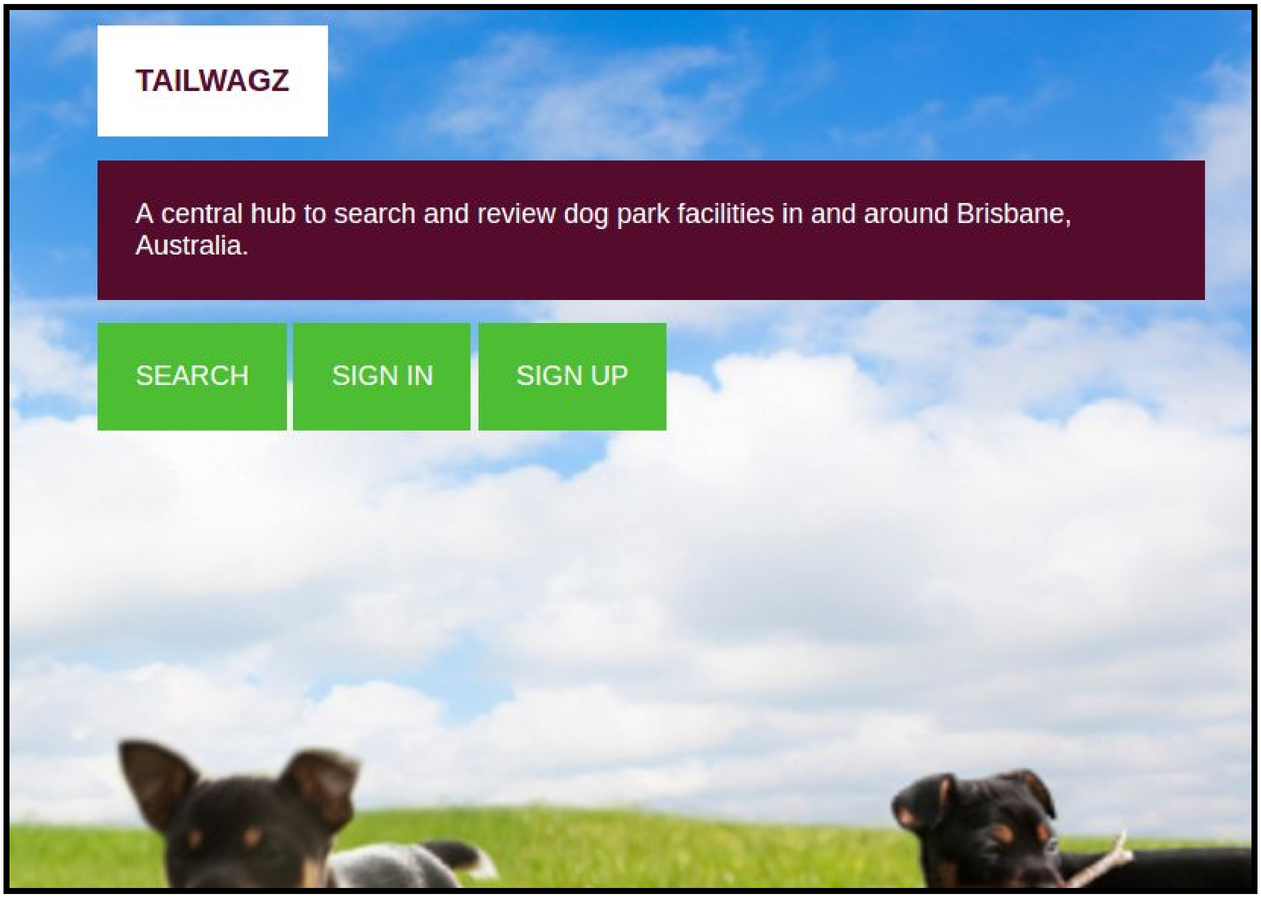
CAB230 Report

Tailwagz

Please view site in Chrome with the exception of the search by location functionality



TAILWAGZ

A central hub to search and review dog park facilities in and around Brisbane, Australia.

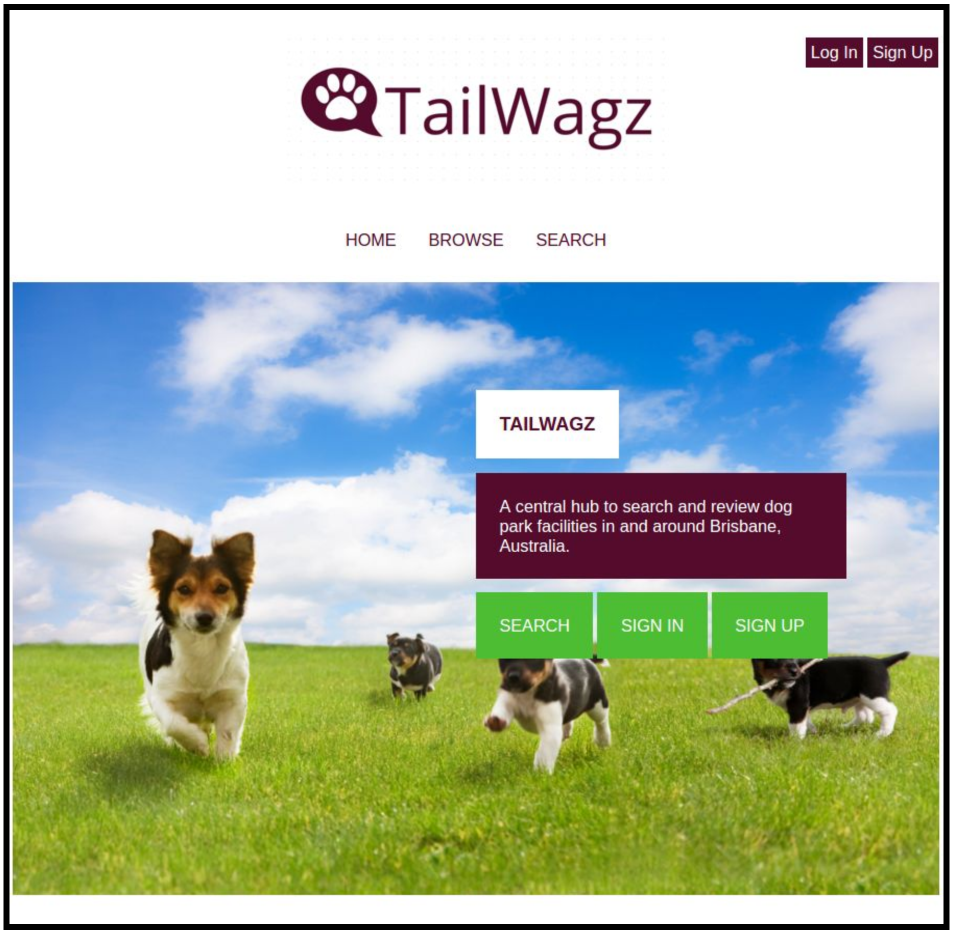
Jason Queen & Luke Josh

n9438726, n9155554

30-05-2016

Test Plan

Accessing the home screen



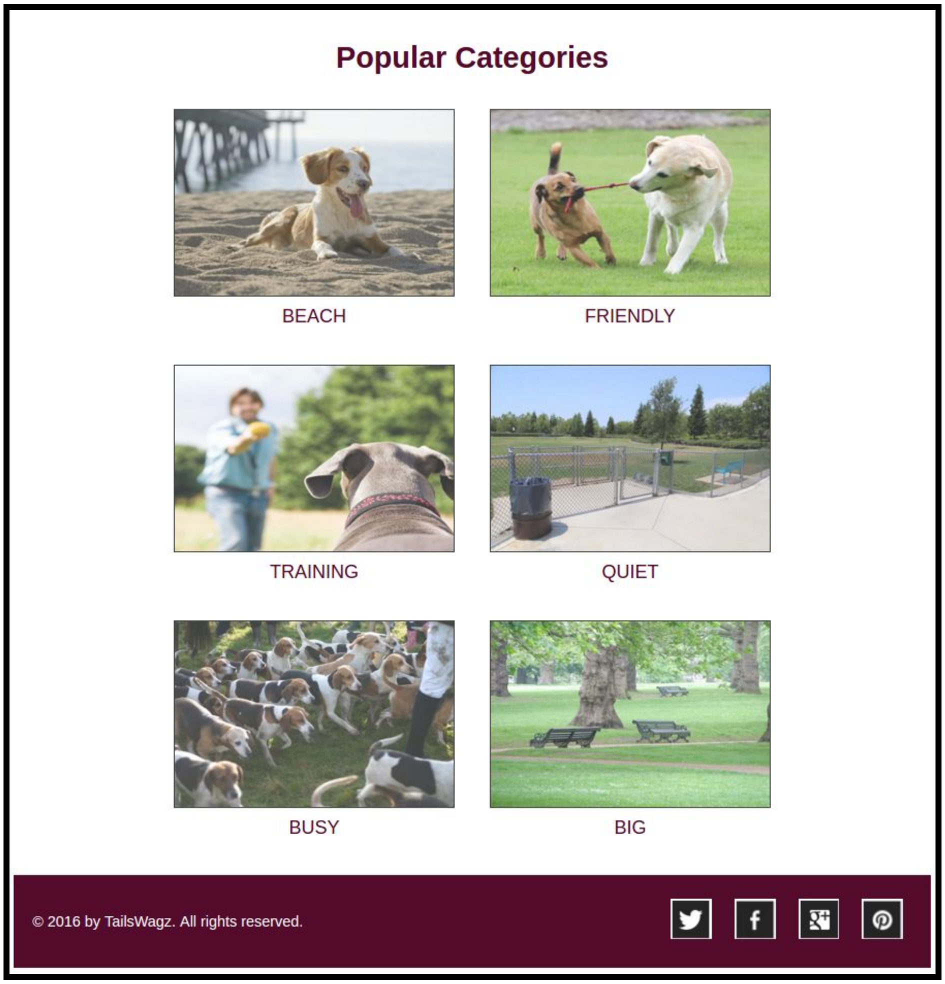
A central hub to search and review dog park facilities in and around Brisbane, Australia.

The header of the homepage contains the website logo, a standard “Signin, Signup and Signout” pane in the top right corner and a site standard navigation pane. This header is common across all other web pages for the website. The header provides user with access to a number of different pages;

- The login page (if not logged in). This allows the user to login using an existing account;
- The signup page (if not logged in). This allows the user to create a new account and leave reviews;
- The signout page (if logged in). This allows the user to logout of an account if they are already logged in;
- The homepage. This allows users to return to the homepage of the website;
- The search page. This allows users to search parks by a number of criteria;

- The browse page. Redirects to a results page containing all parks.

