

CAB230: Project Web Driven Website

WEBSITE WORKS ON CHROME (CHROME TESTING PREFERED)

John Huynh -n9154566

Statement of Contribution

Stage 1:

Name	Contribution
John Huynh	Individual Results Page, Registration Page
Kathrine Harijatna	Search Page, Search Results Page

Stage 2:

Name	Contribution
John Huynh	All of the backend design, Testing Plan and Report.
Kathrine Harijatna	Dropped out of subject (Zero contribution to backend)

Test Plan

Home Screen

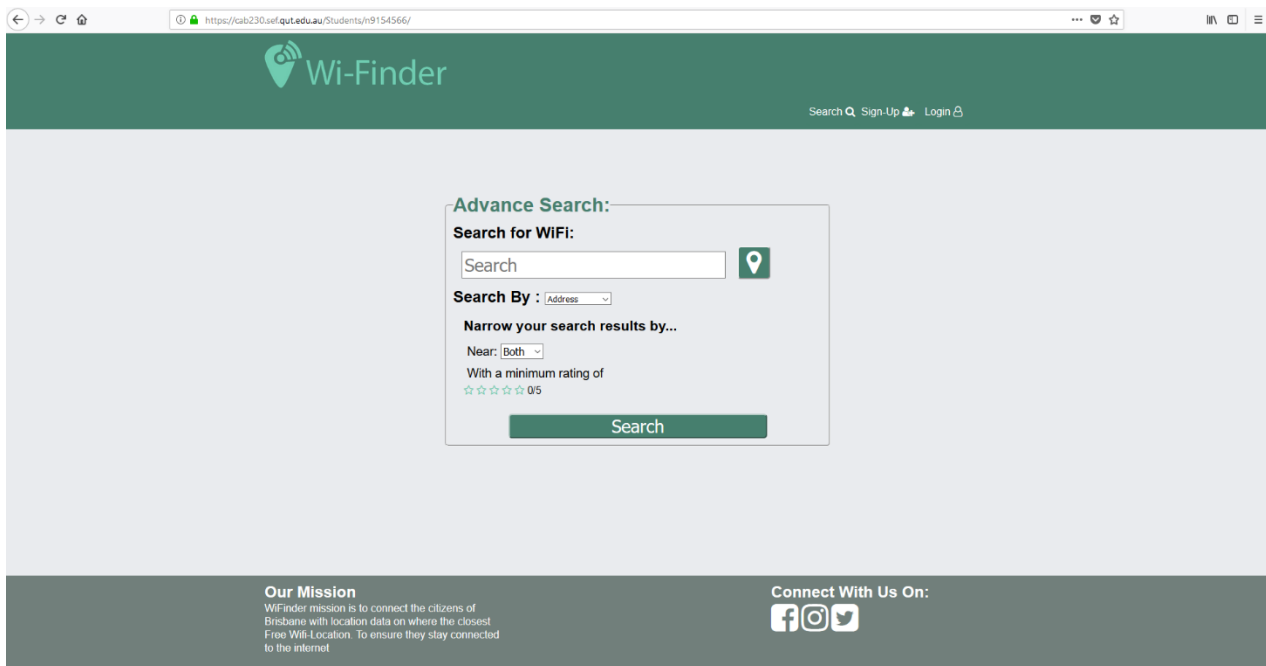
The Home Screen for our webpage is the Search Screen to access it going to this website:

(added a web.config file which sets the default page to search_page.php)

