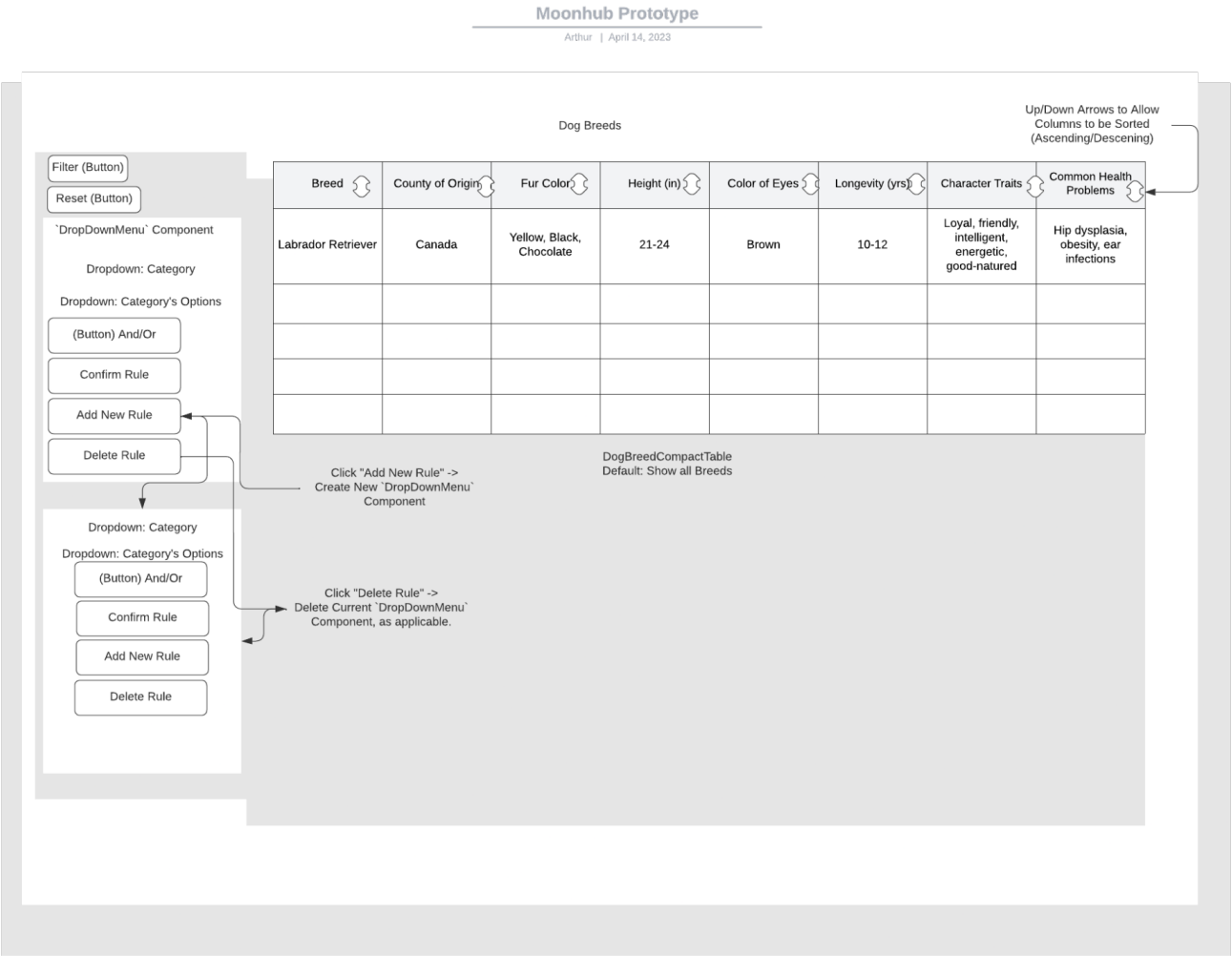# Architecture / PRD Sketch

Front End Architecture

Prototype / Picture

High-Level Application "/App.js"

We will have a one-page application. We will be using the React framework.