The body of the homepage provides the user with access to similar pages as the header. However, the purpose of these links are to suggest to the user what they may want to do next.



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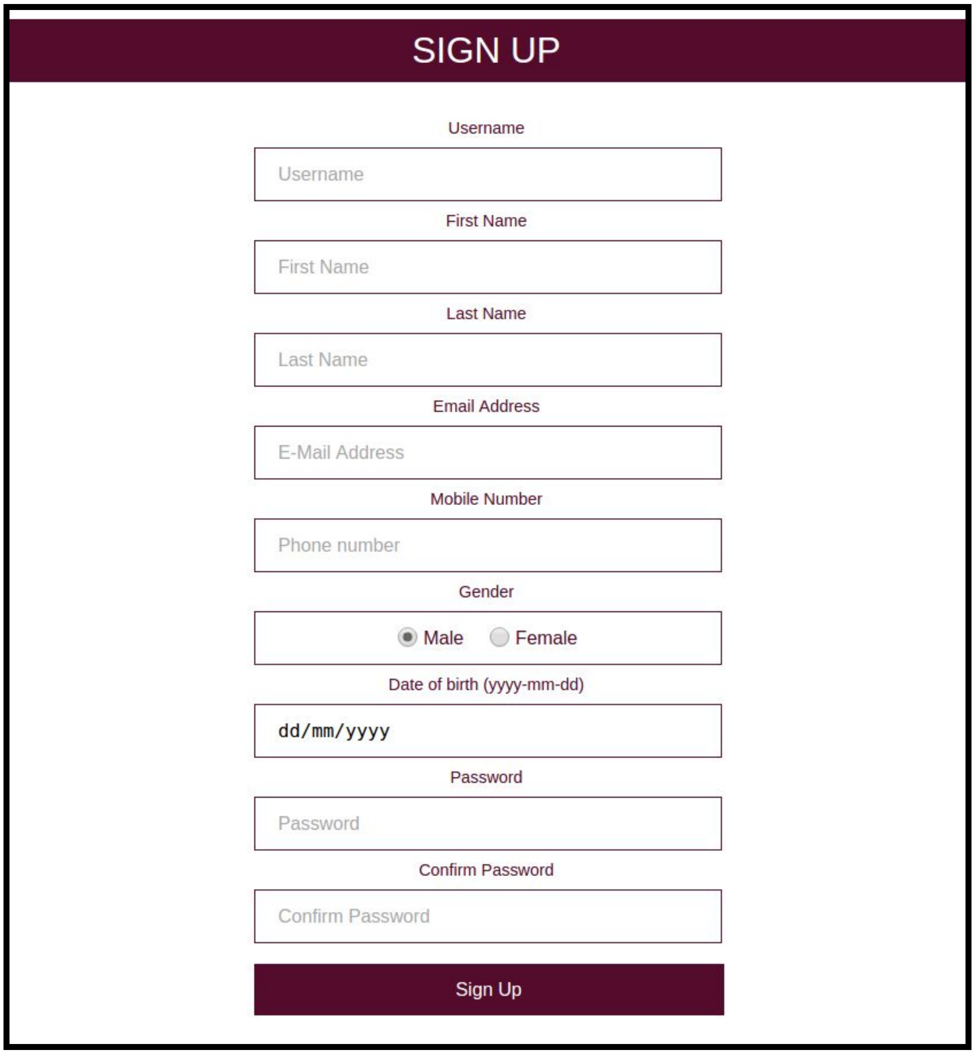
Further down the body of the homepage, there are links to a number of “popular” categories. These links perform a pre-configured search and redirect the user to a number of parks which other users have tagged as in a category. This was not part of the requirements of the assignment but help provide substance for the homepage.

The footer of the homepage, which is also common across the whole website, provides users easy access to social media links. These could be used for sharing of parks and reviews. These links currently do not work, however produce a well rounded look and feel.

Registering as a new user

When the user is not logged in, they are able to register or login to the website using the links at the top of any page. The registration page is as follows:



SIGN UP

Username

Username

First Name

First Name

Last Name

Last Name

Email Address

E-Mail Address

Mobile Number

Phone number

Gender

● Male ○ Female

Date of birth (yyyy-mm-dd)

dd/mm/yyyy

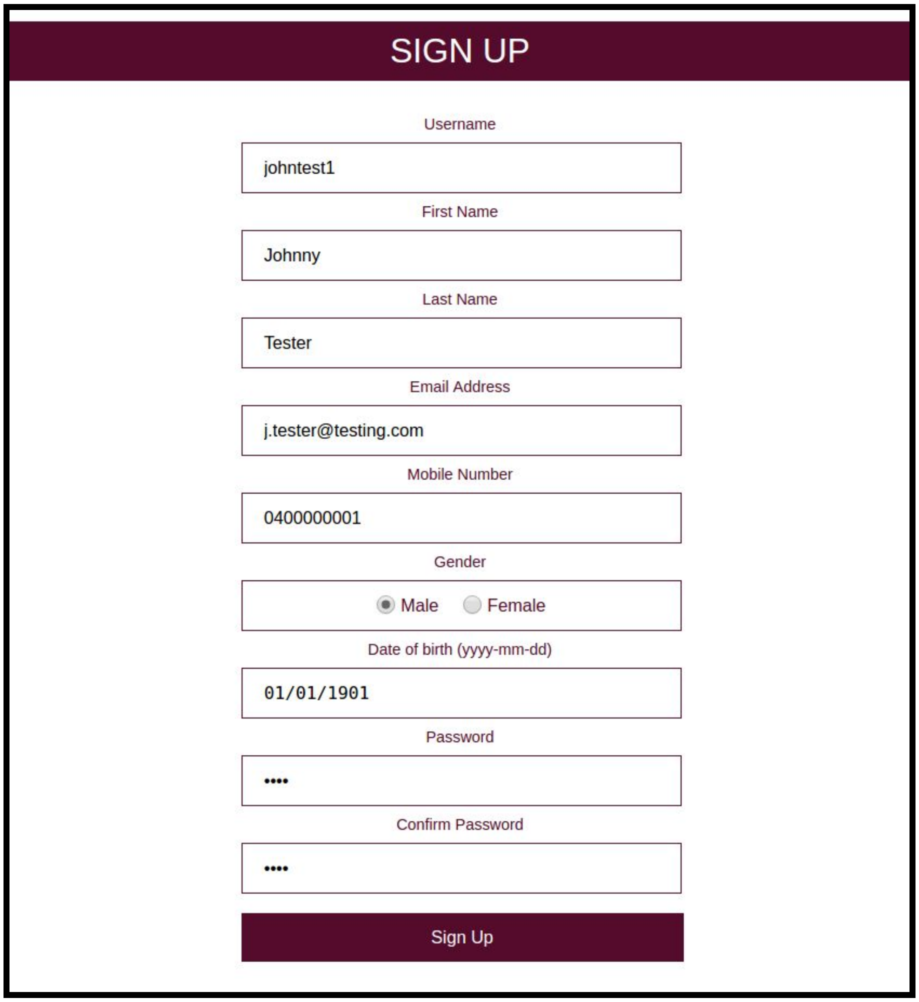
Password

Password

Confirm Password

Confirm Password

An example of registering a new user can be seen below. Once all information is validated on the client side and server side, the an SQL insert is performed which creates a new user in the database.



SIGN UP

Username: johntest1

First Name: Johnny

Last Name: Tester

Email Address: j.tester@testing.com

Mobile Number: 0400000001

Gender: ● Male ○ Female

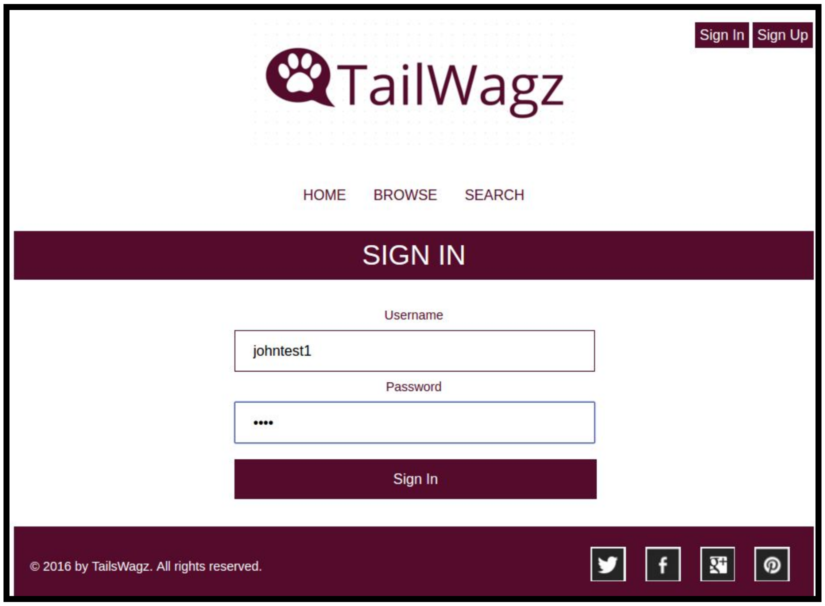
Date of birth (yyyy-mm-dd): 01/01/1901

Password: ••••

Confirm Password: ••••

Logging in as an existing user

The user created in the previous section is then able to log into the site using the “login” button at the top of the page.