<https://cab230.sef.qut.edu.au/Students/n9154566/>

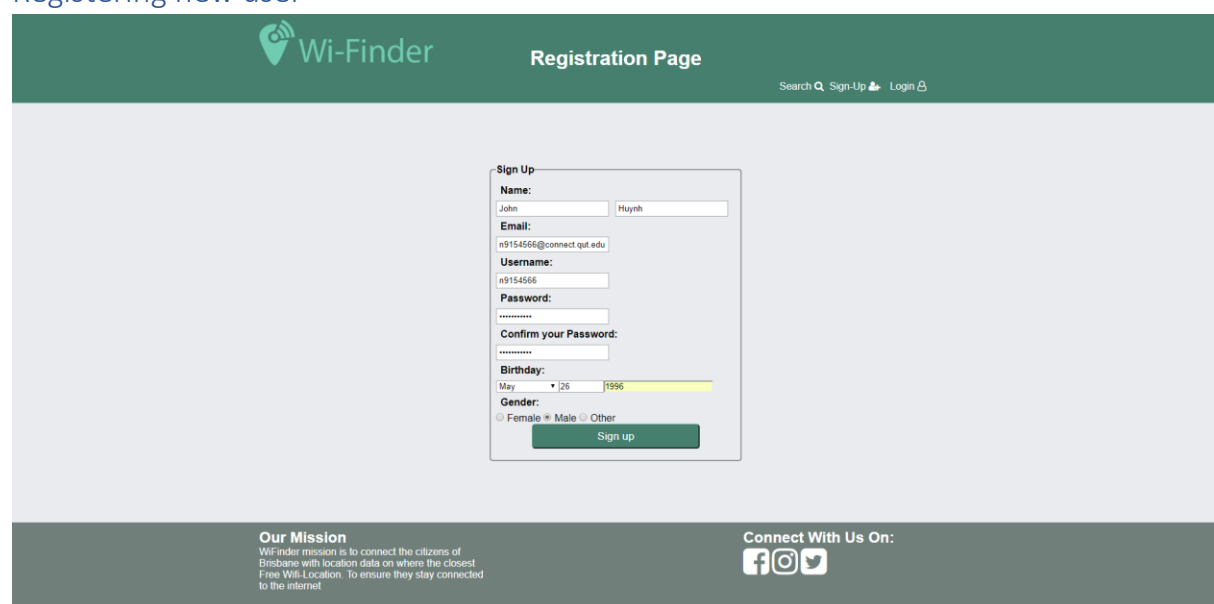
if that doesn't work then use this website:

https://cab230.sef.qut.edu.au/Students/n9154566/search_page.php

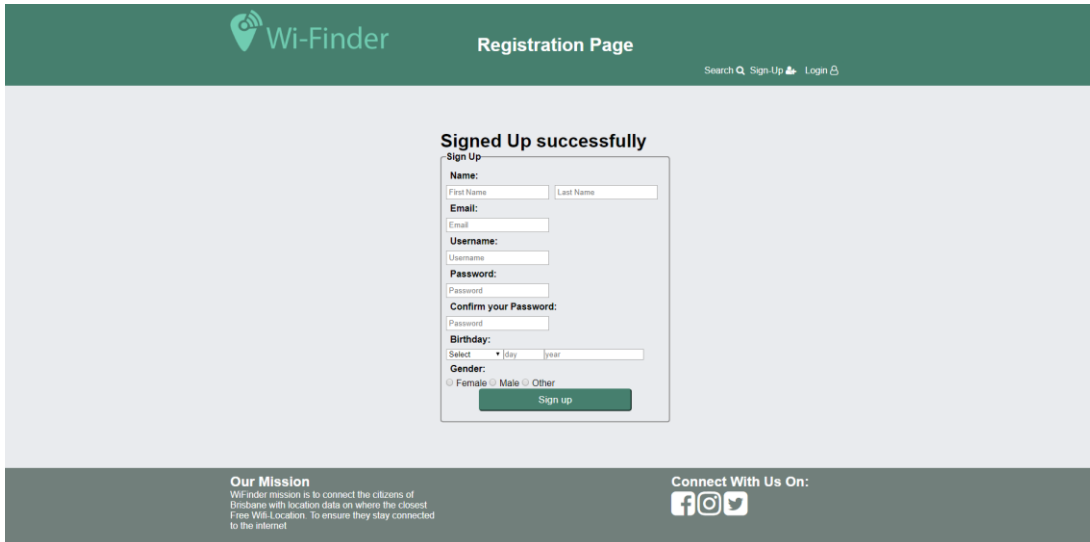


The screenshot shows the Wi-Finder Home Screen. The header is green with the Wi-Finder logo and navigation links: Search, Sign Up, and Login. The main content area is light gray and features a central 'Advance Search' form. The form includes a 'Search for WiFi' section with a search input field and a location pin icon. Below this is a 'Search By' dropdown menu set to 'Address'. Further down, there's a 'Narrow your search results by...' section with a 'Near' dropdown set to 'Both' and a 'With a minimum rating of' section showing a star rating of 0/5. A green 'Search' button is at the bottom of the form. The footer is dark gray and contains 'Our Mission' text, social media links for Facebook, Instagram, and Twitter, and a 'Connect With Us On:' section.

Registering new user



The screenshot shows the Wi-Finder Registration Page. The header is green with the Wi-Finder logo and navigation links: Search, Sign Up, and Login. The main content area is light gray and features a central 'Sign Up' form. The form includes fields for Name (John Huynh), Email (n9154566@connect.qut.edu.au), Username (n9154566), Password, Confirm your Password, Birthday (May 26, 1996), and Gender (Female, Male, Other). A green 'Sign up' button is at the bottom of the form. The footer is dark gray and contains 'Our Mission' text, social media links for Facebook, Instagram, and Twitter, and a 'Connect With Us On:' section.



The registration page features a green header with the Wi-Finder logo and the title "Registration Page". Navigation links include "Search", "Sign-Up", and "Login". The main content area displays a "Signed Up successfully" message above a sign-up form. The form includes fields for Name (First and Last), Email, Username, Password, Confirm your Password, Birthday (with dropdowns for day and year), and Gender (radio buttons for Female, Male, and Other). A "Sign up" button is at the bottom of the form. The footer contains the "Our Mission" statement and social media links.

Wi-Finder Registration Page

Search Sign-Up Login

Signed Up successfully

Sign Up

Name:
First Name Last Name

Email:

Username:

Password:

Confirm your Password:

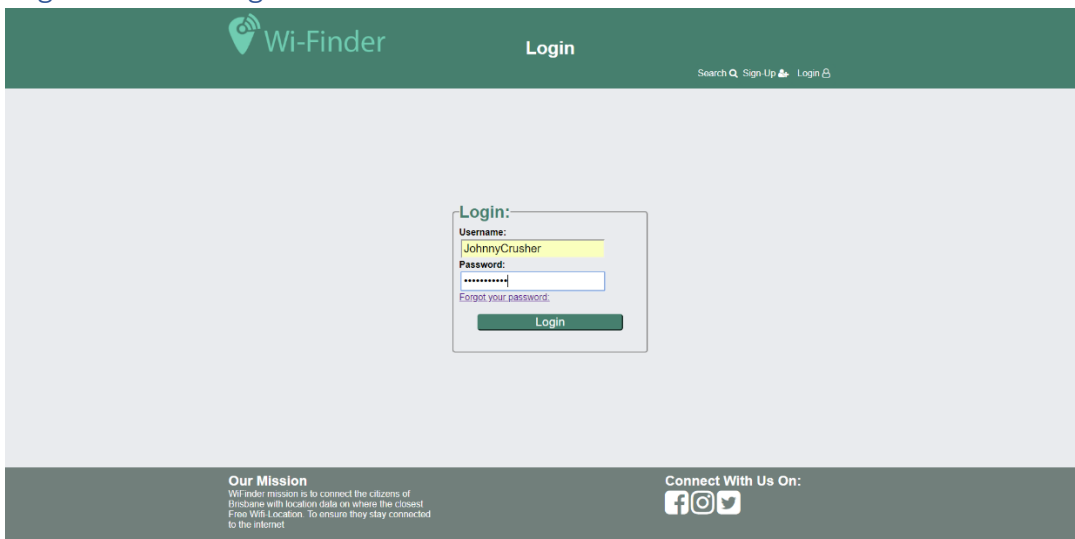
Birthday:
Select day year

Gender:
☐ Female ☐ Male ☐ Other

Our Mission
Wi-Finder mission is to connect the citizens of Brisbane with location data on where the closest Free WiFi Location. To ensure they stay connected to the internet

