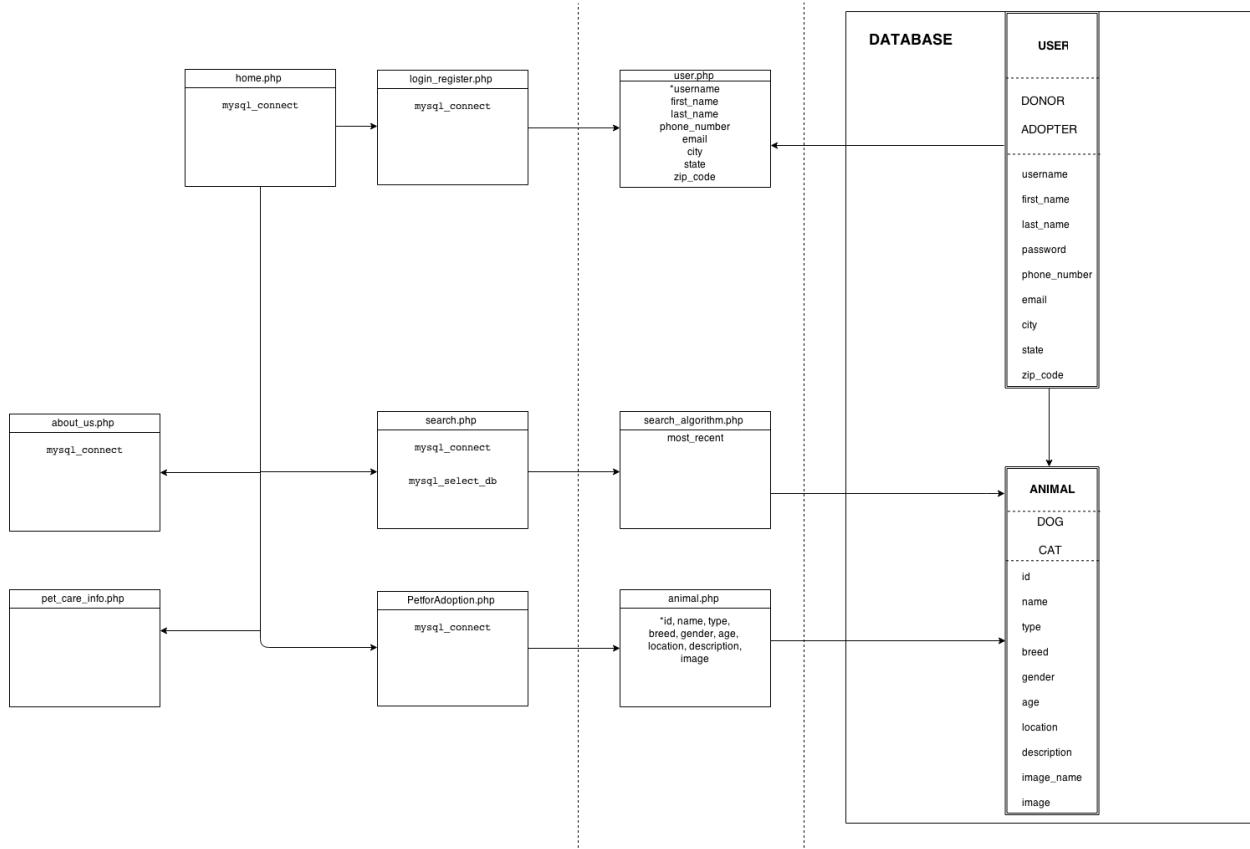
Item	Details
Architecture	Three-Tier Architecture using LAMP stack Linux Apache Web Access: http://sfsuswe.com Location: Amazon EC2 Cloud Type: Ubuntu Server 14.04.1 LTS x64 MySQL 5.5.32 Web Access: http://sfsuswe.com/phpmyadmin Database Name: student_s15g04 PHP 5.3.10
Supported Browsers	Standard desktop/laptop/mobile browsers Google Chrome v42.0.x and v41.0.x Mozilla Firefox 36.0.1 and 35.0.1
Version Control	EC2-hosted SVN repository
Tools	NetBeans 8.0.2 IDE with PHP and SVN Plugins
Frameworks	Bootstrap v3.3.4 jQuery v2.1.3
Languages	HTML5 CSS3 JavaScript 1.8
Analytics	Google Analytics
Software Components	Class Names: Client, Pet Owner, Pet Adopter, Pet, Dog, Cat Social Media: Facebook and Twitter

Data Organization	<p>As part of LAMP stack, we shall use MySQL as our database management system.</p> <p>We shall use relational model to keep track of the records of pet adoptee, pet owner, and pets</p> <p>Data contents will be pulled out, pushed into the database to display information on the web page, when doing search, when user sign up, adopt a pet, donate a pet.</p> <p>Images will be stored in BLOBs Image file type: .jpg, .jpeg, .png Image size: 630x350px for the carousel, 160x160px thumbnail Metadata: type, breed, age, gender, location, size, id Video file type: wmv, .mp4</p> <p>We shall use MySQL query language to filter database field Search will be filtered using these fields: location, size, gender, breed, age</p> <p>We shall display the data on the search page based on filter search, pets most recently stored in our database, and pets popularity</p>
-------------------	--

Database Schema



9. High Level UML Diagrams



10. Key Risks

Skills:

- Lack of extensive programming experience with languages used.
- Learning curve could lead to delays.

Resolution:

We can provide an open forum for group communication via google hangouts for team members to communicate issues with any skill deficiencies and seek help from other members. Additionally there are many online resources to help us through any problems with the languages used.

Schedule:

- Unexpected changes in project requirements.

Resolution:

Project scope can be adjusted. Only vital components will be committed as priority one so that basic functionality requirements will be met even if other requirements are added. A buffer of time can also be left at the end of each development phase as a failsafe specifically for dealing with any project requirement changes that must be made.

Technical:

- Unknown efficiency of storing BLOBs in the database rather than a file system.
- Browser compatibility.
- Unforeseen security holes.
- Server downtime.

Resolution:

Some technical risks are unresolvable, such as possible server downtime. Although AWS is very reliable, we will implement an alarm system that will notify us of any interruption in service. As for the efficiency of the BLOBs in the database, we can leave a buffer near the end of development to load test the server in order to uncover any issues. We can also use this time to patch any browser compatibility bugs.

Teamwork:

- Conflicting class schedules/class work loads may hinder team member productivity/availability.

Resolution:

We can openly discuss projected workloads from other classes to coordinate how much work should be allocated to individual team members. By limiting the amount of work put on any one person and being open about progress, such as with scrum meetings, we can be prepared for any conflicts resulting in limited member productivity.

Legal/Content:

- Availability of legally usable image content.
- Availability of legally usable video content.

Resolution:

We will aim to use personal images of which we have full legal authority over. Additionally we will source videos from personal sources or Youtube videos which are public domain.

11. Team

Aleksandr Kibis – *Chief Executive Officer*

Project Management

Design Lead

John Santos – *Chief Technical Officer*

Systems Engineer

Database Specialist

James Klinkhammer – *Business Analyst*

Versioning Master

Risk Management

Harini Parthsarathy – *User Experience Lead*

UX Design

UI Design

Mats Jensen – *Senior Software Engineer*

Documentation Review

QA Specialist

3. Milestone 3: *Horizontal Prototype and Database Design*

(Page left blank intentionally)



Happy Tails

*SW Engineering CSC648/848 Spring
2015*

<i>Milestone 3</i>	<i>Local Group 4</i>
<i>Aleksandr Kibis</i>	<u>kibis858@gmail.com</u>
<i>John Santos</i>	<u>santos.john24@gmail.com</u>
<i>James Klinkhammer</i>	<u>j.klinkhammer@yahoo.com</u>
<i>Harini Parthasarathy</i>	<u>parth.harini@gmail.com</u>
<i>Mats Jensen</i>	<u>matsjens1@gmail.com</u>

Date	Revision Number	Description
4/1/2015	v2.0	Initial document submission
4/6/2015	v2.1	Revised per Dr. Petkovics recommendations
4/20/2015	v3.0	Added deployment diagram + formatting changes

Table of Contents

1. Executive Summary
2. Use Cases
 - a) Children
 - b) Parents
 - c) Elderly
 - d) Admin
3. Data Glossary
4. Functional Specs
5. Non-Functional Specs
6. Competitive Analysis
7. UI Mockups and Storyboard
8. System Architecture and Data Organization
9. High-Level UML Diagram
10. Key Risks
11. Team

1. Executive Summary

Happy Tails is a team of developers providing superior software for animal adoption. Our team, comprised of five software engineers, focuses on incorporating the latest and the best technology in order to provide a great experience for both pets and their owners. Through these methods, we aim to facilitate the adoption of animals who are in desperate need of new homes.

