CS 340 Project Submission Packet
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Your Perfect Pet: Pet Adoption Website

Website URL: http://flip2.engr.oregonstate.edu:9900/

The idea for our project came out of both of our love for animals; it was one of the things we immediately clicked on in our first meeting and seemed like an obvious starting point for this project. The main goal of our project, to create a website that lists people and animals and tries to match them, has stayed consistent, but the breadth of the endeavour has been paired down. Most of the edits we made over the course of development served to make the organization of the project and the implementation of the database backend more straightforward, both for our development needs and timeline, and to ease the experience of the hypothetical end user. Around week three we had a "Eureka" moment when we realized we could streamline the logical system by which we paired potential adopters with animals, which really enabled us to get the ball rolling on the development.

There were a number of UI changes we made along the way. Initially, we had intended for our website to be one page with conditional formatting dictating which forms appeared and disappeared for the user, as needed. We decided that, while such an experience would be sleek it could be confusing for the user, as well as being a source of complication for the project that was unnecessary for completing the delineated tasks in the project document. Also, after a number of peer reviews some students were finding this layout to be confusing. To feed two birds with one scone, we decided to break all of the modules out into their own pages, with links on each page to make the UX more straightforward and simple. In the same vein, we decided to restrict the domain of the project to zip codes related to the city of Portland, OR because trying to map the whole country was, frankly, a silly thing to waste time on, and not something that added a lot of value to the project itself. This stage of development consisted of a lot of reality checks, and having to take a step back to understand that what we originally sought out to accomplish wasn't impossible, but was very ambitious, and we could develop a proof of concept with a more narrow set of data points.

With regards to developing the backend, once we began to plan the particular implementation of the database, we realized we needed to change around some primary keys and also implement two relationship tables to manage the many-to-many relationships between people and locations and people and species. This wasn't necessarily a hurdle we had to overcome, but was something that became clear as we learned more about the relationships between different tables in a database and the ways in which they are managed by the backend system of choice.

Project Outline

Introduction: Our website will serve as a matchmaking service between people looking for a new pet and animals in need of a home in the Portland, Oregon. Portland will be the Pilot test city before the website is expanded to other cities across the USA. The entities we will define are the animals seeking homes, the people seeking pets, the locations of the people and animals. People seeking pets will choose what types of pets they are looking for (dog or cat, for example), and the animals will be classified by what type of animal they are. The relationships between all four entities will generate a list of perfect matches between people in need of pets and animals in need of homes.

Entities:

Entity I: Animals
Attributes:

- ANIMAL_ID
    - Data type: auto-incrementing integer
    - Constraint: Primary Key
- Name
    - The name of the animal that is up for adoption, assigned by the rescue group
    - Data type: VARCHAR(255)
- Age
    - Approximate age, in years only
    - Data type: integer
- Weight (in lbs)
    - Data type: int(11), zero value indicates less than 1 lb of weight
- Location_ID
    - Data type: int(11)
    - Nullable
    - Constraint: Foreign Key
- SPECIES_ID
    - Data type: integer
    - Constraint: Foreign Key

Entity II: People

Attributes:

November 11: We have chosen to split up the name attribute into first_name and last_name

- People_id
    - Data type: auto-incrementing integer
    - Constraint: Primary Key
- First name
    - Data type: VARCHAR(255)
- Last name
    - Data type: VARCHAR(255)
- Age
    - Data type: integer
    - Unit: years
- Location_ID (See update note under location)
    - Data type: int(11)
    - Constraint: Foriegn Key
- SPECIES_ID
    - Data type: integer
    - Constraint: Foriegn Key

Entity III Location

Attributes:

November 11: We have chosen to restrict the domain of our database to that of Portland, Oregon. We have also chosen to restrict ourselves to five digit zip codes as opposed to the full nine digit versions. Portland, OR has 34 five digit zip codes assigned to it which we decided was sufficiently large for the purposes of this project.

- Location_id
    - Data type: int(11), auto-incrementing
    - Constraint: Primary key
- Zip code
    - Five digit series of numbers that in the United States corresponds to a specific area within a specific City, State pair (for larger areas of the country a city, state pair may have more than one zip code assigned to it, however zip codes never overlap.
    - Data type: VARCHAR(5), text in the format #####
- City
    - Data type: VARCHAR(255)
- State
    - Two letter abbreviation corresponding to US state.