Connect With Us On:

Login in as existing user



The login page features a green header with the Wi-Finder logo and the title "Login". Navigation links include "Search", "Sign-Up", and "Login". The main content area displays a "Login:" form. The form includes fields for Username (with the value "JohnnyCrusher" entered) and Password (with masked characters "*****"). A "Forgot your password" link is below the password field. A "Login" button is at the bottom of the form. The footer contains the "Our Mission" statement and social media links.

Wi-Finder Login

Search Sign-Up Login

Login:

Username:

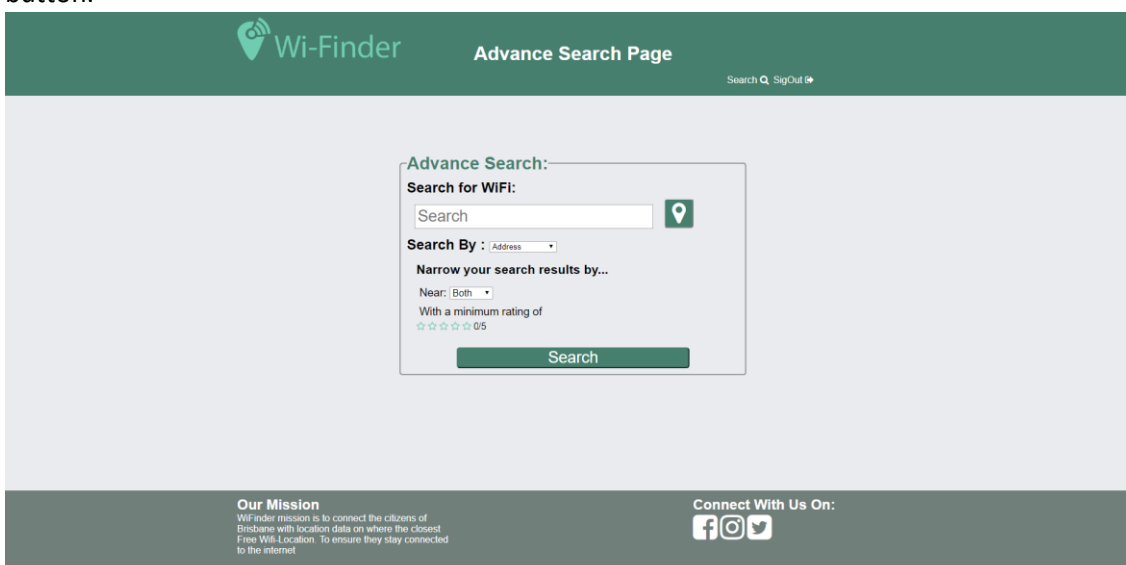
Password:

[Forgot your password.](#)

Our Mission
Wi-Finder mission is to connect the citizens of Brisbane with location data on where the closest Free WiFi Location. To ensure they stay connected to the internet

Connect With Us On:

After the user has entered their credentials and it is successfully verified by the server then the user is redirected to the search page and the signup and login button have been changed to a sign out button.



The advance search page features a green header with the Wi-Finder logo and the title "Advance Search Page". Navigation links include "Search" and "SigOut". The main content area displays an "Advance Search:" form. The form includes a "Search for WiFi:" section with a search input field and a location pin icon. Below this is a "Search By:" section with a dropdown menu set to "Address". A "Narrow your search results by..." section includes a "Near:" dropdown set to "Both" and a "With a minimum rating of" section with a star rating of 0.5. A "Search" button is at the bottom of the form. The footer contains the "Our Mission" statement and social media links.

Wi-Finder Advance Search Page

Search SigOut

Advance Search:

Search for WiFi:

Search By :

Narrow your search results by...