The purpose of our product is to provide people who are seeking to adopt new pets with a simple, intuitive, and attractive set of tools to quickly and easily find pets which are in desperate need of new homes. In addition, we will provide a friendly environment where people that can no longer keep or take care of their pets can advertise their pet's need for a new home online to people looking to adopt new pets. This direct communication between adopter and adoptee is what will set us apart from the competition.

We will offer a sizeable collection of pets available for adoption. Our website will allow users to navigate through its pages and browse for these available animals easily. Additionally we will provide search filters allowing users who already know what they are looking for to find their desired pet quickly and efficiently.

Pet profiles will provide detailed information about the pets available for adoption. Users will be able to view images and, in some cases, a video of prospective animals to get to know them. They will also be able to read the pet's description, learn a little about its personality, and see if the pet fits their or their family's needs. This navigation will be obvious and simple so that users of all skill levels and ages will be able to browse and search for animals with ease.

Unlike other adoption sites, ours will also offer the ability for people to offer their pets up for adoption. This process will be as straight forward and intuitive as registering to adopt a pet. Users will register their profile and then register a profile for their pet. They will be guided through these steps to make this process as easy as possible and a pleasant experience for the user. They can upload videos and pictures of their pet as well as give a description so people get an accurate view of their pet's personality.

Users wishing to offer their pets up for adoption will be happy to know that they can keep their pets at home while waiting for someone to adopt it. For the adoptees sake, their contact information will only be given to registered users on request to prevent harassment and help make sure potential adopters are serious. Once someone has requested to adopt the pet, they will be able to contact the adoptee who can make sure their pet goes to a good home.

Our mission is to connect adopters, pets, and pet owners on a personal level and provide an excellent user experience for all parties involved. Our site will provide all of this in a mobile ready platform so that if the need ever arises our product could easily be expanded with mobile specific capability to provide a better dedicated mobile user experience.

2. Use Cases

a) Children: Browsing Pets

Andy is an 8 year old boy. His **computer skills are low**, but he knows how to browse a simple **intuitive** website and knows what he wants. His parents said he could have a dog for his birthday so Andy set out to find the perfect one. Andy visits our website and immediately notices a section of **newest tails** where he sees picture dogs and cats recently made available for adoption. He sees the perfect **pet**, clicks on its picture and is redirected to its profile. Andy reads in the profile that this dog came from a family with children and is great with kids. He then sees that above the description there is a video that was uploaded by the current owners of the dog playing with their children. Impressed, Andy decides this is the dog for him and races off to show it to his parents.

b) Parents: Searching For a Pet

Beth is a 30 year old working mother. She has very **good computer skills** and knows her way around the web. She and her husband have agreed to adopt a pet for their son Andy. She looks at our site and checks out the **about us** section to see what our site does. Andy has already told her the name and **breed** of the dog he wants. She does a quick **search** using the dog's breed to find the pet. She looks over its profile and checks which location the pet is currently based in. Noticing that the **location** is not very far from where she lives, she decides to go ahead and contact the dog's current owners to fulfil the adoption formalities. She selects the option to adopt the pet and is redirected to the user registration page. She enters her details, such as her **address**, email, name, **username**, and **password** in order to create an account and then fills out the **CAPTCHA**. She notices an option to **mask E-mail** and selects it to protect her privacy. She submits the form and receives an error message saying that her password is too short, and that it needs to be at least 8 characters. She changes her password to fulfill the requirements and her registration is approved. After her registration is confirmed, she logs in. Once again she clicks to confirm her intention to adopt the dog and is now provided with the **contact information** of the owner, allowing her to contact them and begin the adoption process.

c) Elderly: Putting a Pet Up For Adoption

Carl is a 74 year old retiree and pet **owner**. He knows how to navigate the web, but his vision is not so good anymore. He is moving to New Mexico in a few months to

be closer to his daughter. The apartment he is moving to does not allow pets so he must find a new home for his beloved cat Chester. He visits our website and finds a large and navigates to the page to **put up for adoption**. In this page he reads that with our site he can keep his cat Chester at home with him until he finds suitable new owners with whom he will have the opportunity to talk with, or even meet, to make sure they will take good care of Chester. He decides to use our site and clicks the button to **register** his pet for adoption. He enters his personal information including contact details for a prospective customer to see when they decide to adopt chester and register. Carl is now redirected to the pet profile creation page. Here he uploads several pictures into a **slide gallery** and is given the option to upload a video of Chester for people to see. He gets an error message saying that his image-type is not supported, and that the only supported image-type is JPEG and PNG. He then finds another image that is supported. Carl then fills out Chester's profile where he gives a good description of Chester including his **age, gender, color, and size** as well as any information he may have about Chester's breed. He then submits the profile. A while later, he receives a notification that Chester's profile has been reviewed by an admin and has been accepted and published on the site. His pet is now available for viewing by potential **adopters**.

d) Admin: Monitoring the Website

Daniel is 43 years old and has **excellent computer skills**, given that she is the **administrator**. She gets a notification that a new user has registered their pet for adoption. He takes a look at the user's contact information to make sure that this is a genuine advertisement. He then reviews the pet's profile to ensure that the description and any pictures or videos that were uploaded with the profile are legitimate and are not obscene or inappropriate. Confirming the legitimacy of the profile, she approves it and makes it available on the website for users to see. Later, Daniel gets another notification of the same kind. Only this time the content is inappropriate and he does not allow it to get published. The person posting it also get a warning email.

3. Data Glossary

Child: any person between the ages of 5 and 17.

Parent(s): any person with a child.

Elderly: any person over 55 years of age.

Admin/Administrator: any person with direct AND authorized access to the web server.

Skill Level:

- *Ok* – has basic knowledge of web browsing
- *Good* – is adept at browsing the web
- *Excellent* – anyone with computer programming knowledge

Contact Information: any and all information related to a user which may be used to log into the system, or get in contact with user.

Intuitive: access and understanding of content does not require prior research. A user should be able to easily comprehend what is displayed in front of them.

Diverse Selection: 3 or more category items.

Owner: Person who owns a pet and can put his/hers pet up for adoption if he/she is registered.

Adopter: Person who adopts pets from our website. Does not need to be registered.

Animal (Pet): An animal that can be adopted or put up for adoption from our website by an owner or adopter. It can be a dog or cat.

Breed: What kind of species the animal is.

Gender: The gender of the pet (male or female).

Color: The color of the pet.

Age: The age of the pet (puppy, young, adult, senior).

Size: The size of the pet (small, medium, large).

Service Animal: Many people require service animals, be it due to a disability or simply because of where they live. This search option makes it easy to find them.

Location: Where the animal is located (city, state, or zip).

Pet Name: The name of the pet.

Register: Animals that are registered by registered users to our website.

Username: The name the user creates under registration and uses it to login to our website.

Password: The password the user creates under registration and uses it to login to our website.

Address: Address of the **Pet_adopter** or the **Pet_owner**.

Favorites: A list of pets which have been “starred” by a user. These pets are then available for the user to review via their account panel.

