

# Adopt-A-Pet Technical Report

## PREPARED BY

Sean-Matthew Aujong

Tushar Kohli

Nandu Vudumula

Edward Chamblee

Sohum Kapoor

## Motivation

Adopt-A-Pet serves as a one-stop website where potential pet owners research the best way to adopt their next pet. From lifestyle preferences to browsing adoption centers, this product speeds up the timeline from visiting the adoption center to bringing the pet home. Adopt-A-Pet emphasizes enabling compassionate pet owners and underserved adoption candidates. In particular, Adopt-A-Pet will provide information for adoption centers, different species and breeds, as well as adoptable pets.

## User Stories

### Choosing Pet by Breed

*"I am a pet lover who is looking for a specific dog breed to adopt. I would like to see all the dog breeds available for adoption and select one or more of the available dog breeds. I only want to see dogs of the breeds that I selected."*

**Status:** To be implemented in Phase 3

### Distance to Adoption Center

*"I would like to adopt a pet in the nearest adoption center. I would like to be able to find adoption centers near me (by distance or P.O. box). I would also like to be able to sort this list by adoption centers nearest me."*

**Status:** To be implemented in Phase 3

### Filtering/Sorting Pets by Adoption Center

*"I would love to adopt a pet, however I only want to adopt from no-kill shelters because I believe they are more humane. I would love to be able to filter or sort the adoptable animals by what type of animal shelter they come from, or by the rating of the animal shelters they come from."*

**Status:** To be implemented in Phase 3

### Have Images of Pets on Their Page

*"I don't know much about different breeds of dogs, so I won't be searching for a specific breed. My kids only want to adopt a dog if it looks a certain way. It would be really helpful to see images of what the available pets look like."*

**Status:** Implemented in Phase 1 - instance page for adoptable pet contains its picture

### Looking for a Specific Animal

*"I am looking for only cats, and want to be able to filter the results so no other animals appear in order to make my experience faster."*

**Status:** To be implemented in Phase 3

### Filter by Breeds

*"I am really interested in adopting a pet for my household. More specifically, I am looking to adopt a beagle. I would like to see a general view of all beagles that are currently up for adoption."*

**Status:** To be implemented in Phase 3

### Filter by Adoption Center Location

*"I am thinking of adopting a pet from an adoption center in my area. It would be great to see a list of adoption centers filtered by PO Box. If this is not possible, I'd love to see it by county or city."*

**Status:** To be implemented in Phase 3

### Adoption Center Map

*"I am considering driving to a nearby adoption center. It would be great to have a map associated with each adoption center so that I could get an idea of the area it is in."*

**Status:** Implemented in Phase 2 - Each adoption center instance comes with Google Maps media

### Multiple Images of Species

*"I am not that knowledgeable when it comes to dog species and would love to see images to gain a better understanding. Would it be possible to have multiple images of each dog species? A variety of sizes and colors would be great."*

**Status:** To be implemented in Phase 3

### Medical Information

*"I noticed that a feature on the pets page was medical information. I was wondering if it would be possible to see that earlier, without having to click on each pet to find out."*

**Status:** To be implemented in Phase 3

## User Stories for Developer Group (Gallery Gaze)

### Awarded Artists

*I am a casual art enthusiast who wants to learn more about artists who have received a certain award. I would like to see all the different awards possible and filter artists by awards received. It would be really cool to see what kind of artwork they won the award with, as well as a text and image description of the award.*

### Researching Artistic Movements

*I am a student researching about a particular art movement. I should be able to search up artworks and artists from a certain art movement. I want to know about the time period that the art movement was in, as well as its common characteristics and historical motivations.*

### Visiting Museums

*I am a vacationing tourist looking for museums in the area I am vacationing in. I would like to search for museums in a certain radius, as well as their operating hours. I want a description of the museum as well as a general overview as to what artists and artworks it hosts.*

### Art Origins

*I am a college student in an art history class and I would like to learn about art pieces and artists that originated in a certain area. I want to filter artworks and artists by some geographical location (country, city, etc.). I would like to know about a description of their origins as well as dates.*