SIGN IN

Username: johntest1

Password: ••••

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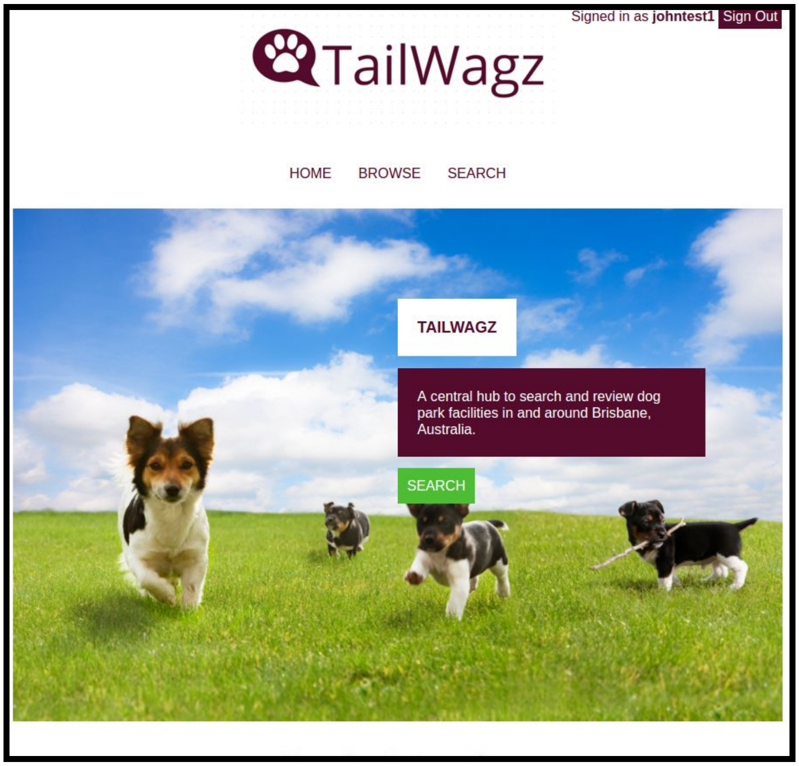
Which then takes the user back to the home page, logged in:

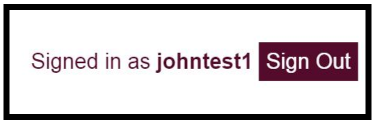


Signed in as **johntest1**

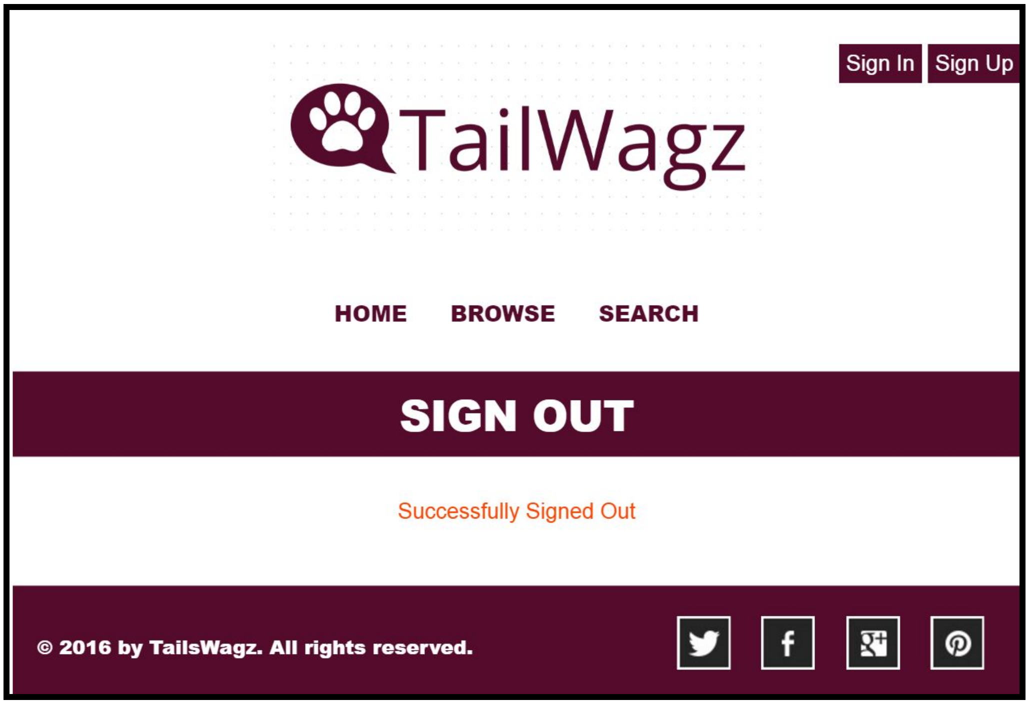
A central hub to search and review dog park facilities in and around Brisbane, Australia.

Logging out

To logout, the user must click the “Sign out” button in the top right hand corner.


Signed in as **johntest1**

The user is then redirected to a “Sign out” page which removes the session data from the server which then signs the user out.



SIGN OUT

Successfully Signed Out

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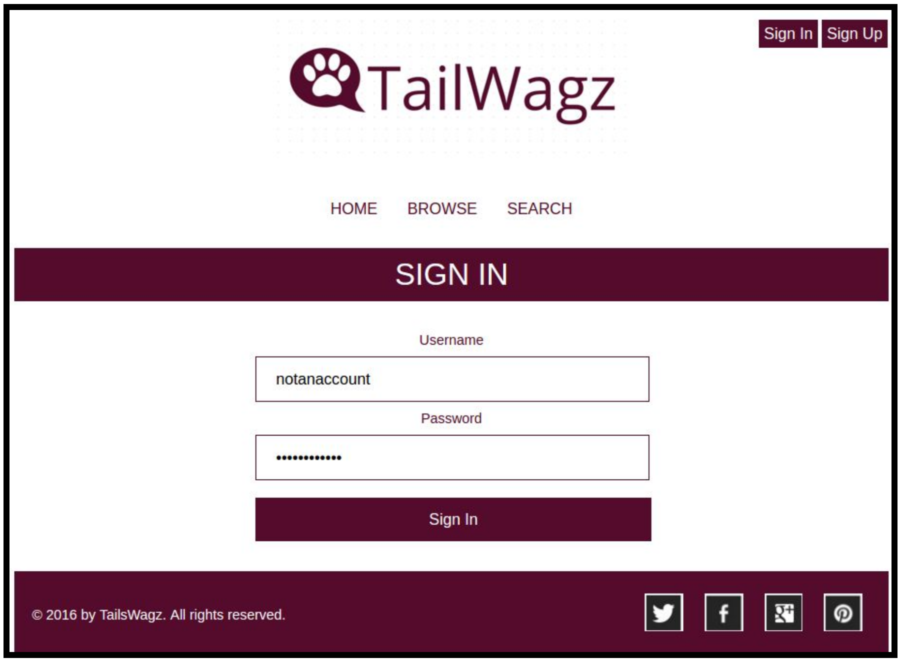
Unregistered user not being able to log in

The following screenshots show an unregistered user trying to log in.



Username

notanaccount

Password

••••••••••••

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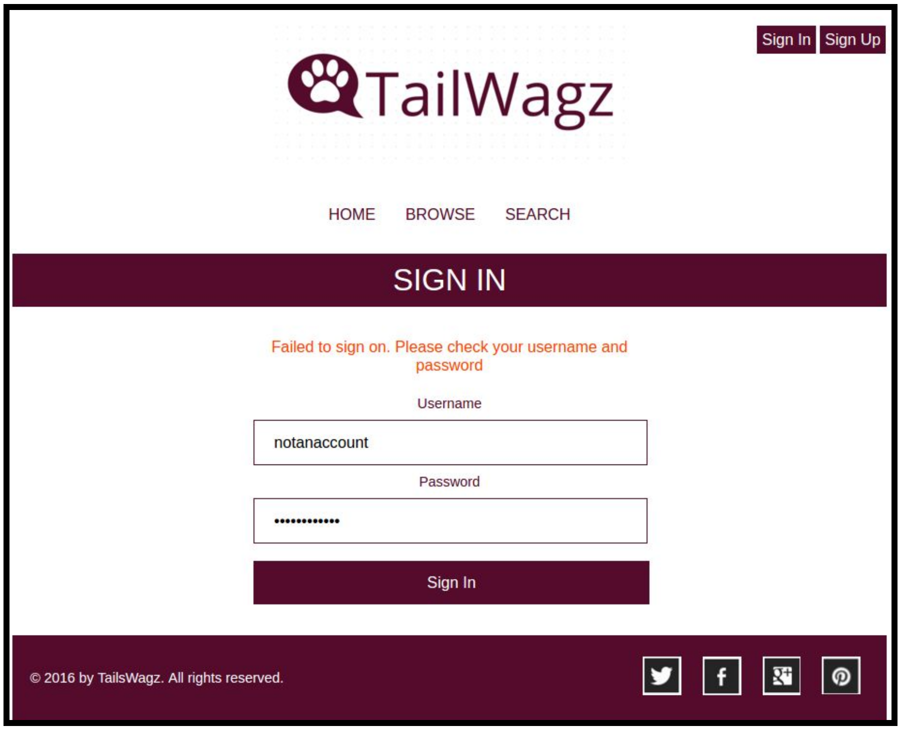

Failed to sign on. Please check your username and password

Username

notanaccount

Password

••••••••••••

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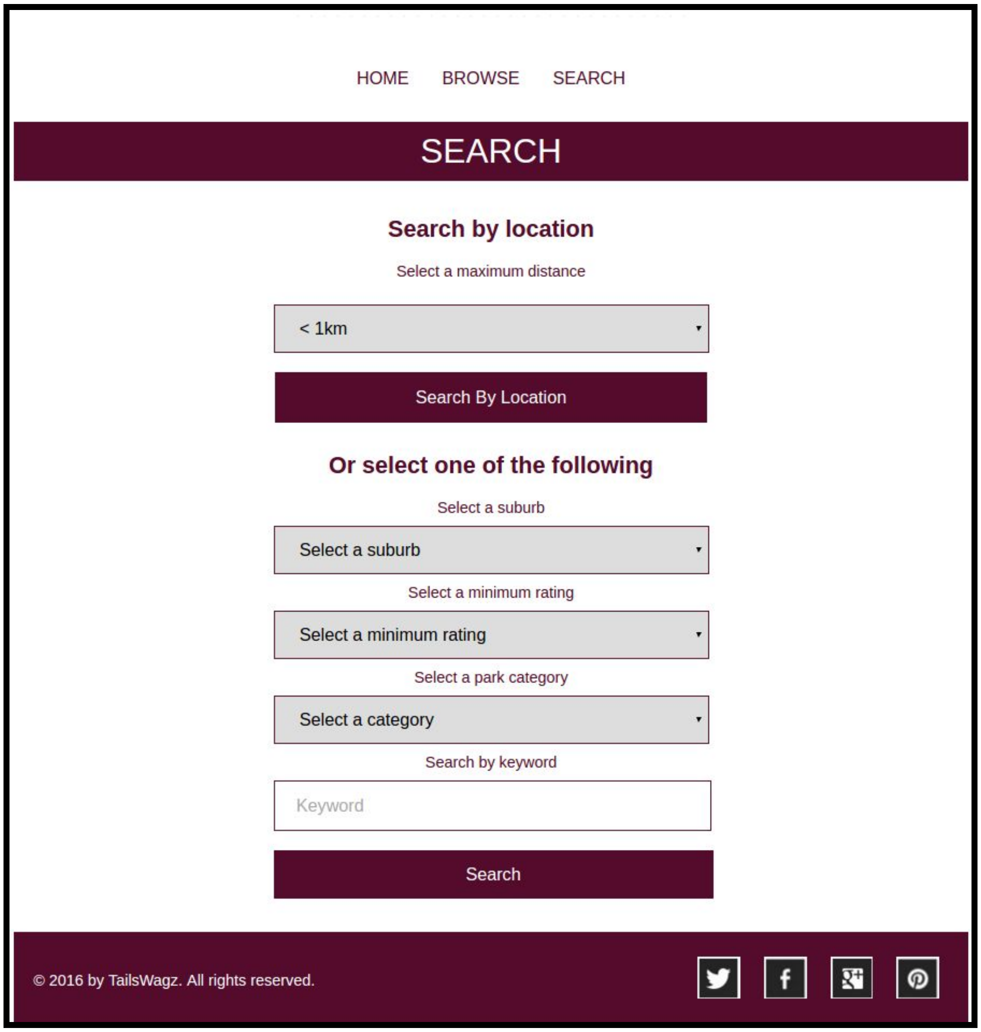
Searching the database