About Us: A page dedicated to Happy Tails company, listing team member profiles.

CAPTCHA: An image aimed at reducing the effects of spam. A user is required to enter the text displayed by the image in a box before sending messages or creating a user account.

Newest Tails: A list of most recently added animals to the Happy Tails website.

Slide Gallery: When a user adds multiple photos of their pet, a slide gallery is displayed on the pet profile page. This allows for easy navigation through the multiple pictures using arrows.

Pet Care Info: A page listing quick tips on taking care of your newly adopted pet! External links are also available for an in-depth look.

Put Up For Adoption: If a user is logged in, clicking this menu item brings up the Put Up a Pet For Adoption page where a user can list their pet on our site. If a user isn’t logged in, they will be prompted to do so or register.

Search: A combination of filters and keyword search, making it extremely easy to find the perfect pet!

Mask E-mail: A user-selected option allowing for a domain mask to be applied to the account e-mail address. This way privacy will be retained and the e-mail will no longer be usable upon account deletion.

4. Functional Specs

#	Details
Priority 1	
1	The application shall log users into their account if it exists.
2	The application shall log user out of their account if it exists.
3	The user shall be able to upload media to their listing.
4	The user shall be able to remove uploaded media for their listing.
5	The application shall allow user to search for a pet.
6	The user shall be able to create an adoption listing if they have an account.
7	The user shall be able to remove only listings that are posted under their account.
8	The application shall add user account to website.
9	The application shall allow a user to delete their account.
10	The application shall provide email communication between system and all users.
11	The application shall provide email communication between adoptee and poster.
12	The application shall provide email communication between admin and poster
13	The user shall be able to search for pets by type (dog or cat).
14	The user shall be able to search for pets by breed.

15	The user shall be able to search for pets by age.
16	The user shall be able to search for pets by gender.
17	The user shall be able to search for pets by color.
18	The user shall be able to search for pets by size.
19	The user shall be able to search for pets by location (city, state, or zip)
20	The user shall be able to search for pets by whether they are a service animal or not.
21	The ADMIN user shall be able to manage all user accounts.
22	The ADMIN user shall be able to manage all user postings.
Priority 2	
23	The application shall play user submitted video on listing page if one exists.
24	The application shall rotate through pet images submitted by user on listing page.
25	The application shall present user with a list of newly posted pets.
26	The application shall retrieve a list of top 10 popular pets on the website, by view count.
27	The user shall be able to update their account info after creating account.
28	The user shall be able to get information about taking care of their adopted pet.
29	The application shall prevent spamming of account creation.
30	The application shall prevent spamming of messages.
31	The user shall be able to view any pets they have put up for adoption.
32	The user shall be able to view any pets they have marked as favorites.
Priority 3	
33	The application shall generate an anonymous email link to protect user's identity.
34	With user permission, the application shall post adoption info to Facebook.
35	With user permission, the application shall post adoption info to Twitter.
36	With user permission, the application shall post pet pictures to Instagram.

37	The application shall retrieve pets who are in danger of being euthanized unless adopted soon.
38	The user shall be able to add a pet listing to their “Favorites” tab.
39	The user shall be able to remove a pet listing from their “Favorites” tab.

5. Non-Functional Specs

Item	Details
1. Performance	<ul style="list-style-type: none"> ● Website shall load in 5 seconds or less ● Search query results shall display in 3 seconds or less
2. Expected Load	The website shall comply with the above performance requirements up to a maximum of 50 concurrent users.
3. Storage	Each user will be allowed to upload up to 50MB of content per listing.
4. Fault Tolerance	<ul style="list-style-type: none"> ● The website shall keep weekly backups of its data. ● Server snapshots shall be made on a weekly basis.
5. Security	<ul style="list-style-type: none"> ● Only signed up users can adopt and donate a pet ● Information about the users are safely stored in our database
6. Privacy	<ul style="list-style-type: none"> ● A user’s personally identifiable information shall not be given or sold to a 3rd party ● All privacy policies will be appropriately communicated to the users
7. Scalability	The website can store up to 50 images and 50 videos in our database
8. System	For faster browsing, computers shall be no longer than 5 years old
9. Usability	<ul style="list-style-type: none"> ● A user with an average computer knowledge can browse, sign up, and adopt a pet in less than 5 mins.
10. Marketing, Legal	<ul style="list-style-type: none"> ● Each WWW page shall have official company logo in upper left corner

	<ul style="list-style-type: none"> ● The website shall <u>prominently</u> display the following text on all pages "SFSU/FAU/Fulda Software Engineering Project, Spring 2015. For Demonstration Only". ● We take pictures/videos of our own. Instructors will also provide some basic content e.g. images and videos.
11. Content	<ul style="list-style-type: none"> ● File size in no time shall exceed 2 Mbytes ● Files used to render content (MPEG, PDF, JPEG etc.)
12. Analytics	We shall use Google Analytics to improve user satisfaction and website functionality

6. Competitive Analysis

	Happy Tails	Petfinder	SFSPCA	Craigslist
User Experience	+	+	-	+
Pet Search	++	++	+	+
Adoption Listings	+	-	+	-
Animal Diversity	+	+	++	++
Multimedia Functionality	++	+	-	+
Newest Technology	+	-	-	-

*Our product will offer more features for users than our competitors on top of an **intuitive**, and **aesthetically pleasing** user interface. By limiting our pets to just cats and dogs, we can provide better search functionality than competitors who use more complicated search criteria. The most significant feature we will provide users with is the ability to put animals up for adoption as well as seek them out. The only competitor that offers this functionality is Craigslist, and our product will provide a superior user experience. In addition, we will provide **improved multimedia functionality** over competitors including the ability to view and upload videos of pets, as well as integration with popular social media services such as Facebook and Twitter. Finally, while our product will not provide the same quality of mobile usability as our competitors, it will still provide basic mobile compatibility via a scrolling layout, allowing for further expansion in the future.*

7. UI Mockups and Storyboards

(left blank intentionally, see next page)

LOGO

Happy Tails

Login/Register

FB
T
I

Search

Put Up For Adoption

Pet Care Info

About Us

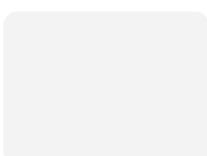
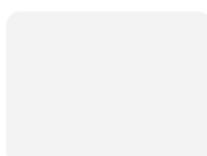
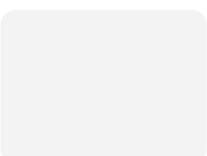
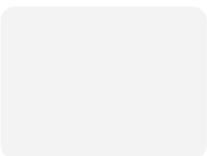
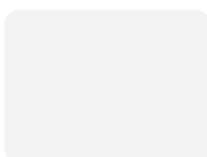
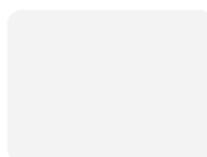
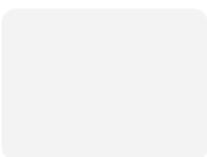
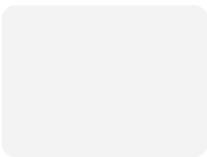
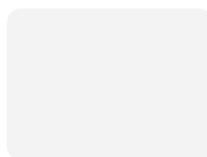
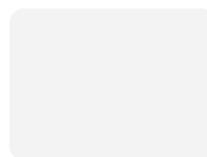
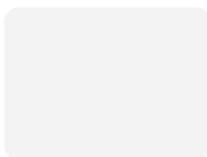
Contact



MISSION STATEMENT



Newest Tails





Happy Tails

[Login/Register](#)[Search](#)[Put Up For Adoption](#)[Pet Care Info](#)[About Us](#)[Contact](#)

Type: Dog ▾

Breed: Labrador ▾

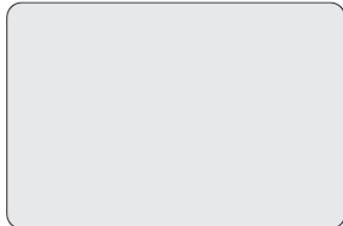
Color: Black ▾

Location:

Gender: Male ▾

Age: Puppy ▾

Size: Medium ▾

Service Animal? [GO!](#)

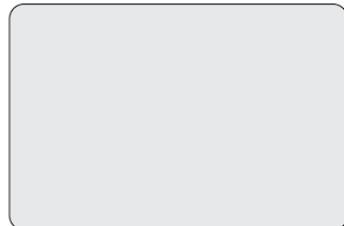
T C F

Search Results

Found: 10

Name:

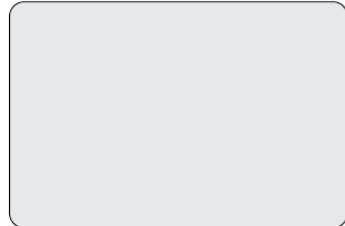
Summary:

[ADOPT ME!](#)

T C F

Name:

Summary:

[ADOPT ME!](#)

T C F

Name:

Summary:

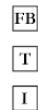
[ADOPT ME!](#)

<< < 1 2 3 4 > >>

Showing: 3 of 10



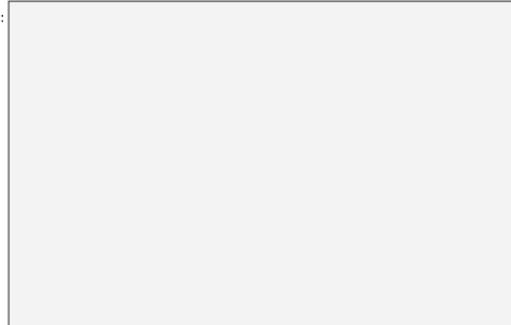
Happy Tails

[Login/Register](#)[Search](#)[Put Up For Adoption](#)[Pet Care Info](#)[About Us](#)[Contact](#)

Pet Profile



About <Pet Name>:

[Print Page](#)[ADOPT ME!](#)

Location: San Diego, CA

Trained?: Yes

Friendly with Children?: Yes

Friendly with Animals?: Yes



Happy Tails

[Login/Register](#)[FB](#)
[T](#)
[I](#)[Search](#)[Put Up For Adoption](#)[Pet Care Info](#)[About Us](#)[Contact](#)

Put a Pet Up For Adoption

* = required

* Type: Dog ▾

Contact Phone:

* Gender: Male ▾

* Contact E-mail: Mask E-mail?

* Breed: Labrador ▾

Age: Puppy ▾

* Description:

Color: Black ▾

Size: Medium ▾

* Location: Service Animal? * + Upload Photo: + Upload Video:

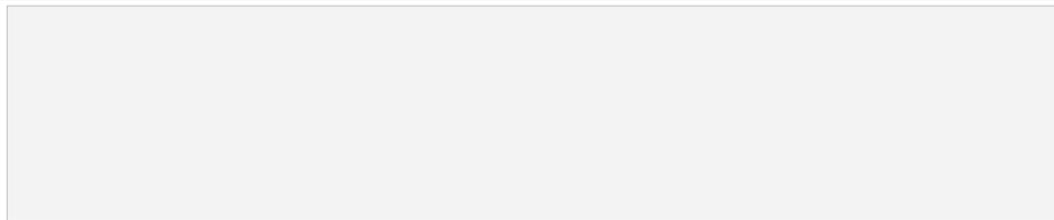


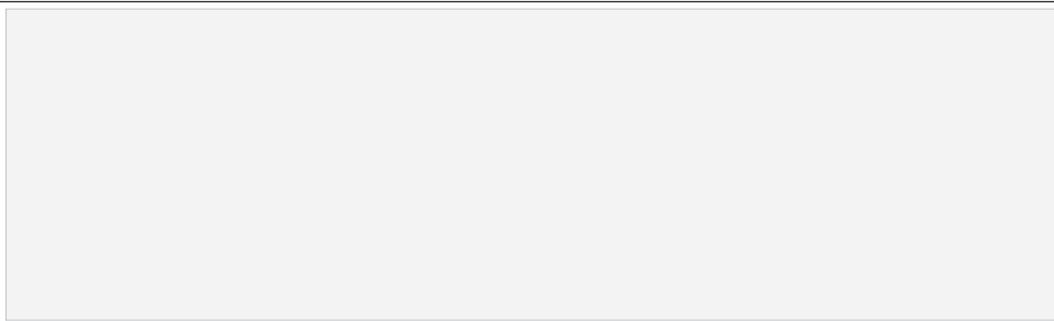
Happy Tails

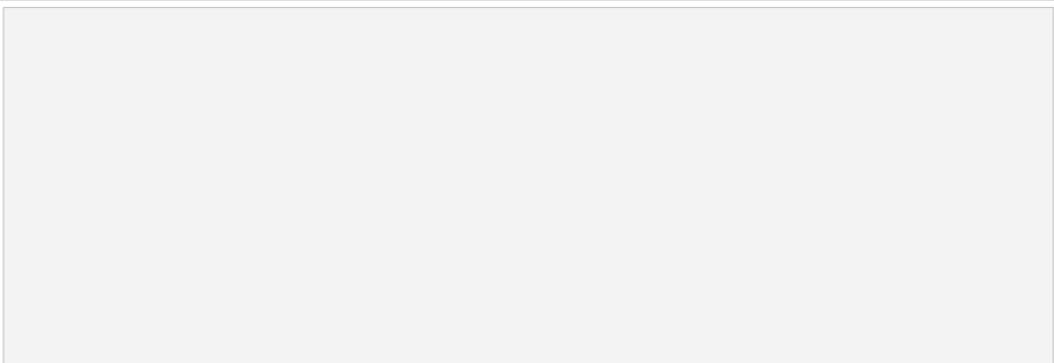
[Login/Register](#)[Search](#)[Put Up For Adoption](#)[Pet Care Info](#)[About Us](#)[Contact](#)

Pet Care Info

Cats

**Dogs**

**External Links**



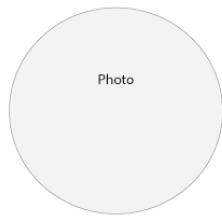


Happy Tails

[Login/Register](#)[Search](#)[Put Up For Adoption](#)[Pet Care Info](#)[About Us](#)[Contact](#)

About Us

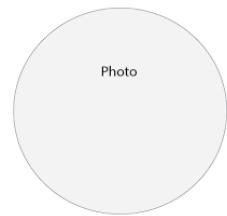
Summary about Happy Tails



Team member bio

E-mail:

Team member bio



Photo

E-mail:



Happy Tails

[Login/Register](#)[Search](#)[Put Up For Adoption](#)[Pet Care Info](#)[About Us](#)[Contact](#)

Contact

Name:

E-mail:

Subject:

Message:

[SEND MESSAGE](#)

Enter CAPTCHA:



Happy Tails

[Login/Register](#)[FB](#)
[T](#)
[I](#)[Search](#)[Put Up For Adoption](#)[Pet Care Info](#)[About Us](#)[Contact](#)**SIGN IN**

Username:
Password:

SIGN UP

First Name: Last Name:
E-mail:
Password: Confirm Password:

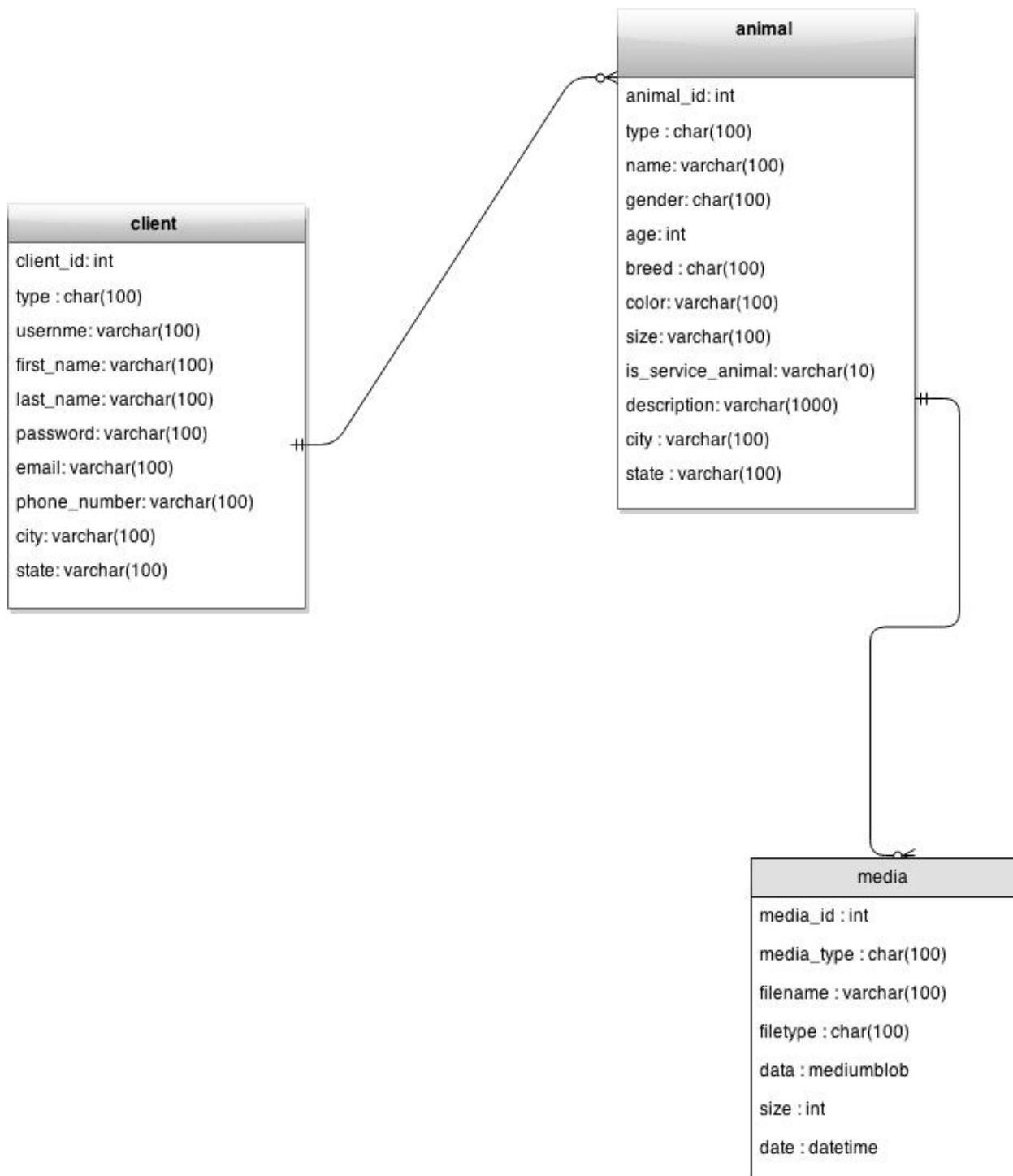
8. System Architecture and Database Organization

In order to conform to industry standards, we will be hosting our website in the cloud.

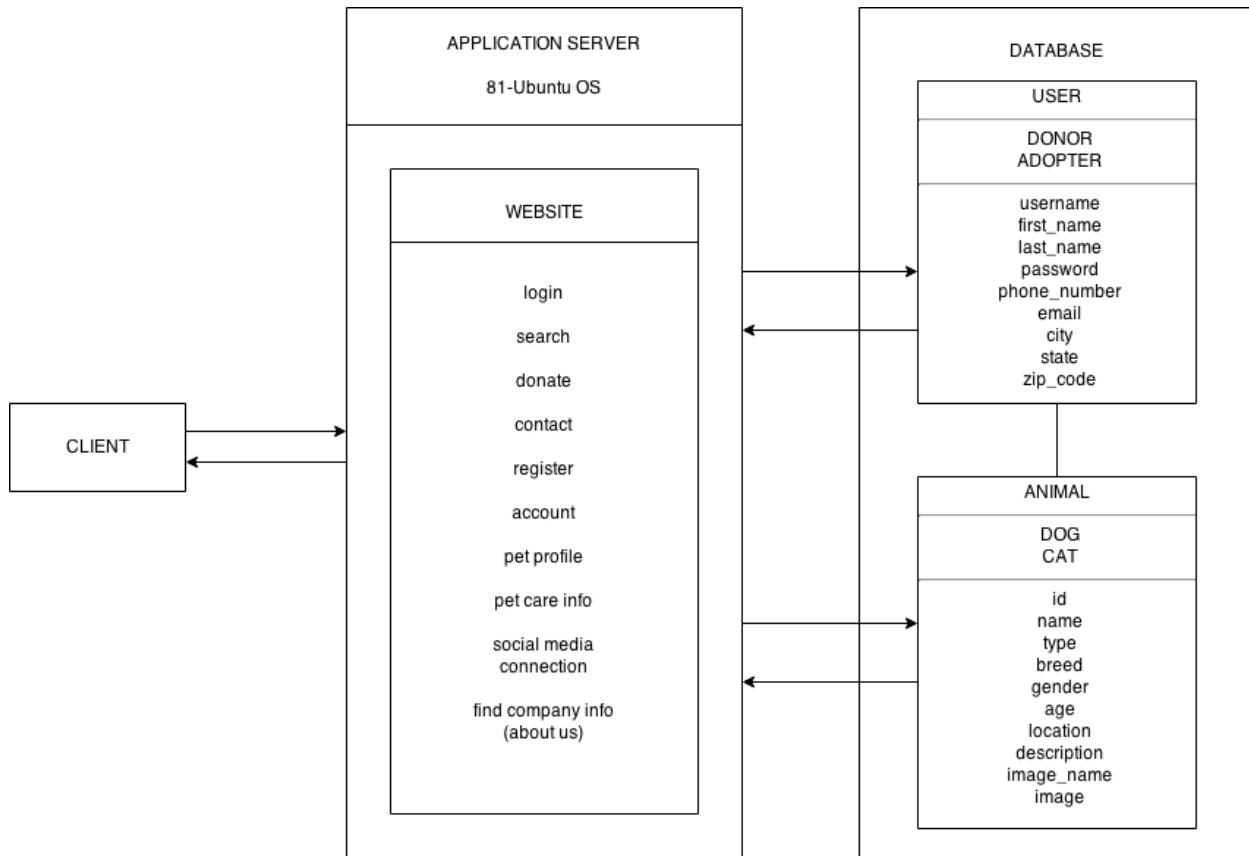
Item	Details
Architecture	Three-Tier Architecture using LAMP stack Linux Apache Web Access: http://sfsuswe.com Location: Amazon EC2 Cloud Type: Ubuntu Server 14.04.1 LTS x64 MySQL 5.5.32 Web Access: http://sfsuswe.com/phpmyadmin Database Name: student_s15g04 PHP 5.3.10
Supported Browsers	Standard desktop/laptop/mobile browsers Google Chrome v42.0.x and v41.0.x Mozilla Firefox 36.0.1 and 35.0.1
Version Control	EC2-hosted SVN repository
Tools	NetBeans 8.0.2 IDE with PHP and SVN Plugins
Frameworks	Bootstrap v3.3.4 jQuery v2.1.3
Languages	HTML5 CSS3 JavaScript 1.8
Analytics	Google Analytics
Software Components	Class Names: Client, Pet Owner, Pet Adopter, Pet, Dog, Cat Social Media: Facebook and Twitter

Data Organization	<p>As part of LAMP stack, we shall use MySQL as our database management system.</p> <p>We shall use relational model to keep track of the records of pet adoptee, pet owner, and pets</p> <p>Data contents will be pulled out, pushed into the database to display information on the web page, when doing search, when user sign up, adopt a pet, donate a pet.</p> <p>Images will be stored in BLOBs Image file type: .jpg, .jpeg, .png Image size: 630x350px for the carousel, 160x160px thumbnail Metadata: type, breed, age, gender, location, size, id Video file type: wmv, .mp4</p> <p>We shall use MySQL query language to filter database field Search will be filtered using these fields: location, size, gender, breed, age</p> <p>We shall display the data on the search page based on filter search, pets most recently stored in our database, and pets popularity</p>
-------------------	--

Database Schema



9. High Level UML Deployment Diagram



10. Key Risks

Skills:

- Lack of extensive programming experience with languages used.
- Learning curve could lead to delays.