- Data type: CHAR(2) format “XY”

Entity IV: Species

Attributes:

- SPECIES_ID
  - Data type: auto-incrementing integer
  - Constraint: Primary Key
- SPECIES_NAME
  - Data type: VARCHAR(255)
  - Name of the animal type (for example, dog or cat)

Relationships:

1) **Many-to-many**: Species to People
   Each person could be looking for a different type of animal. For example, Person X could want a dog or a cat. Each type of animal could be paired with multiple people. For example, Person X wants a cat but so does Person Y and Person Z. Therefore, this relationship is many-to-many.

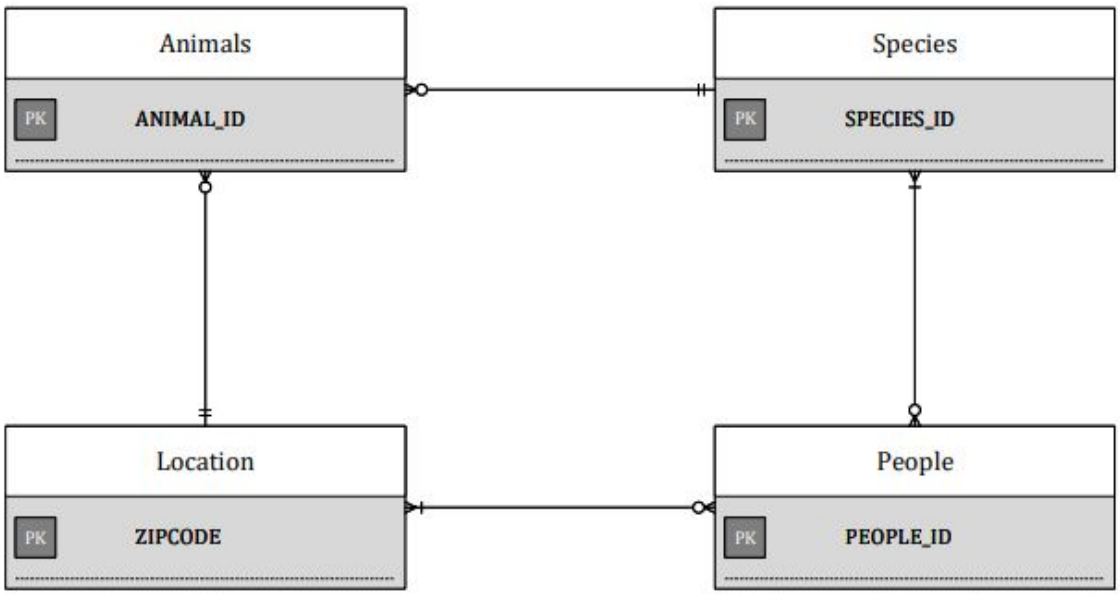
2) **One-to-many**: Species to Animal
   Each animal will only be classified as one species. For example, Animal A is a dog. Therefore, it will only have one species ID associated with it, namely, the species ID for dog. However, there could be many distinct animals in the database which are dogs. Therefore, the relationship between species and animal is one-to-many.

3) **Many-to-many**: Location to People
   In regards to a person, the zip codes they are searching for correspond to the regions in which they are searching for an animal. Even though they might live in zip code A, they could be searching for an animal in zip codes A, B, C, and D, because they are willing to go outside of their immediate region to find an animal. On the other hand, zip code A could have multiple people associated with it. Therefore, Location to People is a many to many relationship.

4) **One-to-many**: Location to Animal
   An animal can only physically be in one location. However, a single location can be tied to many different animals. Animal X could be in Houston but so could Animal Y and Animal Z. Therefore, this defines a one-to-many relationship.

ER Diagram:

ER Diagram
Your Perfect Pet: Pet Adoption Website



Each animal is exactly one species.
Each species can apply to many animals.