SEARCH

Search by location

Select a maximum distance

< 1km

Or select one of the following

Select a suburb

Select a suburb

Select a minimum rating

Select a minimum rating

Select a park category

Select a category

Search by keyword

Keyword

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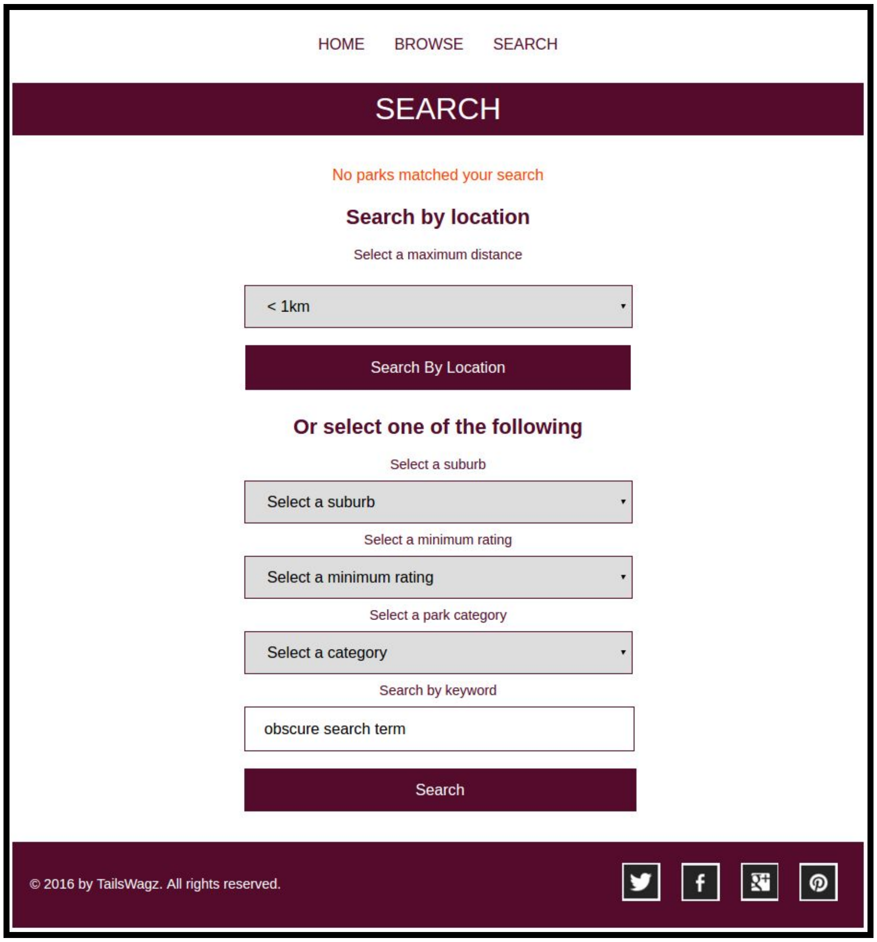
The search page offers searching by a number of different criteria. The search page allows users to search for a park within a specified distance from their location. Alternatively, the user is able to search by one of the following;

- Suburb. The user is able to select from a list of suburbs for which there are parks in.
- Minimum rating. The user is able to search for parks with a rating greater than a specified minimum rating
- Category. The user is able to select from a list of categories.
- Keyword. The user is able to search for a specific keyword. This performs a search on all dog park names and review messages for a match on the keyword.

The search form data is validated on the client side using HTML 5 validation and then submits a GET request to itself. The GET request parameters are then validated on the server side. If there are any errors or there are no search results for the specific GET request then an error message is displayed. The form is then also pre-filled with any existing GET request parameters for convenience for the user. Examples of search page validation can be seen below.

Searching for an item that does not exist in the database

A search term that returns no results will return the use to the search page with a message letting them know that no parks were found.



SEARCH

No parks matched your search

Search by location

Select a maximum distance

< 1km

Or select one of the following

Select a suburb

Select a suburb

Select a minimum rating

Select a minimum rating

Select a park category

Select a category

Search by keyword

obscure search term

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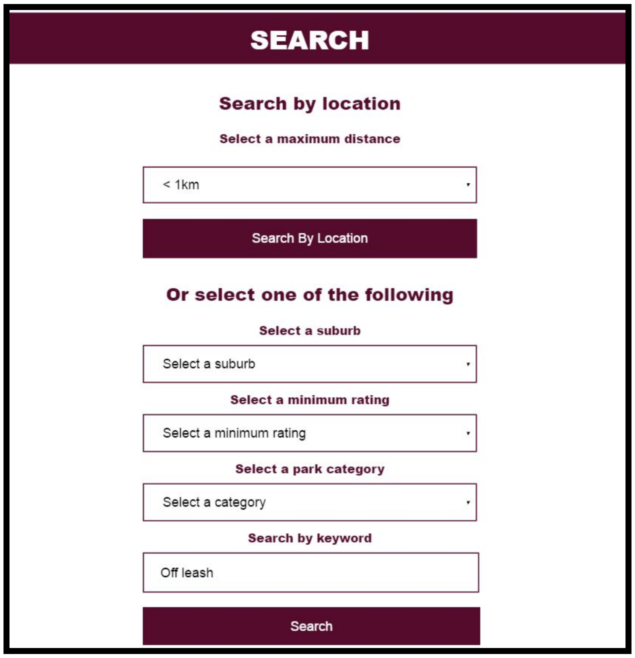
Searching for an item that does not exist in the database

A successful search query will take the user to the results, which lists all parks which fits the search term.



SEARCH

Search by location

Select a maximum distance: < 1km

Or select one of the following

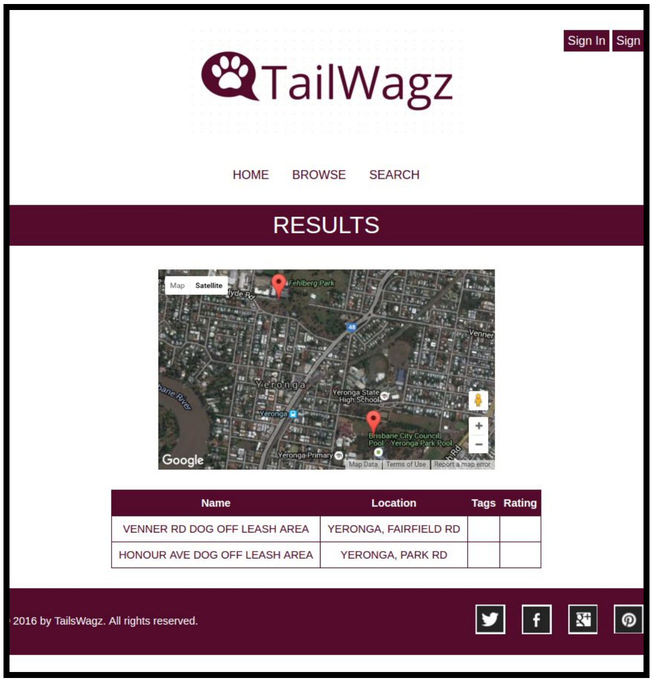
Select a suburb: Select a suburb

Select a minimum rating: Select a minimum rating

Select a park category: Select a category

Search by keyword: Off leash

A successful search query will take the user to the results, which lists all parks which fit the search term.



RESULTS

Name	Location	Tags	Rating
VENNER RD DOG OFF LEASH AREA	YERONGA, FAIRFIELD RD		
HONOUR AVE DOG OFF LEASH AREA	YERONGA, PARK RD		

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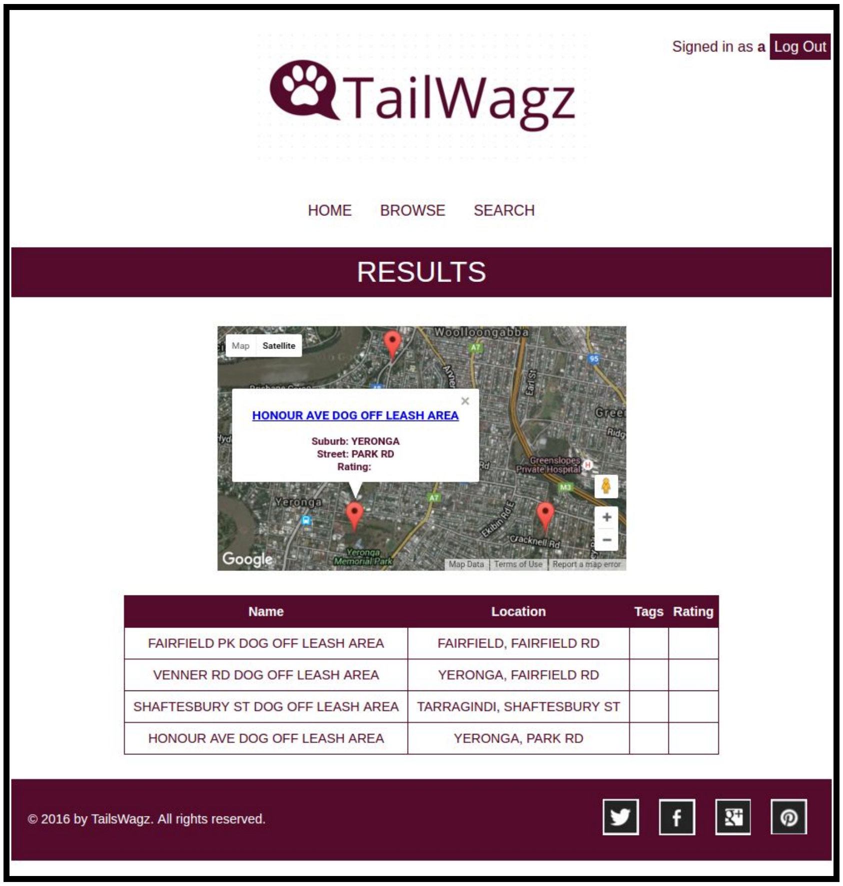
Each marker on the map can be clicked on to show more details, along with a link to the individual item page (same as the results in the table).