Resolution:

We can provide an open forum for group communication via google hangouts for team members to communicate issues with any skill deficiencies and seek help from other

members. Additionally there are many online resources to help us through any problems with the languages used.

Schedule:

- Unexpected changes in project requirements.

Resolution:

Project scope can be adjusted. Only vital components will be committed as priority one so that basic functionality requirements will be met even if other requirements are added. A buffer of time can also be left at the end of each development phase as a failsafe specifically for dealing with any project requirement changes that must be made.

Technical:

- Unknown efficiency of storing BLOBs in the database rather than a file system.
- Browser compatibility.
- Unforeseen security holes.
- Server downtime.

Resolution:

Some technical risks are unresolvable, such as possible server downtime. Although AWS is very reliable, we will implement an alarm system that will notify us of any interruption in service. As for the efficiency of the BLOBs in the database, we can leave a buffer near the end of development to load test the server in order to uncover any issues. We can also use this time to patch any browser compatibility bugs.

Teamwork:

- Conflicting class schedules/class work loads may hinder team member productivity/availability.

Resolution:

We can openly discuss projected workloads from other classes to coordinate how much work should be allocated to individual team members. By limiting the amount of work put on any one person and being open about progress, such as with scrum meetings, we can be prepared for any conflicts resulting in limited member productivity.

Legal/Content:

- Availability of legally usable image content.
- Availability of legally usable video content.

Resolution:

We will aim to use personal images of which we have full legal authority over. Additionally we will source videos from personal sources or Youtube videos which are public domain.

11. Team

Aleksandr Kibis – *Chief Executive Officer*

Project Management

Design Lead

John Santos – *Chief Technical Officer*

Systems Engineer

Database Specialist

James Klinkhammer – *Business Analyst*

Versioning Master

Risk Management

Harini Parthasarathy – *User Experience Lead*

UX Design

UI Design

Mats Jensen – *Senior Software Engineer*

Documentation Review

QA Specialist

4. Milestone 4: *Integration and Testing*

(Page left blank intentionally)



Happy Tails

*SW Engineering CSC648/848 Spring
2015*

<i>Milestone 4</i>	<i>Local Group 4</i>
<i>Aleksandr Kibis</i>	kibis858@gmail.com
<i>John Santos</i>	santos.john24@gmail.com
<i>James Klinkhammer</i>	j.klinkhammer@yahoo.com
<i>Harini Parthasarathy</i>	parth.harini@gmail.com
<i>Mats Jensen</i>	matsjens1@gmail.com

Date	Revision Number	Description
5/5/2015	v4.0	Initial document submission
5/16/2015	v4.1	Updated usability test plan and QA test per Dr. Petkovic's recommendations.

Table of Contents

1. Product Summary
2. Usability Test Plan
3. QA Test Plan
4. Code Review
5. Risk Assessment

1. Product Summary

Name of Product: Happy Tails - Pet Adoption Search

Overview: Happy Tails is a cloud-based pet adoption search web application. It allows all kinds of users from children to adults and seniors to easily browse a wide selection of pets available for adoption in their area. The adoption process is incredibly fast, only needing 2-clicks to complete! Users are connected directly to each other, removing the need for any sort of middleman. Where most other sites allow only adoption agencies to post pets, our website gives anyone the chance to find a home for their beloved pet. This clear advantage will allow Happy Tails to slingshot to the forefront of adoption websites.

Major Functions:

- User Accounts
 - Login / Logout, Registration
 - Account Management
- Photo Upload
- Pet Search
 - Type, breed, age, sex, color, size, location, service animal
- User Communication
 - Adopter ⇔ Adoptee
 - System / Admin ⇔ User
- Pet Adoption
- Put a Pet Up For Adoption

URL: <http://sfsuswe.com/~s15g04>

2. Usability Test Plan

TEST OBJECTIVE:

Find a pet to adopt.

DESCRIPTION:

The test objective is derived from the very first step taken by a User (Adopter/Customer), i.e. find a pet to suit their taste and environment. A user has an idea about the kind of pet he or she is looking for. Starting from the home page of the website, the user will search for a pet and pick one to adopt from the results displayed to them.

Thinking of Adoption	Login to the Happy Tails Website
Find a Pet	Search for an animal
Look for a certain kind of animal	Select specifications in the tabs provided and search
Successful completion	Get a list of animals satisfying criteria
Benchmark	Completed within a minute

TEST PLAN:**Purpose:**

The user will find an animal to adopt.

Problem Statement:

Provide a user with an easy interface to search for pets to adopt.

Test plan and objectives:

Task	Description
System Point	Happy Tails Home page loaded into test-approved browser.
Search	User searches for a pug.
Browse	User browses search results for a suitable pug adoptee.

User Profile (Intended Users):

Parents or Young adults

Elderly

Older Children

Method and Test Design:

The test will be done by each user individually. The test can be completed onsite or remotely. User feedback, in the form of the questionnaire below, must be emailed to parth.harini@gmail.com for statistical analysis.

System Setup (Test Environment and Equipment):

The website will be accessible from standard desktop, laptop and mobile browsers – Google Chrome 42.0x, 41.0x and Firefox 36.0.1 and 35.0.1. Minimum display resolution of 1366x768.

Task to be accomplished:

Give a list of animals which satisfy one or more criteria set by the User.

Completion Criteria:

User is redirected to a page with listings of animals that satisfies the User's criteria.

URL of the System to be tested:

Happy Tails Homepage: <http://sfsuswe.com/~s15g04/>

Search: <http://sfsuswe.com/~s15g04/#search.php>

Questionnaire

1. The GUI was intuitive and easy to use.

Strongly Agree Agree Neither Agree nor Disagree Disagree Strongly Disagree

2. Searching for animals was a simple process.

Strongly Agree Agree Neither Agree nor Disagree Disagree Strongly Disagree

3. Would like more specific search options

Yes No

4. I found the following features of the website working well:

5. I found the following features of the website needing attention:

6. Suggestions for improvement

3. QA Test Plan

Test-objectives:

We have decided that the objective for the quality assurance is to make sure that the user can successfully adopt a pet by using our search function. The search function is supposed to give the user exactly what he/she searches for and by giving the user what they want, it is more likely to get an adoption done. Having a search function that works 100% is therefore in our eyes the most important function on our website.

Feature to be tested:

Focus on the usage of the ‘Search’ or ‘Find a Pet’ button: To find an animal to adopt with specific attributes as the criteria. The goal is to make sure that the search element of the website works correctly.

Test environment:

Everyone in our group will do the testing. Even though this means that we can't test the usability issues for all target audiences, they will be able to find any issues regarding it. The website will be accessible from standard desktop, laptop and browsers – Google Chrome 42.0x, 41.0x and Firefox 36.0.1 and 35.0.1.

Setup of HW:

- Windows laptop
- Mac

Setup of SW:

- Google Chrome
- Firefox

It is important that the web application works on all browsers. It might not give the same UI experience from browser to browser. Therefore we are testing it on all browsers.

Expected time to complete:

We need to test all options on all browsers. The expected time to complete is therefore 2-3 hours.