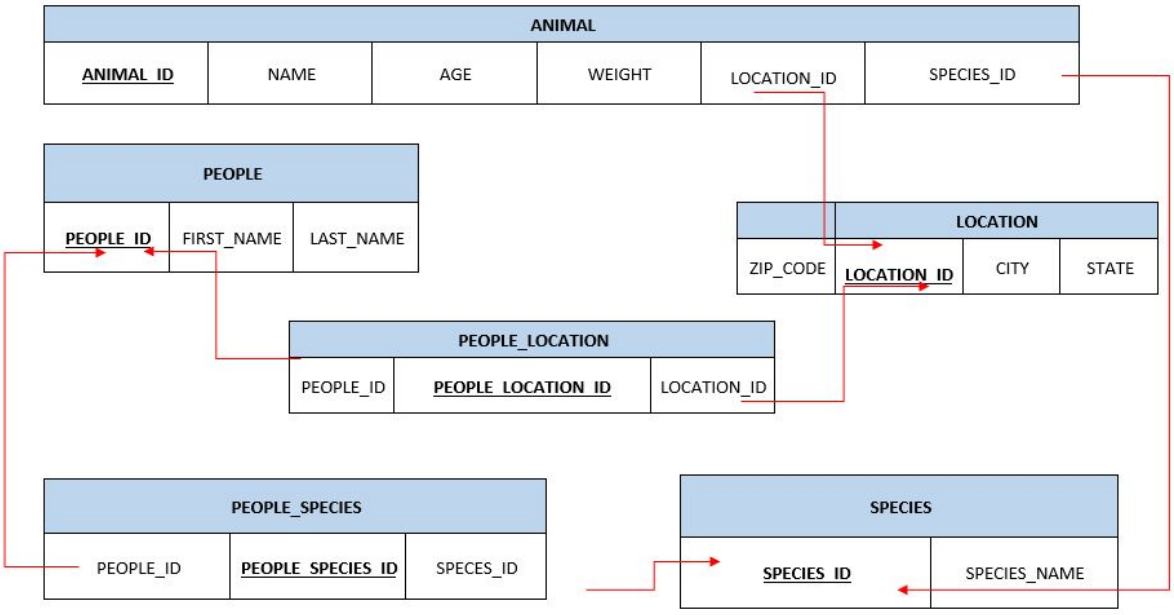
Each person is looking for at least one species.
Each species can be matched with many people.

Each Person has at least one location
Each animal has exactly one location

Each Location can have many people
Each Location can have many animals

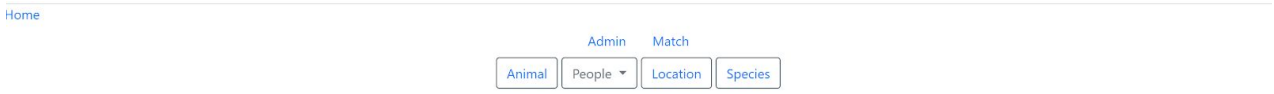
Schema:

CS340 Project Schema

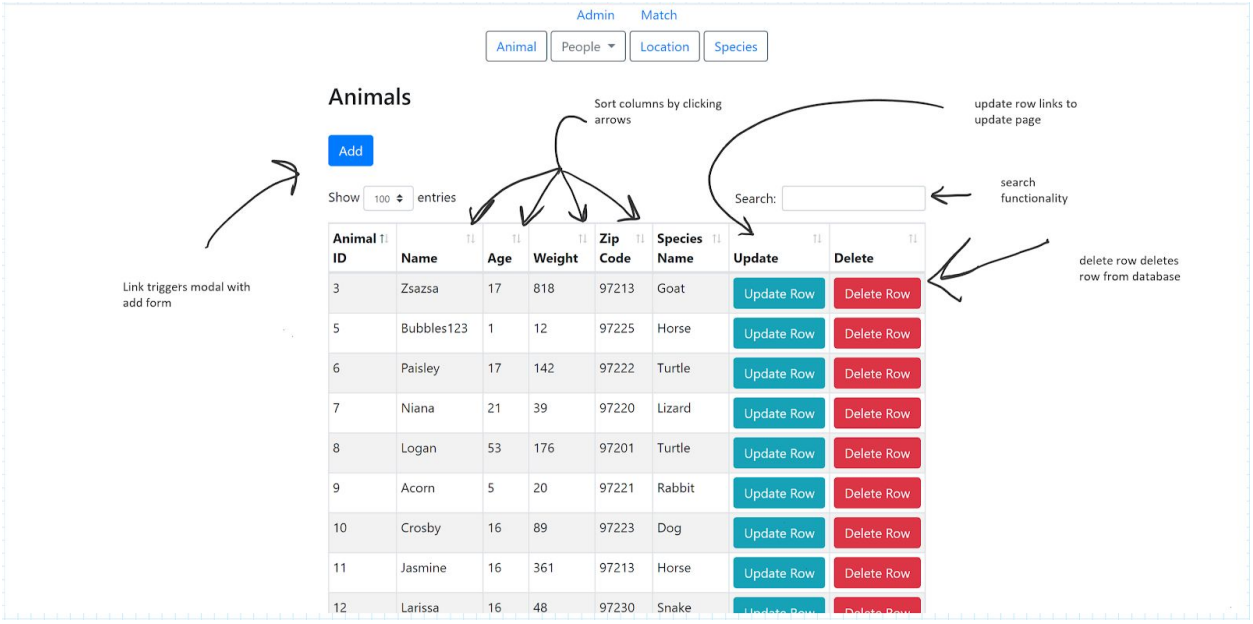


UI Screen Captures

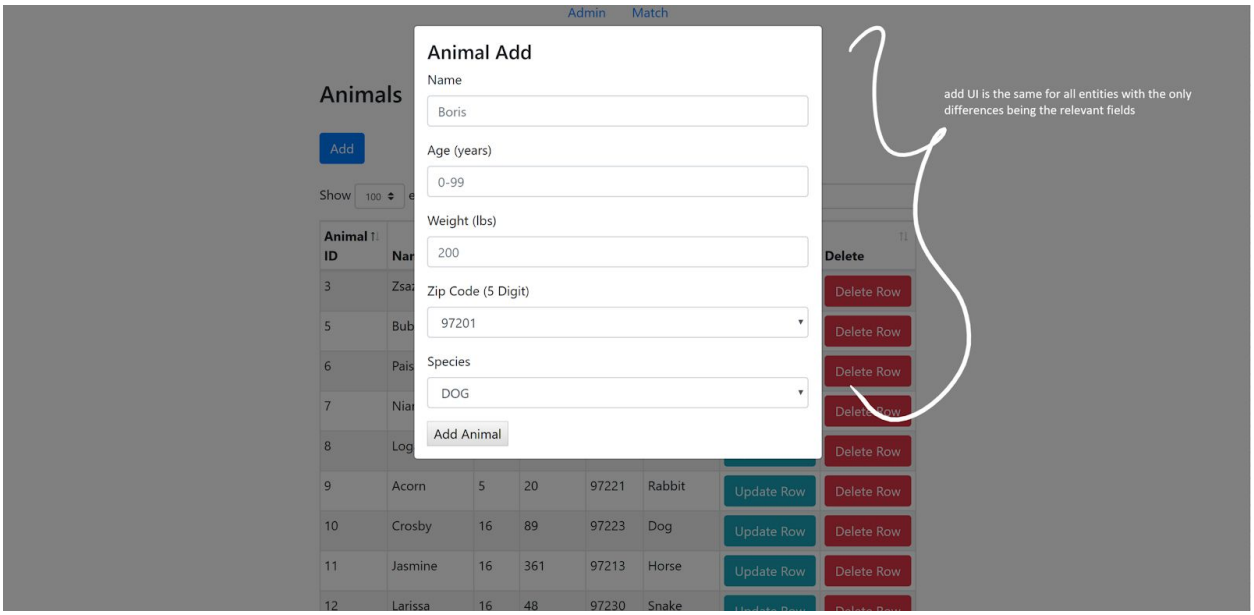
Admin Page with Links to pages related to each entity