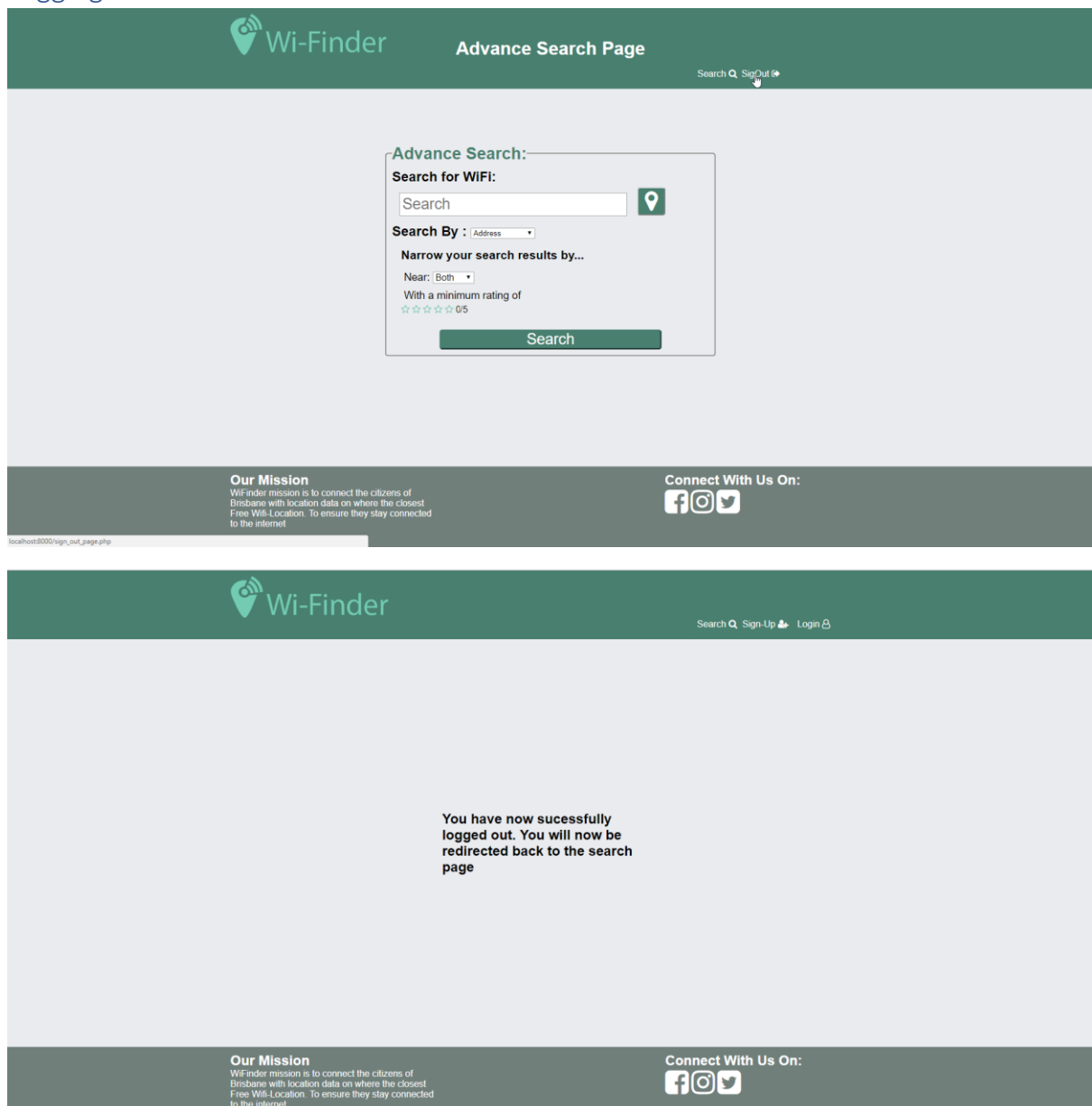
Near:

With a minimum rating of

Our Mission
Wi-Finder mission is to connect the citizens of Brisbane with location data on where the closest Free WiFi Location. To ensure they stay connected to the internet