A map showing markers for all search results



Signed in as **a** Log Out

TailWagz

HOME BROWSE SEARCH

RESULTS

HONOUR AVE DOG OFF LEASH AREA

Suburb: YERONGA
Street: PARK RD
Rating:

Name	Location	Tags	Rating
FAIRFIELD PK DOG OFF LEASH AREA	FAIRFIELD, FAIRFIELD RD		
VENNER RD DOG OFF LEASH AREA	YERONGA, FAIRFIELD RD		
SHAFTESBURY ST DOG OFF LEASH AREA	TARRAGINDI, SHAFTESBURY ST		
HONOUR AVE DOG OFF LEASH AREA	YERONGA, PARK RD		

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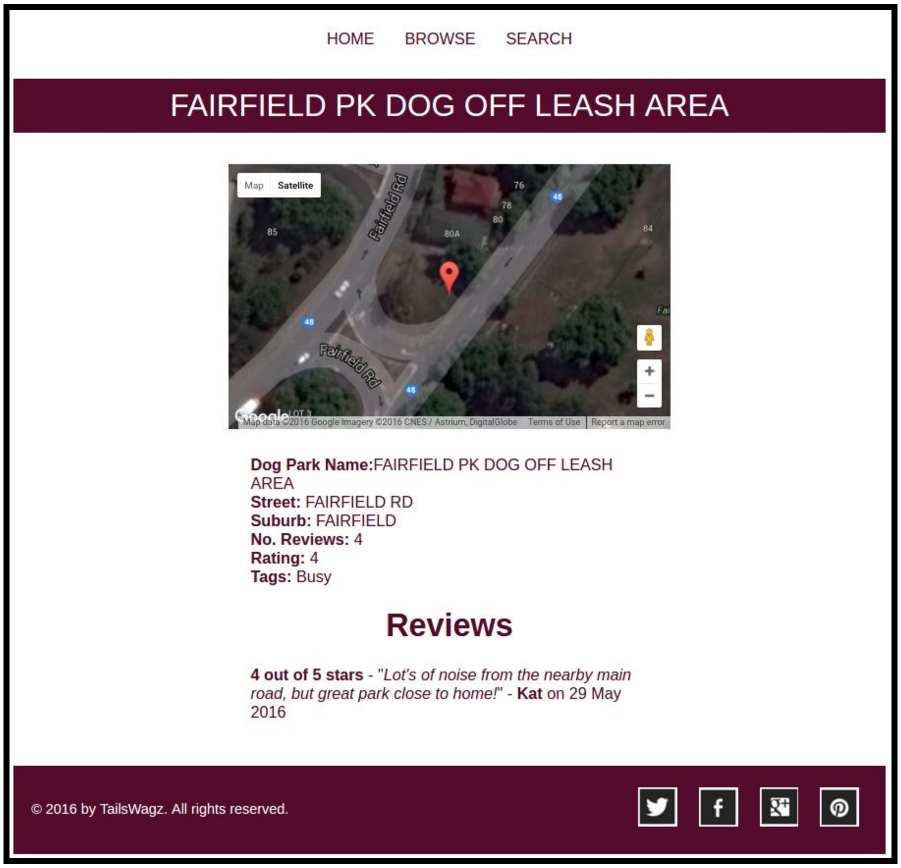
Accessing an individual item page

Clicking any link to a park on the results page will take the user to the item page, displaying more specific details about the park.

A map showing the item



FAIRFIELD PK DOG OFF LEASH AREA

Dog Park Name:FAIRFIELD PK DOG OFF LEASH AREA
Street: FAIRFIELD RD
Suburb: FAIRFIELD
No. Reviews: 4
Rating: 4
Tags: Busy

Reviews

4 out of 5 stars - "*Lot's of noise from the nearby main road, but great park close to home!*" - **Kat** on 29 May 2016

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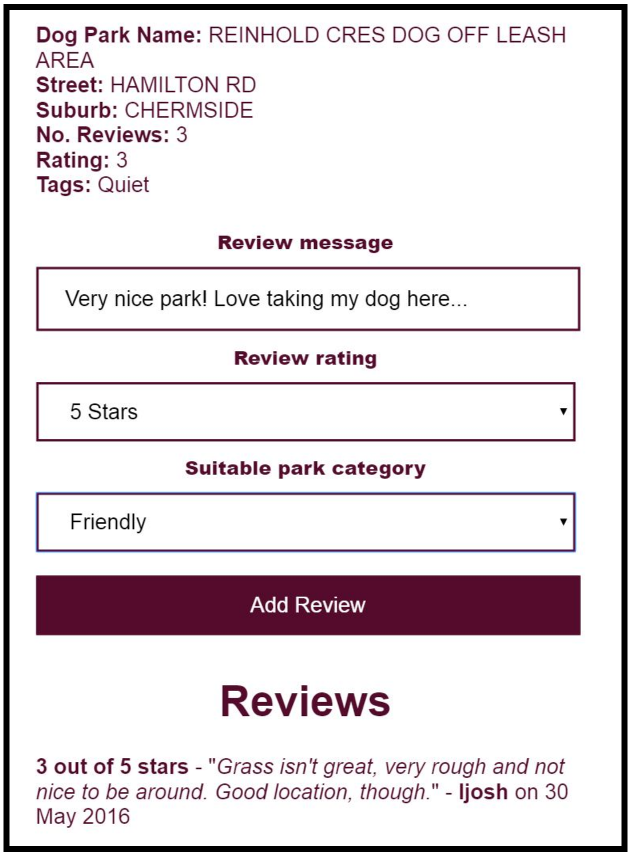
Adding a review

All logged in users are able to add reviews to a park. If the add a review for the second time to the same dog park, then their previous review is updated



Dog Park Name: REINHOLD CRES DOG OFF LEASH AREA
Street: HAMILTON RD
Suburb: CHERMSIDE
No. Reviews: 3
Rating: 3
Tags: Quiet

Review message

Very nice park! Love taking my dog here...

Review rating

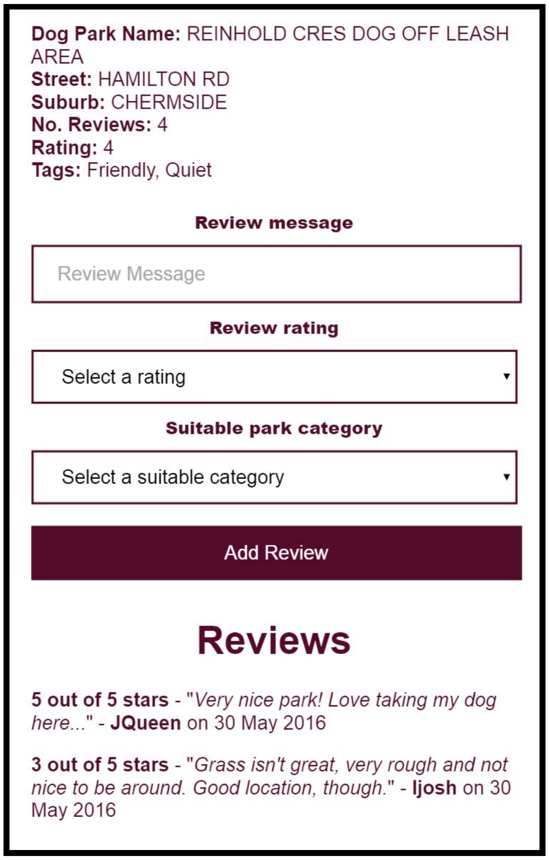
5 Stars

Suitable park category

Friendly

Reviews

3 out of 5 stars - "*Grass isn't great, very rough and not nice to be around. Good location, though.*" - **ljosh** on 30 May 2016



Dog Park Name: REINHOLD CRES DOG OFF LEASH AREA
Street: HAMILTON RD
Suburb: CHERMSIDE
No. Reviews: 4
Rating: 4
Tags: Friendly, Quiet

Review message

Review Message

Review rating

Select a rating

Suitable park category

Select a suitable category

Reviews

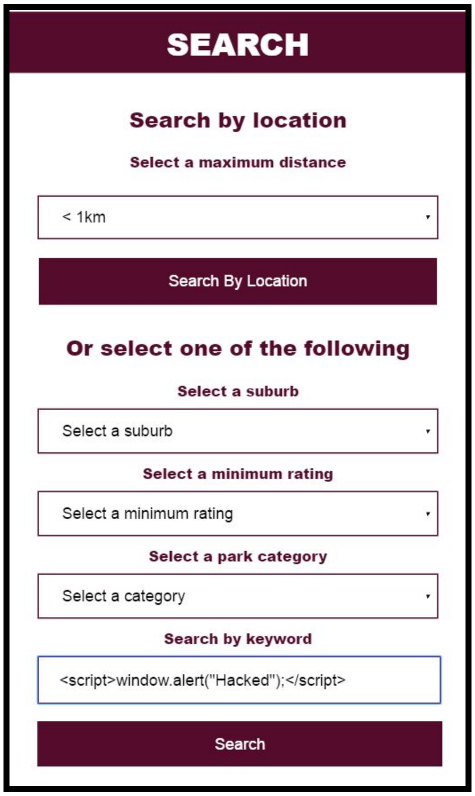
5 out of 5 stars - "*Very nice park! Love taking my dog here...*" - **JQueen** on 30 May 2016

3 out of 5 stars - "*Grass isn't great, very rough and not nice to be around. Good location, though.*" - **ljosh** on 30 May 2016

Some additional features which aren't apparent at first glance but can be seen in the above screen shots include:

- Automatically updating the average rating of the park
- Automatically updating the categories of the park
- Adding a timestamp to each review
- Sorting the reviews by the timestamp. Showing the most recent ones first.