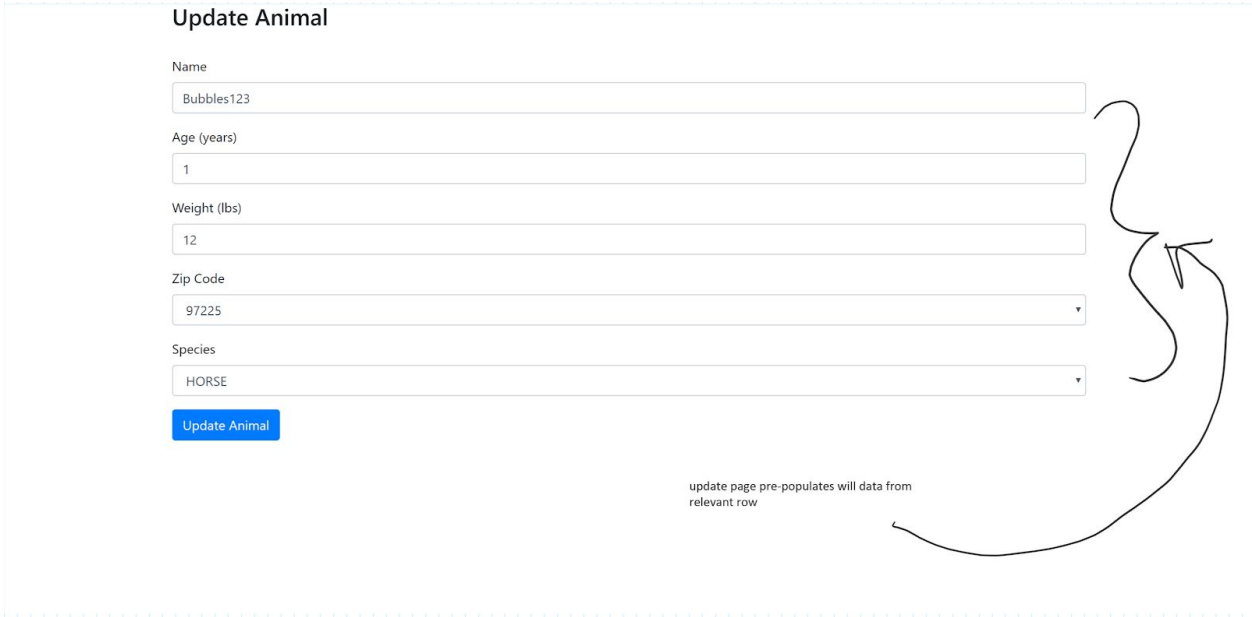
Animal Page with add, delete, update, sort, filter (search) functionalities