Test cases:

#	Description	Test input	Expected outcome	PASS/FAIL
1	Click “Search” on the website navigation bar.		The search button is highlighted red and search option are displayed for the	PASS

			user.	
2	Click search, click the “type” dropdown, choose dog, click “find my pet”	Type	All dogs registered in our system are shown.	PASS
3	Click search, click the “location” dropdown, choose San Francisco, click the “color” dropdown, choose black, click “find my pet”	Location, Color	All animals in San Francisco in our system that are black are shown.	PASS
4	Click search, click the “size” dropdown, choose “large”, click the “type” dropdown, choose cat, click the “age group” dropdown, choose “young”, click “find my pet”	Size, Type, Age Group	All cats that are large and young in our system are shown.	PASS
5	Click search, click the “breed” dropdown, choose “pug”, click “find my pet”	Breed	All pugs in our system are shown	PASS
6	Click search, click the “sex” dropdown, choose “male”, click “find my pet”	Sex	All animal in our system that are male are shown.	PASS
7	Click search, check the “service animal” option, click “find my pet”	Service Animal checkbox	All animals in our system that are service animals are shown	PASS

4. Code Review

Here are the links for the coding style we use:

<https://make.wordpress.org/core/handbook/coding-standards/php/>

http://www.w3schools.com/html/html5_syntax.asp

https://google-styleguide.googlecode.com/svn/trunk/htmlcssguide.xml#CSS_Style_Rules

<https://google-styleguide.googlecode.com/svn/trunk/javascriptguide.xml>

In addition to that, we add some additional comments to make our codes more readable.
For important functionalities in PHP functions, we add more descriptions.

This is an example for sign in block in login-register.php file.

/*

Description: The login module lets user logs in to their account. If the user enters wrong username or password, or doesn't enter in any of the fields, error message is returned,

Precondition: User enters username and password

Postcondition: User is able to sign in and go to the account page. User should now see their username on top and a logout link.

*/

We use Netbeans to format our source codes

<https://netbeans.org/kb/docs/java/editor-formatting-screencast.html>

HTML formatting

Number of spaces per Indent: 2

Tab Size: 2

PHP formatting

Category: tabs and indents

Number of spaces per Indent: 4

Tab Size: 4

Category: Braces

all same line

Summary of Peer Review

James sent his Search files to John and Harini. John and Harini gave James feedback about his code and told him to apply the coding style written in the group document. James then applied the feedback and sent the files back to John and Harini. They looked at the codes again, approved then forwarded the copy of the conversation to Alex, the team lead, to submit.

5. Risk Assessment

Schedule (SOLVED): Finals and projects for other classes will greatly reduce the amount of time available to work on M4 and M5. We are implementing strict schedules in order to get around this issue.

Technical (SOLVED): We have been having issues with SVN not accepting commits due to some local repository problems. This requires new branches to be made. Our repo manager is researching a solution to the problem.

Technical (SOLVED): The front end and back end merge process has brought some bugs to light. These mostly affect CSS so they are not fatal, but this will extend the QA and debugging process. The goal is to focus on functionality over style. Additionally, we are doing more extreme programming sessions so that code is worked on as a team instead of individually.

Technical (SOLVED): The website was originally developed for a 1920 x 1080 resolution. However, due to web statistics analysis, this has been changed to 1366 x 768. Due to this change, several font sizes and div widths had to be updated in order to display properly.

5. Final Screenshots

HOME

San Francisco State University, CSC648: Software Engineering Group 4

Login / Register

Happy Tails

PET ADOPTION

Search | Put Up For Adoption | Pet Care Info | About Us | Contact

Mr. Pugglesworth

"He went from prowling
the streets of Tijuana for scraps
to relaxing pool-side in Mountain View, CA!"

Read more



Newest Tails



Home: Search Dropdown

San Francisco State University, CSC648: Software Engineering Group 4

Login / Register

Happy Tails

PET ADOPTION

Search | Put Up For Adoption | Pet Care Info | About Us | Contact

Type: All | Breed: All | Sex: All | Size: All | Color: All | Location(state): All | Service Animal? All | FIND MY PET

Age Group: All

Mr. Pugglesworth

"He went from prowling
the streets of Tijuana for scraps
to relaxing pool-side in Mountain View, CA!"

Read more



Newest Tails



Search Results

San Francisco State University, CSC648: Software Engineering Group 4

Login / Register

Happy Tails

Search | Put Up For Adoption | Pet Care Info | About Us | Contact

[Back to Search](#)

Showing 6 results

Search Results

Name: Bandit

Summary: Image credited to Zingpix licensed under creative commons 3.0 sourced from Wikimediacommons.



[Read More](#) [Adopt Me](#)

Name: Pete

Summary: Pete is a young, very active Chihuahua. He is currently 3 years old and is looking for a new home, preferably with active owners who will take him on walks and play with him.



[Read More](#) [Adopt Me](#)

Pet Profile

San Francisco State University, CSC648: Software Engineering Group 4

My Account
Logout

Happy Tails

Search | Put Up For Adoption | Pet Care Info | About Us | Contact

Bandit



About: Image credited to Zingpix licensed under creative commons 3.0 sourced from Wikimediacommons.

[Adopt Me](#)

Location: Denver, CO

Breed: Australian Cattle Dog

Sex: male

Age Group: young

Color: Black

Contact Pet Owner

San Francisco State University, CSC648: Software Engineering Group 4

My Account
Logout

Happy Tails Pet Adoption

Search | Put Up For Adoption | Pet Care Info | About Us | Contact

Contact Bandit's owner

Owner's Name: James Kinkhamer

Email: email@email.com

Subject: Adopting Bandit

Message: Write your message here...

Send Message

© 2015 Happy Tails, Inc. [Privacy](#) [Terms](#) [Back to top](#)

Post Adoption

San Francisco State University, CSC648: Software Engineering Group 4

My Account
Logout

Happy Tails Pet Adoption

Search | Put Up For Adoption | Pet Care Info | About Us | Contact

Put Up For Adoption

Pet's details

Required *

Name: * Pet's name: [Input]

Type: * [Input]

Sex: * male [Input]

Breed: * select a type first [Input]

Age: * puppy/kitten [Input]

Color: Other [Input]

Size: * small [Input]

City: * [Input]

State: * AL [Input]

Service Animal?

Upload Photo: * Browse... No file selected.

Upload Video: * Browse... No file selected.

Description

Required *

Description *
Describe your pet. Is it friendly with kids? Other cats or dogs? Let people know.

Put up for Adoption

Pet Care Info

San Francisco State University, CSC648: Software Engineering Group 4

[My Account](#)
[Logout](#)

Happy Tails PET ADOPTION

[Search](#)

[Put Up For Adoption](#)

[Pet Care Info](#)

[About Us](#)

[Contact](#)

Pet Care Info

Cats

Choose right kind of food for building strong bones and teeth, adding muscle, and supplying all the energy needed for play and learning. Keep cats away from plastic and other kinds of trash. Visit a vet immediately if the cat falls sick. Use sprays to protect them from diseases. Get the cat vaccinated once a year. If the cat is unwell or recovering from a disease, speak to the vet about adjusting its food habits. Keep the cat groomed by cutting its nails at regular intervals. Brush its fur regularly. Use warm water to bathe the cat but they need not be bathed often. Take special care of its diet as it grows older to maintain its health and optimum body weight. They should be provided with good drinking water. Two square meals a day is recommended. Kittens need more energy than adult cats. Vet doctors recommend that kittens be feed commercial milk only after four weeks of birth. Cats should be handled gently. Arrange for a clean and dry place to house the cat and also provide a litter box to maintain hygiene.