Attempting to use a cross site scripting attack but not being successful



SEARCH

Search by location

Select a maximum distance

< 1km

Search By Location

Or select one of the following

Select a suburb

Select a suburb

Select a minimum rating

Select a minimum rating

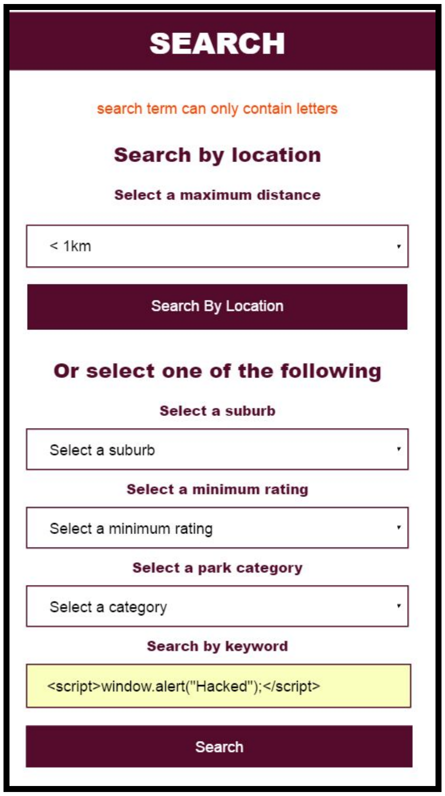
Select a park category

Select a category

Search by keyword

<script>window.alert("Hacked");</script>

Search



SEARCH

search term can only contain letters

Search by location

Select a maximum distance

< 1km

Search By Location

Or select one of the following

Select a suburb

Select a suburb

Select a minimum rating

Select a minimum rating

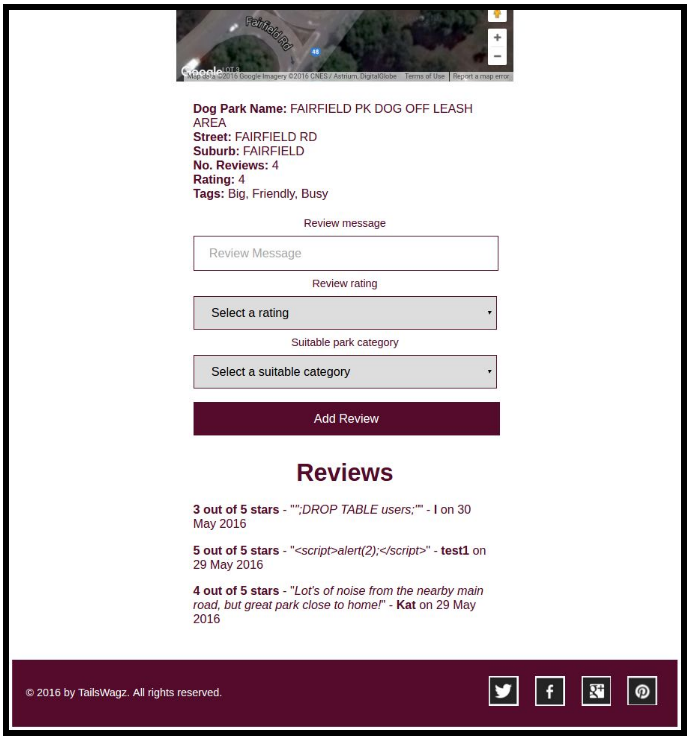
Select a park category

Select a category

Search by keyword

<script>window.alert("Hacked");</script>

Search



Fairfield Rd
Google
Map data ©2016 Google Imagery ©2016 CNES / Astrium, DigitalGlobe
Terms of Use
Report a map error

Dog Park Name: FAIRFIELD PK DOG OFF LEASH AREA
Street: FAIRFIELD RD
Suburb: FAIRFIELD
No. Reviews: 4
Rating: 4
Tags: Big, Friendly, Busy

Review message

Review Message

Review rating

Select a rating

Suitable park category

Select a suitable category

Add Review

Reviews

3 out of 5 stars - "*";DROP TABLE users;"*" - **I** on 30 May 2016

5 out of 5 stars - "*<script>alert(2);</script>*" - **test1** on 29 May 2016

4 out of 5 stars - "*Lot's of noise from the nearby main road, but great park close to home!*" - **Kat** on 29 May 2016

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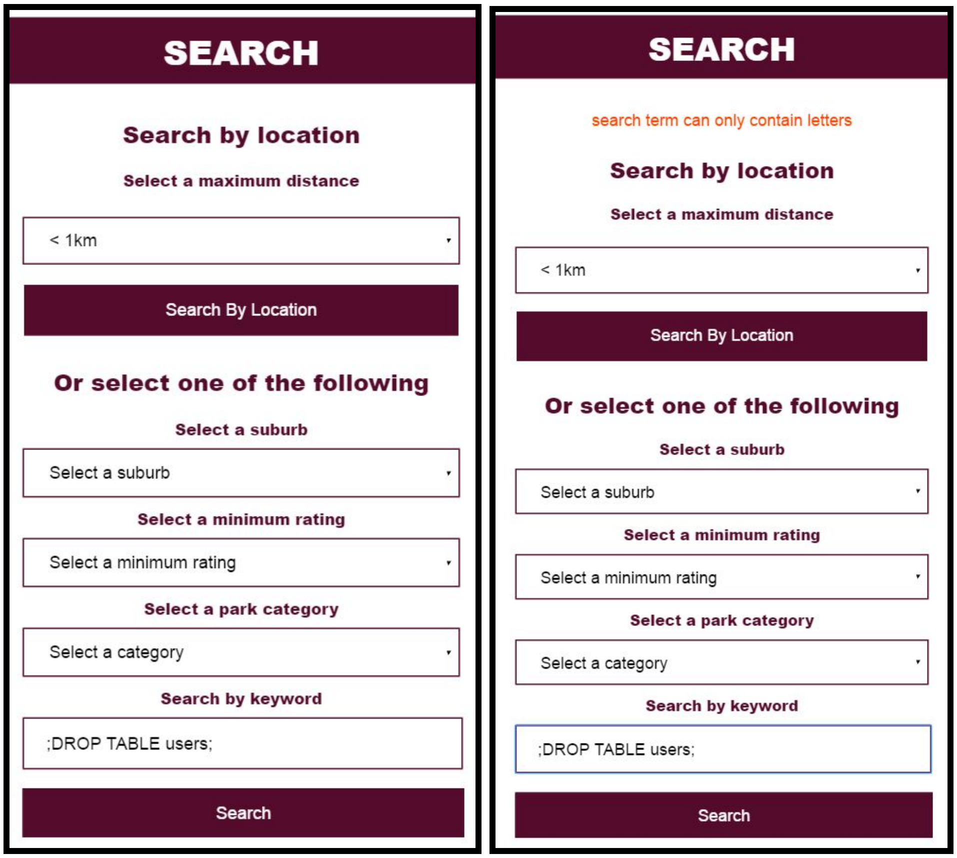
Attempting to use an SQL injection attack but not being successful



Select a maximum distance: < 1km

Search by keyword: ;DROP TABLE users;

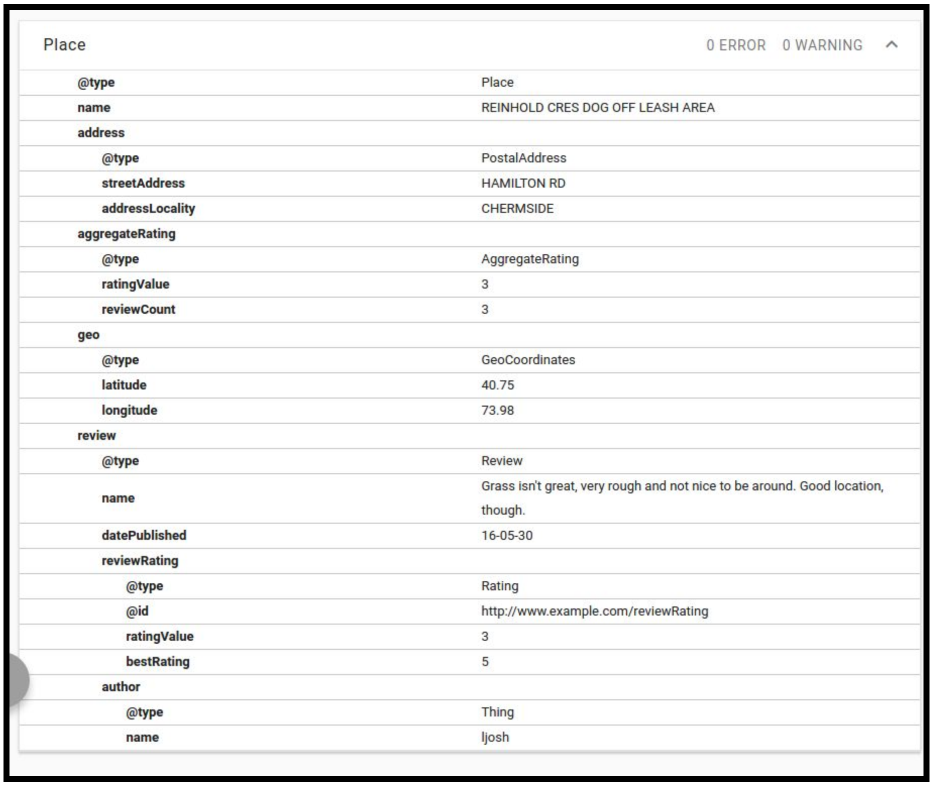
search term can only contain letters

Select a maximum distance: < 1km

Search by keyword: ;DROP TABLE users;

Evidence that the geographic microdata and microdata is valid as reported by Google’s structured data validator

These item pages validate correctly under Google’s Structured Testing Tool:



Place 0 ERROR 0 WARNING

@type	Place
name	REINHOLD CRES DOG OFF LEASH AREA
address	
@type	PostalAddress
streetAddress	HAMILTON RD
addressLocality	CHERMSIDE
aggregateRating	
@type	AggregateRating
ratingValue	3
reviewCount	3
geo	
@type	GeoCoordinates
latitude	40.75
longitude	73.98
review	
@type	Review
name	Grass isn't great, very rough and not nice to be around. Good location, though.
datePublished	16-05-30
reviewRating	
@type	Rating
@id	http://www.example.com/reviewRating
ratingValue	3
bestRating	5
author	
@type	Thing
name	ljosh

An Example of a SQL Query that has been implemented a description of where this Query is located

All SQL data entry is protected against SQL injection attacks by binding parameters, and protected against cross site scripting attacks by using htmlspecialchars().