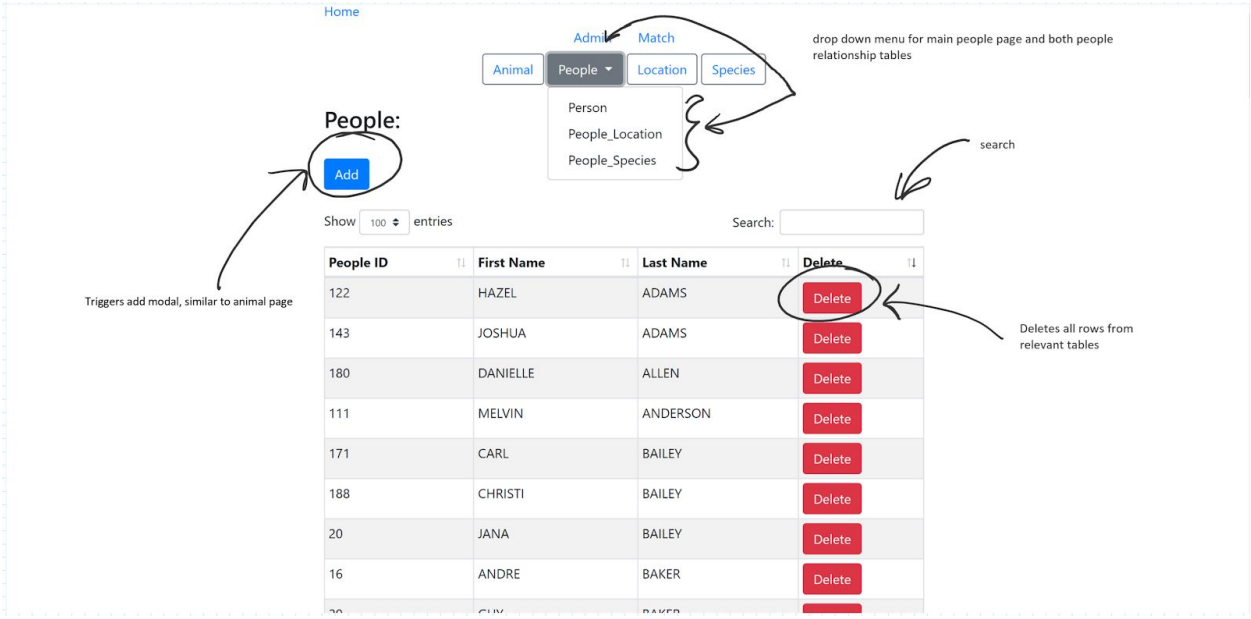
Add Modal detail of add functionality



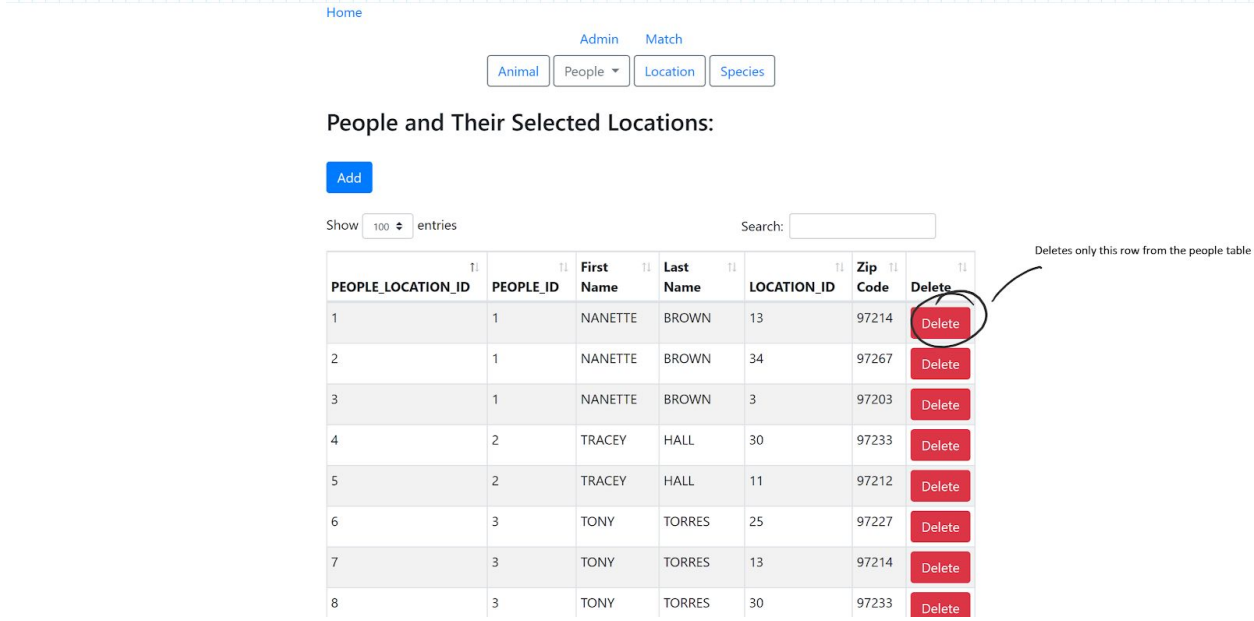
Update Animal Page



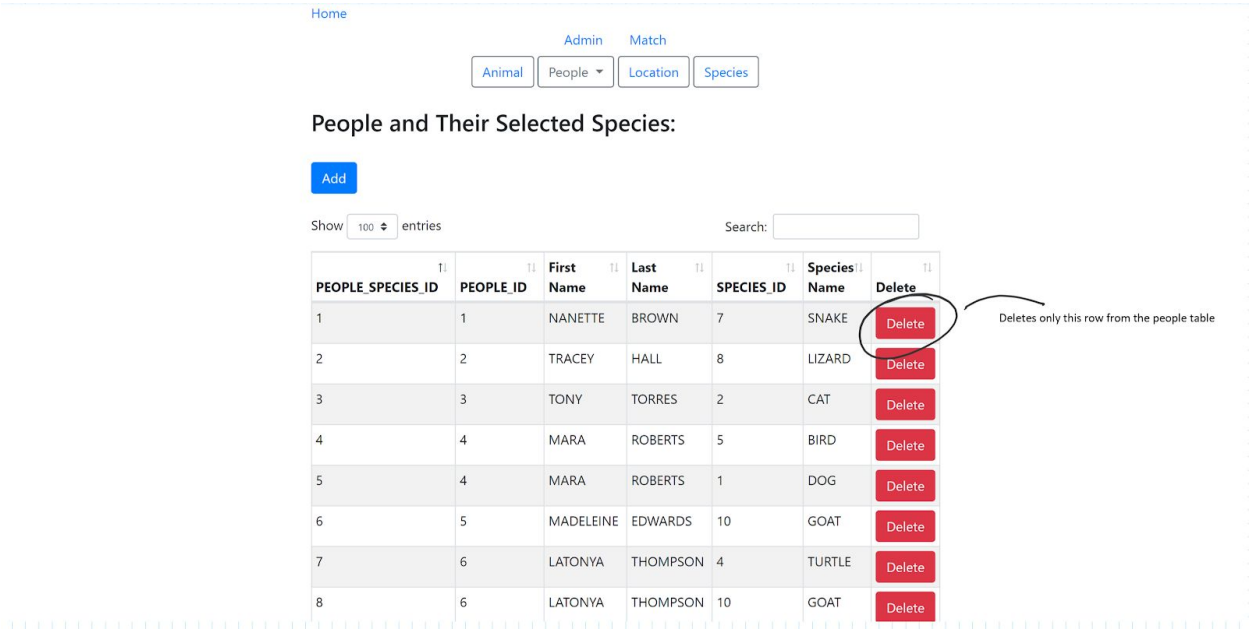