Dogs

Choose right kind of food for building strong bones and teeth, adding muscle, and supplying all the energy needed for play and learning. Keep puppies away from plastic and other kinds of trash. Visit a vet immediately if the puppy falls sick. Use sprays to protect them from diseases. Spray should be done before the dog has exposure to heat. Take the dog out for walk at least two times a day but avoid taking them for walks on the grass to prevent ham due to toxic lawn products. Keep water and dog-treats handy while exercising the dog. Teach the dog to sit on cue and interact with people. Start teaching them manners as

About Us

San Francisco State University, CSC648: Software Engineering Group 4

[My Account](#)
[Logout](#)

Happy Tails PET ADOPTION

[Search](#)

[Put Up For Adoption](#)

[Pet Care Info](#)

[About Us](#)

[Contact](#)

About us

Happy Tails is a team of five software developers working towards building an attractive and convenient online interface for people who are looking forward to adopt a pet and also those who are looking out for a suitable new home to give up their pet for adoption. We facilitate the adoption of young and old animals who are in desperate need of new homes. We have a wide variety to pets to choose from. Attractive photographs and videos make the pet viewing and searching experience enjoyable. Care is taken to keep the process straight-forward and simple so as to enable users across all age-groups to use the application without seeking external help.

Happy Tails hopes to create awareness among people about the ease of adoption with its application strategies. Our team aims to establish a personal connection with adopters, pets and pet-owners by providing them clear and specific details to make this process of adoption simpler. We also make sure to protect the privacy of the users to prevent them from being harassed.

Disclaimer: We do not accept liability for any kind of loss or harm caused by any animal listed in our pages.



kibis85@gmail.com

Aleksandr Kibis

Alex is an undergraduate student at San Francisco State University pursuing Computer Science. He previously worked as an Administrative Professional at Booz Allen Hamilton doing security testing and web administration. He currently works at 21Tech as an IT Intern focusing on SQL QA and Debugging. Born in Russia, he moved to the US during childhood. His future prospects include multimedia web applications.

Contact Happy Tails

San Francisco State University, CSC648: Software Engineering Group 4

My Account
Logout

Happy Tails PET ADOPTION

Search | Put Up For Adoption | Pet Care Info | About Us | Contact

Contact Us

Name:

Email:

Subject:

Message:

© 2015 Happy Tails, Inc. [Privacy](#) [Terms](#) [Back to top](#)

Edit User Account and Postings

San Francisco State University, CSC648: Software Engineering Group 4

My Account
Logout

Happy Tails PET ADOPTION

Search | Put Up For Adoption | Pet Care Info | About Us | Contact

Edit Your Account: JamesK

Personal info

Change Email:

Time Zone:

Change Password:

Confirm New Password:

Edit account postings

1: Edit Remove

2: Edit Remove

6. Team Contributions

Harini Parthasarathy <parth.harini@gmail.com> Sat, May 16, 2015 at 11:00 AM

To: Alex Kibis <kibis858@gmail.com>
Cc: John Santos <santos.john24@gmail.com>, Mats Jensen <matsjens1@gmail.com>, James K <j.klinkhammer@yahoo.com>

Hi All,

Contribution towards team-project:

I have been working on the front-end of this application.

I am responsible for the creation, content inclusion, revision and styling of three pages - About US, Pet Care Info and Post Adoption.

I have worked on documentation for the Milestones which include paper drawings - Mockups, initial draft of Use Cases and Executive Summary, UML (Deployment diagram) and the Usability Testing report.

I also did code-review as a part of M4.

Regards,

Harini

Mats Jensen <matsjens1@gmail.com> Sat, May 16, 2015 at 12:19 PM

To: Harini Parthasarathy <parth.harini@gmail.com>
Cc: Alex Kibis <kibis858@gmail.com>, John Santos <santos.john24@gmail.com>, James K <j.klinkhammer@yahoo.com>

Contribution:

I have been working on front-end, more specifically, the login-register.php, account.php and contact.php

In the documentation I have been working on the data glossary, the QA test plan, and a little on the Use Cases.

Regards,

Mats

James Klinkhammer <j.klinkhammer@yahoo.com> Sun, May 17, 2015 at 12:08 AM

Reply-To: James Klinkhammer <j.klinkhammer@yahoo.com>

To: Alex Kibis <kibis858@gmail.com>, John Santos <santos.john24@gmail.com>, Mats Jensen <matsjens1@gmail.com>, Harini Parthasarathy <parth.harini@gmail.com>

Contributions:

Worked primarily on backend.

- served as SVN master, managed the repository.
- contributed to previous documentations. Things like competitive analysis, risks etc.
- participated in code review
- created login/registration system + got the uploading of BLOBs to database working in 2nd vertical prototype.
- reworked vertical prototype to use object oriented design.
- reworked the vertical prototype with PDO connections instead of mySQL.
- made Search.php dynamically create sql queries based on the search filter.

- Integrated search functionality. Results page and dropdown bar.
 - Integrated uploading of pets functionality.
 - Integrated pet-profile page with the back end.
 - changed display of all images from original content to thumbnails.
 - integrated contact using mailto.
 - other minor things I don't remember.
-

Alex Kibis <kibis858@gmail.com>

Sun, May 17, 2015 at 11:28 AM

To: Mats Jensen <matsjens1@gmail.com>

Cc: Harini Parthasarathy <parth.harini@gmail.com>, John Santos <santos.john24@gmail.com>, James K <j.klinkhammer@yahoo.com>

Hey Everybody,

Here are my contributions:

- Project Management
 - Organized meetings
 - Managed priorities
 - Booked meeting rooms
 - Communicated project statuses to team
 - Monitored and updated task lists
 - Authored and edited milestone documentation
 - Built milestone document template
- UI/UX Design
 - UI lead
 - Built website theme/template
 - Smoke tested updates

- Built the Home, Search Results, and Pet Profile pages

Sincerely,

Alex Kibis

John Santos <santos.john24@gmail.com>

Sun, May 17, 2015 at 12:56 PM

To: Alex Kibis <kibis858@gmail.com>

Cc: Mats Jensen <matsjens1@gmail.com>, Harini Parthasarathy <parth.harini@gmail.com>, James K <j.klinkhammer@yahoo.com>

Hey guys,

Here are my contributions:

CTO - part of the backend team.

- database administrator
- built vertical prototype
- documented and directed coding style for the team
- created database schema
- participated in code review
- created class diagrams
-
- reworked vertical prototype to use object oriented design.
- reworked the vertical prototype with PDO connections instead of MySQL.

- Integrated account page backend code with UI
- documented non-functional specs and system architecture and system organization
- overview the technical side of the project

Regards,

John

7. Challenges

It was the first time many of us have ever undertaken a software project from its infancy all the way to a release-ready solution. Contrary to popular belief, coding is the easy part of software engineering. What really makes a product stand out from the rest of the pack are the people who support it. The birthplace of every piece of software is in the mind of an individual, it is then the programmer's task to make it come alive on screen. In order to even begin conceptualizing, it was crucial for us to put together a strong list of fundamental requirements which accurately reflect the product being presented. After numerous rounds of feedback, we were all very excited about building an extremely feature-rich application. As the project entered later stages of development, scope-reduction was a term that was quickly learned.

'Lots of half-working features
 <
smaller set of well-functioning features'

Prioritization drove us to make several adjustments which resulted in a very easy to use application versus one that would have suffered numerous bugs and usability issues. Now there's a whole list of features which can be implemented in Phase 2 of the project.

After spending a semester working with Bootstrap and always thinking "API Usability", we found the documentation for it lacking quite a bit. While there were plenty of great examples available online, nowhere did we find an actual class/id/function reference for the library. This is something that introduced several UI hurdles including redundant CSS additions. If we were to build this website again, we would use Materialize CSS - a website framework based on the Material Design Pattern. It also took a substantial amount of time to get caught up on the server-side technologies. These things together made the task of integration much more difficult than expected. Additionally, all members of the team had very busy schedules which made it tough to have face-to-face meetings all the time. We had to mostly rely on remote web conferences.

There were quite a bit of growing pains in this project, but we were able to overcome them through some hard work and dedication. The outcome being a working software package ready on the expected deliverable date.