The function used to prevent sql injection can be seen below:

```php
function perform_sql_query($query, $parameters){
  $pdo = get_sql_connector();

  try {
    $result = $pdo->prepare($query);
    if(!is_null($parameters)){
      while($value = current($parameters)){
        $result->bindValue(':'.key($parameters), $value);
        next($parameters);
      }
    }

    $result->execute();

    return $result;

  } catch (PDOException $e) {
    $_SESSION['errorMessage'] = $e->getMessage();
    header("Location: ".get_base_url()."/error.php");
    exit();

  }

}
```

This function binds the values to a query string, and is used to submit a review to the server in the SQL query example below:

```php
function create_new_review($parkID, $username, $message, $rating, $category){

  $query = ''.
    'INSERT INTO reviews (parkID, username, message, rating, category) '.
    'VALUES(:parkID, :username, :message, :rating, :category)';

  $parameters['parkID'] = intval($parkID);
  $parameters['username'] = $username;
  $parameters['message'] = $message;
  $parameters['rating'] = intval($rating);
  $parameters['category'] = $category;

  $result = perform_sql_query($query, $parameters);

}
```

The following add_review() function provides an example of how cross site scripting is prevented using the htmlspecialchars() function:

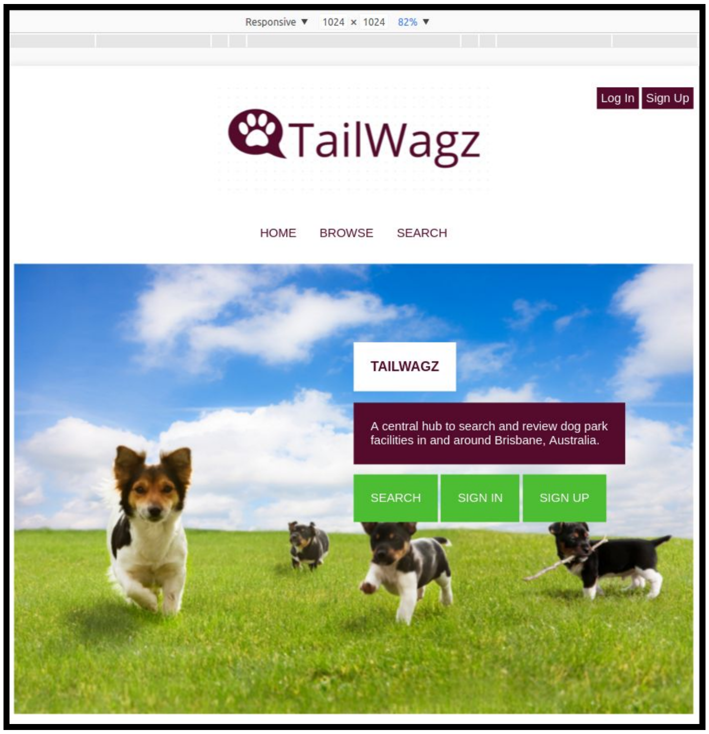
```
function add_review(array $data){
  $username = $_SESSION['username'];
  $parkID = htmlspecialchars($data['parkID'], ENT_QUOTES, 'UTF-8');
  $message = htmlspecialchars($data['message'], ENT_QUOTES, 'UTF-8');
  $rating = htmlspecialchars($data['rating'], ENT_QUOTES, 'UTF-8');
  $category = htmlspecialchars($data['category'], ENT_QUOTES, 'UTF-8');

  if(is_previous_review($parkID, $username)){
    update_previous_review($parkID, $username, $message, $rating, $category);
    $_SESSION['errorMessage'] = 'You have already reviewed this park<br>'.
      'Your previous review has been updated';

  }else{
    create_new_review($parkID, $username, $message, $rating, $category);
  }

  update_park_info($parkID);
}
```

In summary, the data is parsed from the user through the htmlspecialchars function, which replaces characters such as ‘<’ with their html equivalent (&lt; in this case) - which prevents the browser from reading any user input as html or javascript code.

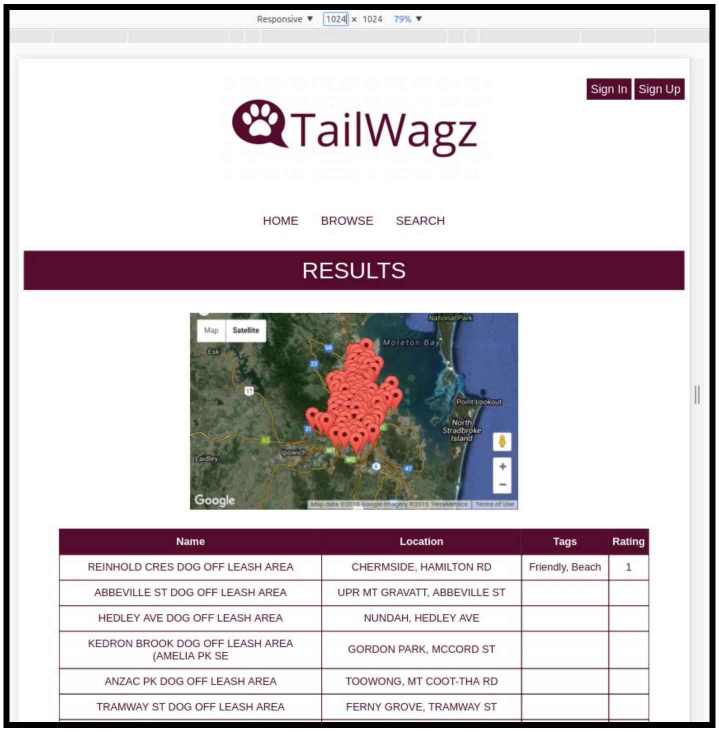
Once the data has been parsed from the user, an SQL statement is prepared. The prepare statement ensures that the SQL queries only updated the particular field with the particular value and that no other queries are executed on the database.

Operating gracefully in multiple resolutions

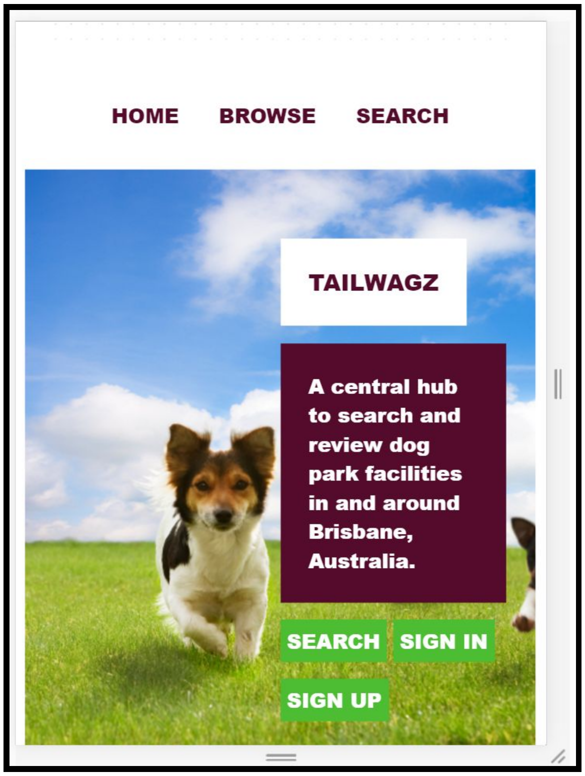
The following screenshots provide examples of the website operating gracefully under multiple screen sizes thanks to its centre layout design.



A central hub to search and review dog park facilities in and around Brisbane, Australia.



Name	Location	Tags	Rating
REINHOLD CRES DOG OFF LEASH AREA	CHERMSIDE, HAMILTON RD	Friendly, Beach	1
ABBEVILLE ST DOG OFF LEASH AREA	UPR MT GRAVATT, ABBEVILLE ST		
HEDLEY AVE DOG OFF LEASH AREA	NUNDAH, HEDLEY AVE		
KEDRON BROOK DOG OFF LEASH AREA (AMELIA PK SE	GORDON PARK, MCCORD ST		
ANZAC PK DOG OFF LEASH AREA	TOOWONG, MT COOT-THA RD		
TRAMWAY ST DOG OFF LEASH AREA	FERNY GROVE, TRAMWAY ST		



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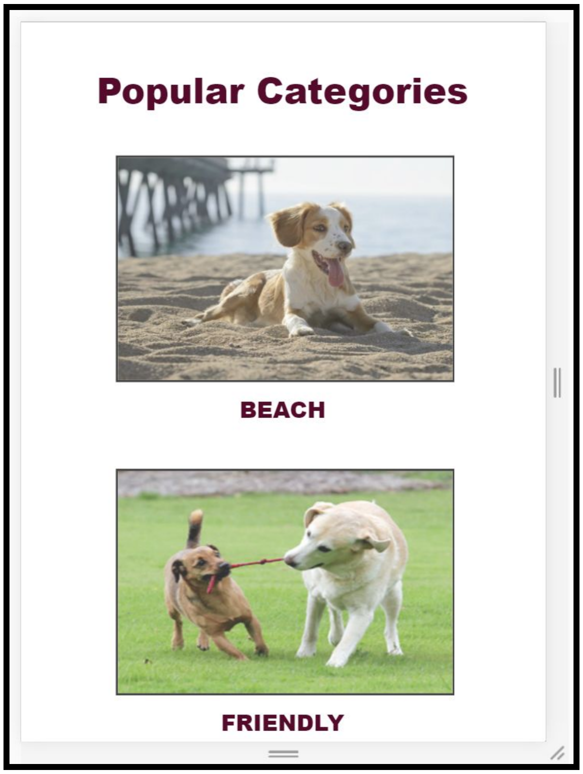
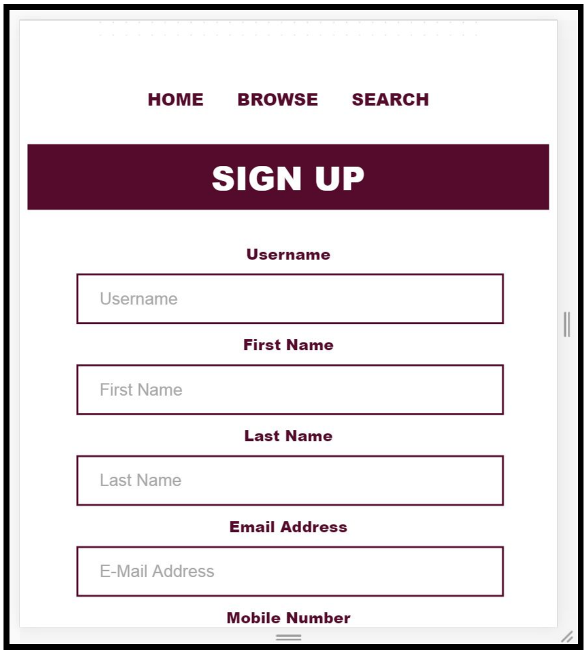