People Page with add, delete, sort, filter (search) functionalities for M:M relationship



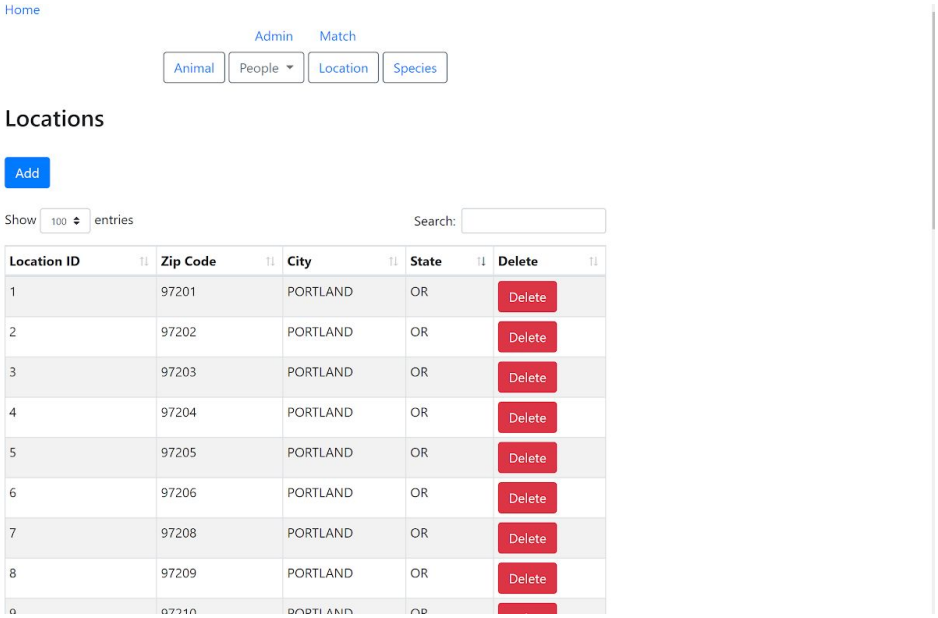
People_Location Relationship Page with add, sort, filter (search) and delete functionalities