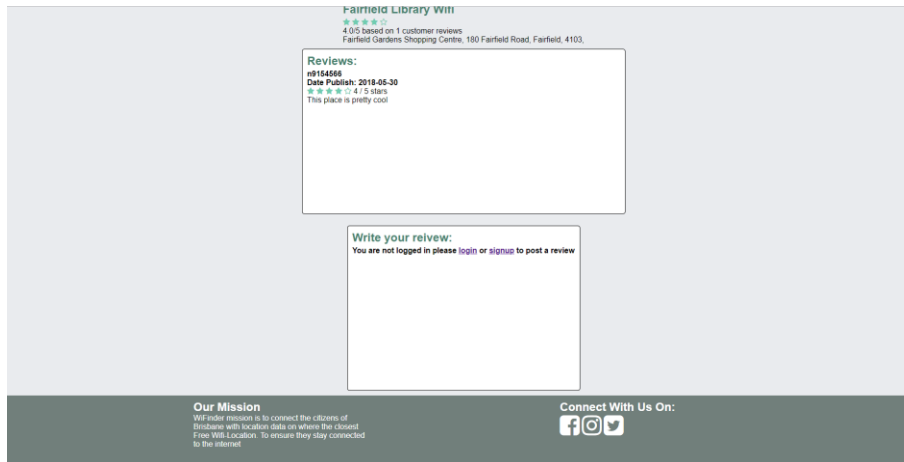
Connect With Us On:

Logging out

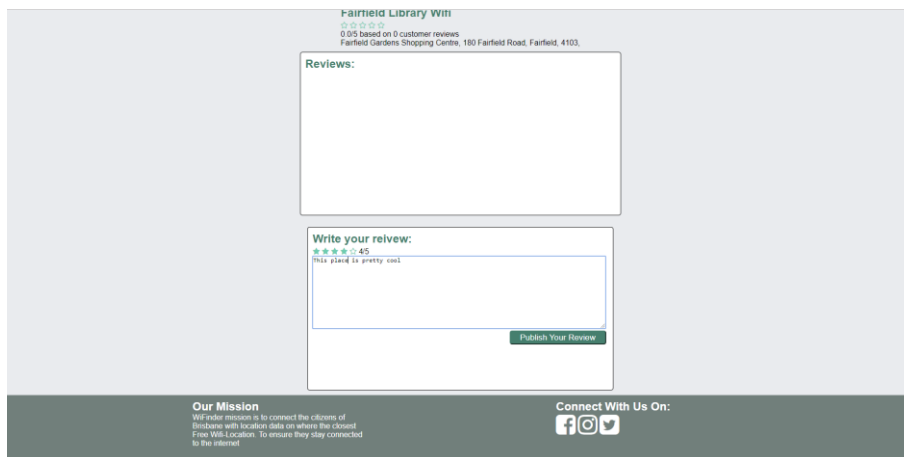


Add a review

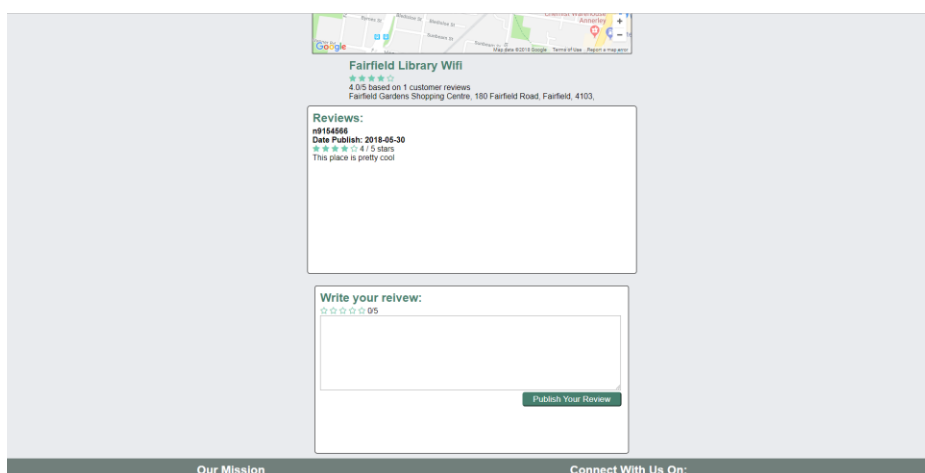
To add a review the user must be logged in if the user is not logged in it will show this screen.