Popular Categories



SIGN UP

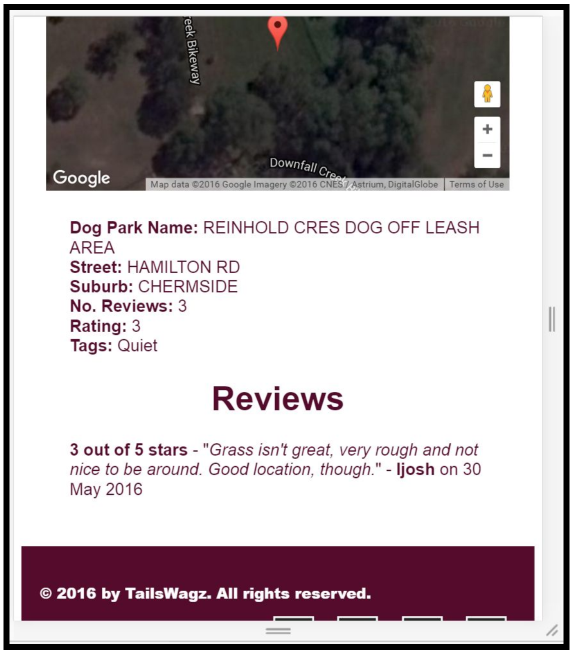
Username: Username

First Name: First Name

Last Name: Last Name

Email Address: E-Mail Address

Mobile Number


reek Bikeway
Downfall Cree
Google
Map data ©2016 Google Imagery ©2016 CNES / Astrium, DigitalGlobe
Terms of Use

Dog Park Name: REINHOLD CRES DOG OFF LEASH AREA
Street: HAMILTON RD
Suburb: CHERMSIDE
No. Reviews: 3
Rating: 3
Tags: Quiet

Reviews

3 out of 5 stars - "*Grass isn't great, very rough and not nice to be around. Good location, though.*" - **ljosh** on 30 May 2016

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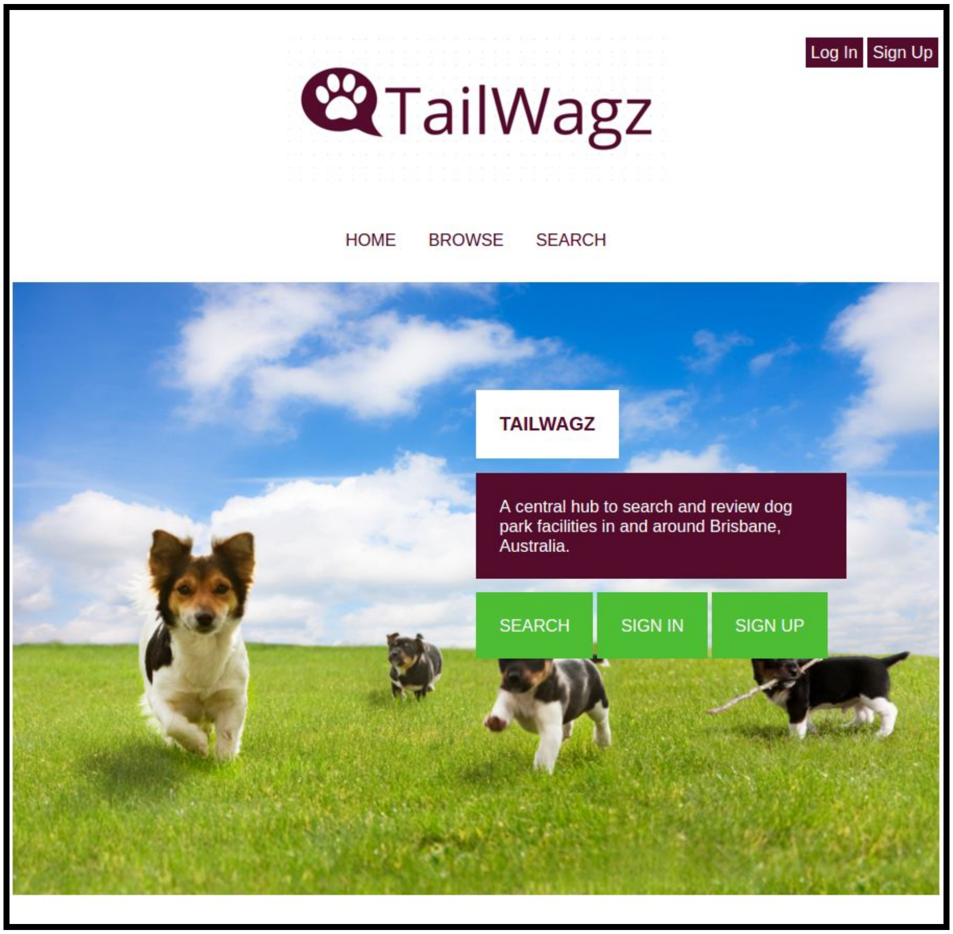
Web Design Principles

User Experience

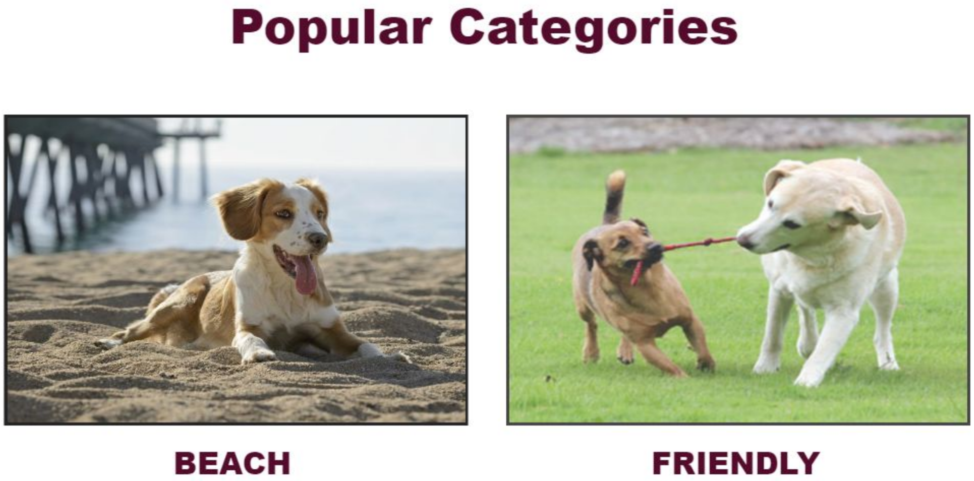
The user experience of Tailwagz is intended to be a simple and easy to learn. Review and rating websites are not a new craze - companies like Yelp and UrbanSpoon have been around for years. With this in mind, the user experience was moulded around how these websites already operate - a user can go to the website and search for parks, see more details, and if they wish, make an account and leave reviews for future users to make use of. All of this functionality is able to be accessed via the front page (with the exception of an individual park's specific page)

Visitors of Tailwagz are dog owners who wish to find new areas to enjoy with their dogs. To capture the attention of these users, the index page of the website has been made bright and vibrant with pictures of dogs playing outside - visible in the screenshot below.



A central hub to search and review dog park facilities in and around Brisbane, Australia.

Visual Design

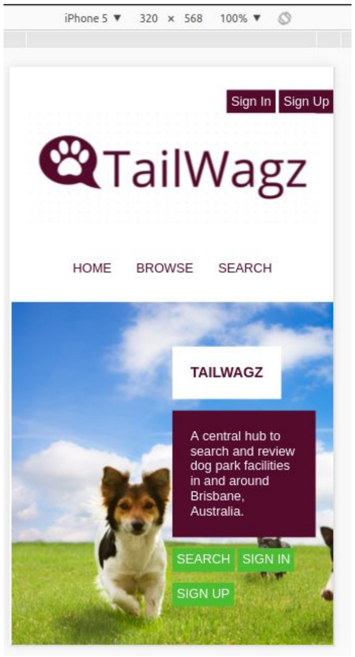


The visual design of Tailwagz was chosen to try and suit the website's target audience. As the website is based in Brisbane, QLD, a maroon colour scheme was adopted throughout the pages of the website - this colour scheme is intended to make the website seem more visually appealing, and have a 'vibe' that is more likely to click with the most likely users. The website also includes a name, logo and images which are all targeted to the websites dog loving audience. The site adheres to a simplistic design which corresponds to it's ease of use.

Page Layout

The layout of the website was designed to try and attract the user's eye, without overwhelming them. In general, each page of the site contains a very specific piece of information, with only a few links to other pages, to attempt to maintain the ease of use. For the index page, a centred box was chosen to be the main point of call for the user to continue onto other pages of the site (namely, the search, sign in, and sign out pages) - while underneath the main eye-catching section are several 'quick links' in a grid format.

A centred fixed width design was used for Tailwagz. This responsive, dynamic layout allows for a unified experience for users with devices of almost all sizes.

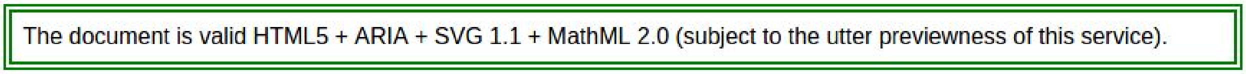


A central hub to search and review dog park facilities in and around Brisbane, Australia.

Standards

Tailwagz complies to all formal standards where possible. All of it’s pages pass the HTML5 Validator available at https://html5.validator.nu/, and all of the CSS passes the validator available at http://jigsaw.w3.org/css-validator/. It conforms to the Web Accessibility standards where reasonable - in particular, it may fail checks for particular checks for foreground on background colour for text that is hovered over.

The layout of the website is designed such that it should render correctly in browsers as skinny as 350px wide. This ensures that all users, desktop, mobile, and tablet alike, are able to use the same set of features and have the same user experience. For example, see to the left the index page as seen on an iPhone 5.



The document is valid HTML5 + ARIA + SVG 1.1 + MathML 2.0 (subject to the utter previewness of this service).