Dog Breeds

ID	Breed	Country ...	Fur Color	Height (in)	Color of ...	Longevit...	Characte...	Common ...
0	Labrador Ret...	Canada	Yellow, Black...	21-24	Brown	10-12	Loyal, friendl...	Hip dysplasi...
1	German She...	Germany	Black, Tan	22-26	Brown	7-10	Loyal, intellig...	Hip dysplasi...
2	Bulldog	England	White, Red	12-16	Brown	8-10	Loyal, calm, ...	Skin allergie...
3	Poodle	France	White, Black,...	10-15	Brown, Blue	12-15	Intelligent, a...	Hip dysplasi...
4	Beagle	England	White, Tan, ...	13-15	Brown	12-15	Curious, frie...	Ear infection...
5	Chihuahua	Mexico	Black, Brown...	6-9	Brown, Blue	12-20	Loyal, energ...	Dental probl...
6	Boxer	Germany	Fawn, Brindle	21-25	Brown	10-12	Loyal, energ...	Hip dysplasi...
7	Golden Retri...	Scotland	Golden	21-24	Brown	10-12	Intelligent, fri...	Hip dysplasi...
8	Pug	China	Fawn, Black	10-14	Brown	12-15	Loyal, playful...	Eye problem...
9	Rottweiler	Germany	Black, Tan	22-27	Brown	8-10	Loyal, protec...	Hip dysplasi...
10	Siberian Hus...	Russia	Black, White	21-24	Blue	12-15	Independent...	Hip dysplasi...
11	Dachshund	Germany	Black, Tan	5-9	Brown, Blue	12-15	Loyal, energ...	Intervertebra...
12	Shih Tzu	China	Black, White,...	9-10	Brown	10-16	Affectionate,...	Dental probl...
13	Bichon Frise	France	White	9-11	Brown	12-15	Playful, affec...	Dental probl...
14	Australian S...	Australia	Black, Red	18-23	Brown, Blue	12-15	Intelligent, e...	Hip dysplasi...
15	Basset Hound	France	Black, Tan	11-15	Brown	10-12	Affectionate,...	Dental probl...
16	Cocker Span...	England	Black, Brown	14-15	Brown	12-15	Affectionate,...	Ear infection...

Search

Reset

Select...

Select...

AND   OR

Confirm Rule

Unconfirm / Clear Rule

Add New Rule

Delete Rule

Functions

- Data loading & set states
- Organize the enumerated values (all possible values for each column) for each field to display these values in the drop-down.
- Filter function the dataset
    - Helper function that processes each record and compares it against the filter criteria/clauses

Rendering (Components)

- Header Components
- Filter Form Component
- Table Component

Components

Header Component "./components/Header.js"
This header component will display the title of the application.

Dog Breeds

Filter Form Component "./components/FilterForm.js"

This filter form component will be what the user interacts with the most to filter and search for the dog breed. Within the filter form component, we will have separate sub-components. These subcomponents will be rendered:
- Search Button
- Reset Button
- DropDownMenu Component

Search Button

When the search button is hit, we will accumulate all filter clauses that the user has selected, filter all the dog breeds based on the filter clauses, then render the results on the Table component.