### Fame in Art

*I am a social media influencer looking to make content on the top echelon of wealth and fame in the art world. I would like to sort prominent artwork, artists, and museums by some measure of net worth. I would also like to see a heatmap of prominently successful origin locations.*

## Art Media

*I am a hobbyist learning to use a particular art medium. I would like to be able to filter artworks by medium. I would also like to filter artists by which medium they are famous for using.*

## Gallery Sizes

*I am a traveller planning a trip to see galleries of different sizes. I would like to be able to search for galleries based on the number of works they host and how many people visit daily.*

## Cost of Museum

*I am a traveling tourist looking for museums to visit. I want to pick the museum I want to go to based off how expensive the museum is. I would like to filter and sort the list of museums by price.*

## Art Materials

*I am an art student trying to learn about artworks made using certain materials. I would really like to know why certain materials are used. I would like to also search for artworks by the materials they are made with.*

## Museum Popularity

*I am an avid art enthusiast touring famous museums. I would like to sort the museum list by yearly visitors. I would also like to sort a list of museums by yearly visitors around a certain area.*

## Art Timeline

*I'm an art teacher preparing a timeline of different artworks. I would like to be able to view a timeline of artworks. Based on their date of creation, I would like to generate this timeline.*

# RESTful API

<https://documenter.getpostman.com/view/17710041/UUy38kte>

## Adoptable Pets API Endpoints

### GET all adoptable pets

*api.adoptapet.me/ap*

Returns a list of all the adoptable pets in our database with basic information on the adoptable pet, such as its name, sex, age, color, description and a url to a picture of it (and the adoption center number it belongs to as well as the breed number it is)

### **GET adoptable pet by api\_id**

*api.adoptapet.me/ap/<int:api\_id>*

Returns the information of an adoptable pet given its (api\_ (meaning from api.rescuegroups.org))id, such as its name, sex, age, color, description and a url to a picture of it.

## **Breeds API Endpoints**

### **GET all breeds**

*api.adoptapet.me/sb*

Returns a list of all of the breeds in our database with information on each breed, such as its name, affection level, alternative names, api\_id, adoption centers where it can be found, child-friendly, code of country of origin, dog-friendly, energy level, grooming difficulty, hairless, health issues, whether it is hypoallergenic, ID, intelligence level, life span in years, country of origin, shedding level, short legs, social needs, species ID, species name, stranger-friendly, suppressed tail, temperament, vocalization, weight, Wikipedia URL, and youth name.

### **GET breeds by api\_id**

*api.adoptapet.me/sb/<int:api\_id>*

Returns the information of a breed given its api\_id, such as what centers carry that breed, the adoptable pets that are of this type of breed, the name of its species, the name of the breed, what a youth of its species is called, its temperament, life span, alternate names, wikipedia url, origin countries, weight, country code of its country of origin, and height. There are also binary values for traits such as hairless, suppressed tail, short legs and hypoallergenic. On the other hand, the following characteristics are on a scale from 1 to 5, with 5 being the maximum or highest: adaptability, affection level, child friendly, dog friendly, energy level, grooming, health issues, intelligence, shedding level, social needs, stranger friendly and vocalization

## **Adoption Center API Endpoints**

### **GET all adoption centers**

*api.adoptapet.me/ac*

Returns a list of all the adoption centers in our database. This information includes what pets it shelters, the species of those pets, the center's name, street address, city, state, zipcode, email, phone, latitude and longitude coordinates, and the services it provides

### **GET adoption center by api\_id**

*api.adoptapet.me/ac/<int:api\_id>*

Returns the information of an adoption center given its api\_id. This information includes what pets it shelters, the species of those pets, the center's name, street address, city, state, zipcode, email, phone number, latitude and longitude coordinates, and the services it provides

# Models

## Breeds

-

api_id	natural
centers	suppressed_tail
pets	short_legs
species_id	hypoallergenic
species_name	adaptability
breed_name	affection_level
youth_name	child_friendly
temperament	dog_friendly
life_span	energy_level
alt_names	grooming
wikipedia_url	health_issues
origin	intelligence
weight	shedding_level
country_code	social_needs
height	stranger_friendly
hairless	vocalization