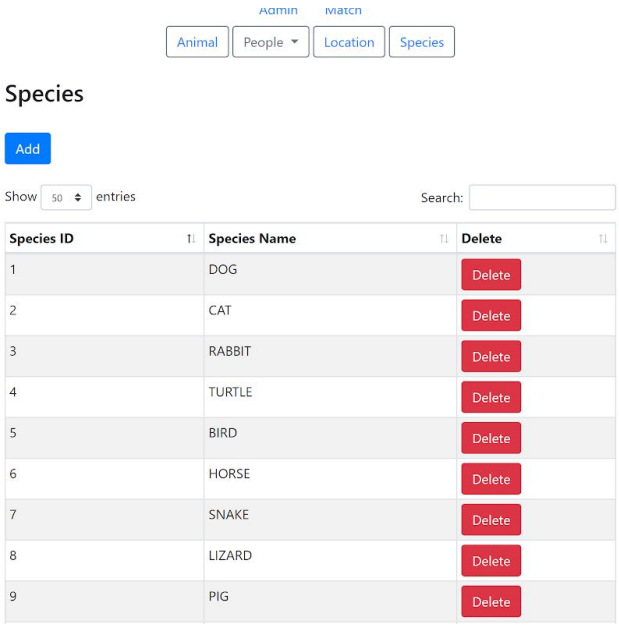
People_Species Relationship Page with add, delete, sort, filter (search) functionalities



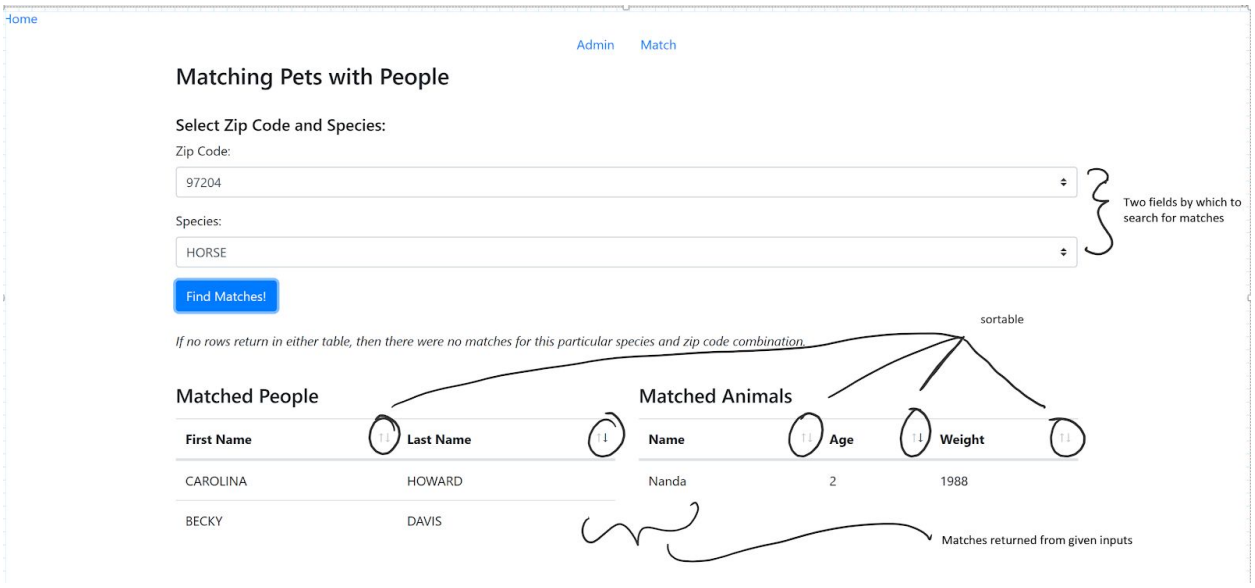
Locations Page with add, delete, sort, filter (search) functionalities



Species Page with add, delete, sort, filter (search) functionalities



Match page, links to admin page are now removed (because of operation in a different mode)



Match page detail: two drop down menus pre-populated with valid values by which to find matches