Reset Button

When the reset button is hit, we will clear all filter clauses that the user has selected, so that all dog breeds will be displayed on the Table component again.
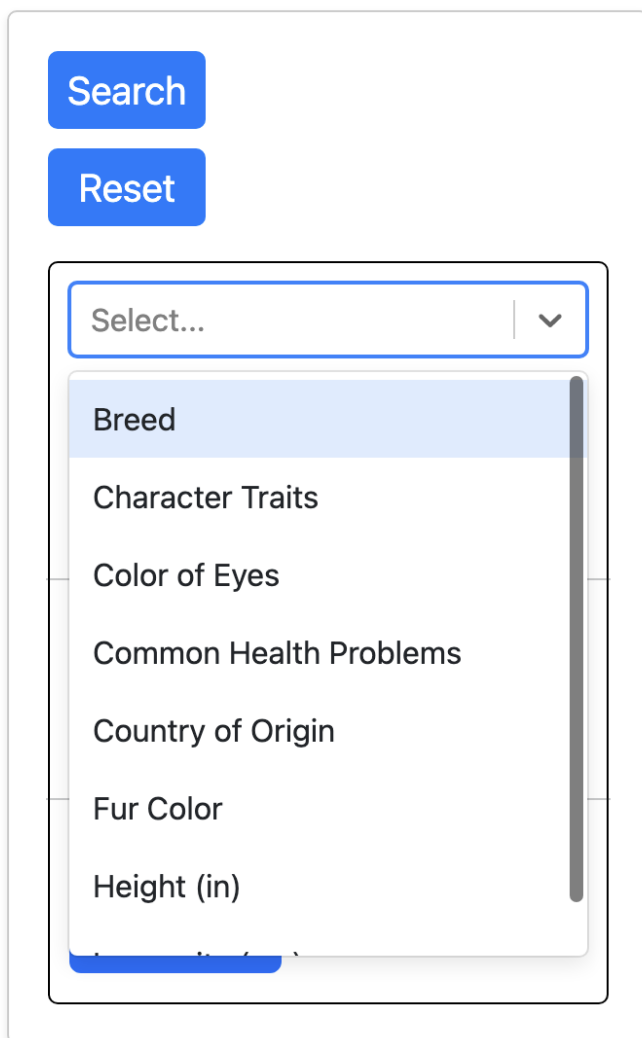
The DropDownMenu component will allow a user to select a category or column from a drop-down menu bar. Once a category or column is selected, all possible values of the category will be displayed in a second drop-down menu bar.

The user will then also be able to select whether they want to add this clause to the filter statement with an AND or OR.

Given how the components are split up, their states and functions, and how we want to account for the user to be able to reverse their decision, the user will have two buttons to either confirm their selection or clear their selection.
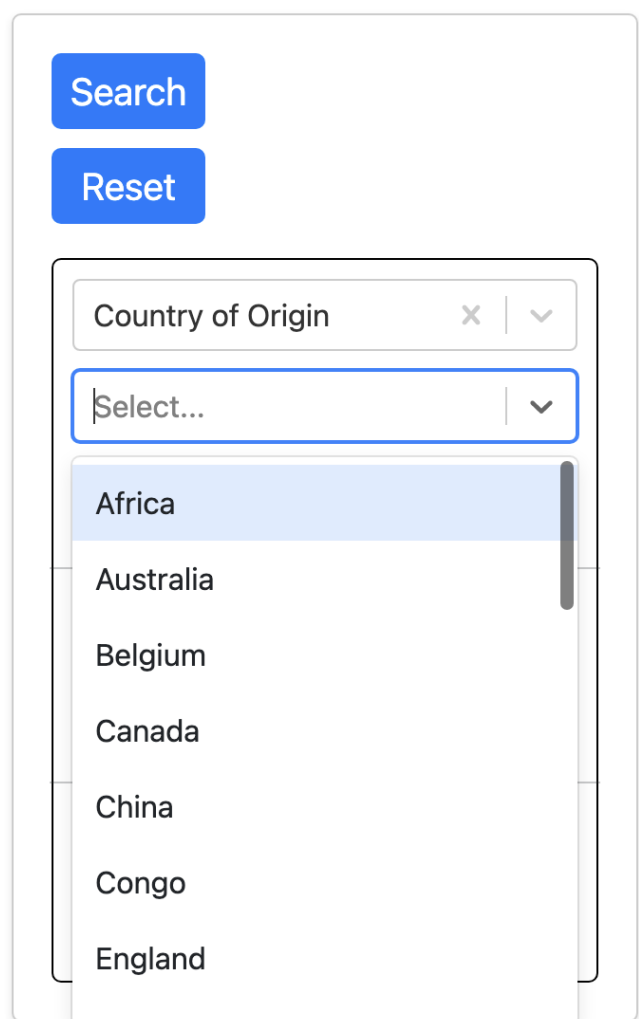
To account for new filter clauses to be added, we are also adding two new buttons. One will add a new DropDownMenu to be rendered to the FilterForm component. The other will delete the current DropDownMenu component unless it is the first / only one.

Drop Down to select category/column   Drop Down for the category's values

Table Component: "./components/DogBreedCompactTable.js"
This table will display all the breeds. This table will also display all columns for a dog breed and display the values for each breed's column.