### Adoptable Pets

- api\_id
- center\_id
- species\_breed\_id
- center\_number
- breed\_number
- name
- sex
- age
- color
- desc
- pic\_url

### Adoption Centers

- api\_id
- pets
- species\_breeds
- name
- street
- city
- state
- zipcode
- email
- phone
- lat
- lon
- services

### Filterable/Sortable Attributes:

**Breeds:** name, breeds, life expectancy, weight (size group: small, medium, large), origin

**Adoptable Pets:** species, breed, age (group), sex, size (group)

**Adoption Centers:** state, country, species carried, service(s) offered, type (rescue v shelter)

### Searchable Attributes:

**Breeds:** name, country of origin, color, size group, life-expectancy

**Adoptable Pets:** species, breed, age (group), sex, size (group)

**Adoption Centers:** state, country, species, service provided, type

### Media:

**Breeds:** google map of origin country, youtube videos, table of breeds, text list of adoptable pets of that breed and adoption centers that carry that breed

**Adoptable Pets:** grid of pets, picture of pet, text of its characteristics and a description of it, map of its Adoption Center location

**Adoption Centers:** table, map of where its located, text of its services and type, text list of the species it carries, and tags of the services it offers

### Connections:

**Species:** Connects to Adoptable Pet because there will be multiple Adoptable Pets of a certain species. Connects to Adoption Center because an Adoption Center carries multiple species.

**Adoptable Pets:** Connects to Species because an Adoptable Pet is of a certain type of species. Connects to Adoption Center because each Adoptable Pet is found under its respective Adoption Center.

**Adoption Centers:** Connects to Species because an Adoption Center will carry certain types of Species. Connects to Adoptable Pets because an Adoption Center will have certain Adoptable Pets available.



# Tools

## Backend

- Elastic Beanstalk: Used to host and deploy backend API
- AWS Relational Database Service (RDS): Used to host our database in the cloud
- Postman: Used to test api calls and create a documentation of our api
- NameCheap: Used to get a domain and for DNS management

## Frontend

- React: Used to render the website and connect the user interface to the backend
- React Bootstrap: The CSS framework used for the website
- Selenium: Used to test GUI of website
- Jest: Used to test React and Typescript components and functions
- AWS Amplify: Used to deploy the frontend of our site
- GitLab: Used to code storage and CI/CD

## APIs:

- <https://gitlab.com/api/v4/projects/29831002/repository/contributors>
- <https://api.rescuegroups.org/v5/>
- <https://docs.thecatapi.com/>
- <https://docs.thedogapi.com/>
- <https://developers.google.com/maps>

# Hosting

Acquired domain name from NameCheap for free using the GitHub Student Developer Pack. We deployed our GitLab repository on AWS Amplify, which hosts our web content. AWS Amplify connected to our domain name from NameCheap and also issued the TLS/SSL certificate to enable HTTPS protocol. We also handled redirection from *adoptapet.me* to *www.adoptapet.me*.

# Phase 2 Features

## Pagination:

We implemented pagination in the backend by referencing a past group's, Texas Votes, code. We first enabled the client or user to pass query parameters to our three api endpoints, /ap, /ac and /sb. We look for 'page' and 'perPage' query parameters specifically. Then we query the

table for each respective endpoint. If the user doesn't specify a page manually, then we default to returning the first page of data. We store the count of entries we have in our db for the db query, and then if the user specifies the perPage param, we store that otherwise we return a default value of 20 instances on each page. Finally we return the instances and count of total number of instances

### Database:

We use the AWS Relational Database Service (RDS) and connect it to an instance of a PostgreSQL database so we can store our data in the AWS cloud. We used pgAdmin as it provides a GUI with which we can see and query our database and tables therein. We specified our AWS RDS endpoint as the pgAdmin host and connect to our database with our the username and password we created. Flask knows how to connect to our database because we specify it in the app configuration. We used Flask-SQLAlchemy in order to populate, query and filter our database and Flask-Marshmallow to provide a schema for all the tables inside our database. These schemas are what specifies what fields in the JSON object our api endpoints return

## Gitlab

<https://gitlab.com/10am-group-8/adopt-a-pet>