ID ⇅	Breed ⇅	Country ... ⇅	Fur Color ⇅	Height (in) ⇅	Color of ... ⇅	Longevit... ⇅	Characte... ⇅	Common ... ⇅
0	Labrador Ret...	Canada	Yellow, Black...	21-24	Brown	10-12	Loyal, friendl...	Hip dysplasi...
1	German She...	Germany	Black, Tan	22-26	Brown	7-10	Loyal, intellig...	Hip dysplasi...
2	Bulldog	England	White, Red	12-16	Brown	8-10	Loyal, calm, ...	Skin allergie...
3	Poodle	France	White, Black,...	10-15	Brown, Blue	12-15	Intelligent, a...	Hip dysplasi...
4	Beagle	England	White, Tan, ...	13-15	Brown	12-15	Curious, frie...	Ear infection...
5	Chihuahua	Mexico	Black, Brown...	6-9	Brown, Blue	12-20	Loyal, energ...	Dental probl...
6	Boxer	Germany	Fawn, Brindle	21-25	Brown	10-12	Loyal, energ...	Hip dysplasi...
7	Golden Retri...	Scotland	Golden	21-24	Brown	10-12	Intelligent, fri...	Hip dysplasi...
8	Pug	China	Fawn, Black	10-14	Brown	12-15	Loyal, playful...	Eye problem...
9	Rottweiler	Germany	Black, Tan	22-27	Brown	8-10	Loyal, protec...	Hip dysplasi...
10	Siberian Hus...	Russia	Black, White	21-24	Blue	12-15	Independent...	Hip dysplasi...
11	Dachshund	Germany	Black, Tan	5-9	Brown, Blue	12-15	Loyal, energ...	Intervertebra...
12	Shih Tzu	China	Black, White,...	9-10	Brown	10-16	Affectionate,...	Dental probl...
13	Bichon Frise	France	White	9-11	Brown	12-15	Playful, affec...	Dental probl...
14	Australian S...	Australia	Black, Red	18-23	Brown, Blue	12-15	Intelligent, e...	Hip dysplasi...
15	Basset Hound	France	Black, Tan	11-15	Brown	10-12	Affectionate,...	Dental probl...
16	Cocker Span...	England	Black, Brown	14-15	Brown	12-15	Affectionate,...	Ear infection...

Table Enhancements

1) Columns are sortable, via ascending and descending. There will be visible up and down arrows to indicate ascending and descending. (GIF)

2) Columns' widths are resizable. (GIF)

Dog Breeds

		Search							

Search

Reset

Country of Origin ✕ ⌄

Select... ⌄

AND OR

Confirm Rule

Unconfirm / Clear Rule

Add New Rule

Delete Rule

ID ⌄	↔ Breed ⌄	Country ... ⌄	Fur Color ⌄	Height (in) ⌄	Color of ... ⌄	Longevit... ⌄	Characte... ⌄	Common ... ⌄
0	Labrador Retriever	Canada	Yellow, Black...	21-24	Brown	10-12	Loyal, friendl...	Hip dysplasi...
1	German Shepherd	Germany	Black, Tan	22-26	Brown	7-10	Loyal, intellig...	Hip dysplasi...
2	Bulldog	England	White, Red	12-16	Brown	8-10	Loyal, calm, ...	Skin allergie...
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16	Cocker Spaniel	England	Black, Brown	14-15	Brown	12-15	Affectionate,...	Ear infection...

3) When clicking anywhere within a record, it will open up a drop-down panel in the table to display the entire record's fields and values. (GIF)

Dog Breeds

Search

Reset

Select... ⌄

Select... ⌄

AND OR

Confirm Rule

Unconfirm / Clear Rule

Add New Rule

Delete Rule

ID ⌄	Breed ⌄	Country ... ⌄	Fur Color ⌄	Height (in) ⌄	Color of ... ⌄	Longevit... ⌄	Characte... ⌄	Common ... ⌄
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Back-End Architecture

Backend and hosting are not a priority for this PRD.

Database Schema

CSV's Column Names
- Breed
- Country of Origin
- Fur Color
- Height (in)
- Color of Eyes
- Longevity (yrs)
- Character Traits
- Common Health Problems

Data Integration

We'll use a React library, https://react-papaparse.js.org/, that parses the CSV and stores it in the application memory. We will load data from the dog_breeds.csv when the application spins up on localhost.

When the application and front-end components load, we'll automatically load the CSV data.