If they are logged in then they can type a review.



Here the output of the review being posted on the site.



Valid input for writing a review

For a valid input for the review both a rating and a review description must be filled if one of them isn't filled then it will shout an error as shown in the screenshots below.

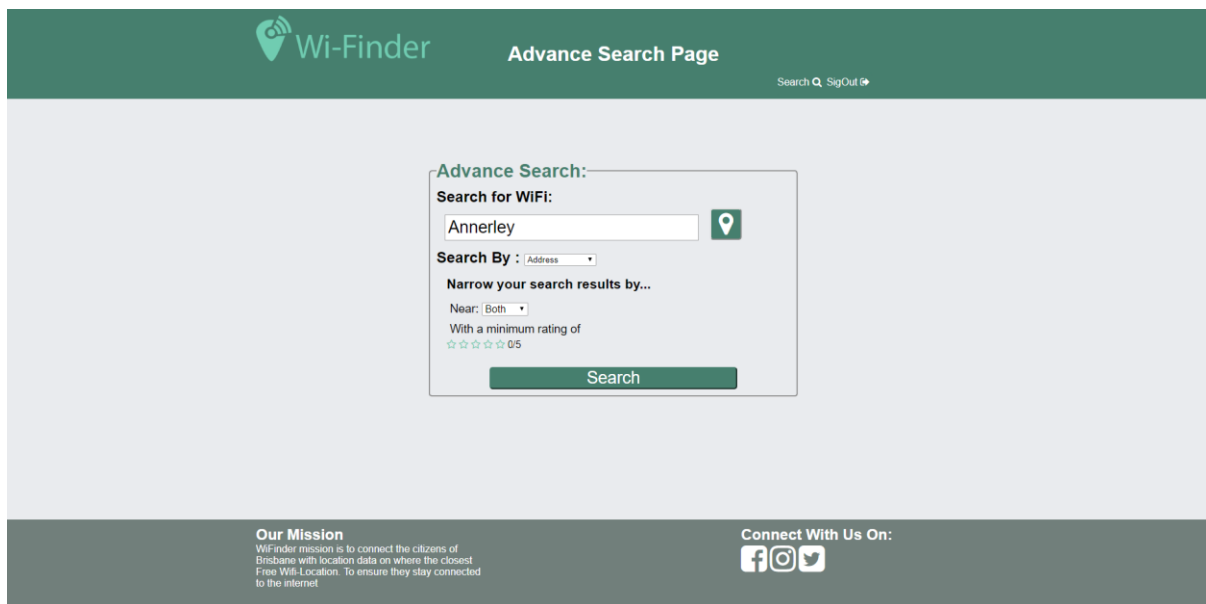
The screenshot shows a web form for reviewing 'Fairfield Library Wifi'. At the top, the location is listed as 'Fairfield Gardens Shopping Centre, 180 Fairfield Road, Fairfield, 4103' with a 4.0/5 rating based on 1 review. Below this, a 'Reviews' section displays a previous review by user 'n9154566' dated '2018-05-30' with a 4/5 star rating and the text 'This place is pretty cool'. The 'Write your review' section has a rating dropdown set to 5 stars and a text area containing 'This place is alright'. A green 'Publish Your Review' button is at the bottom right of the form. The footer contains 'Our Mission' text and 'Connect With Us On:' with social media icons for Facebook, Instagram, and Twitter.

In this case there was no rating selected so when the user submitted it spitted out an error message and their review wasn't added to the database.

This screenshot shows the same review form as above, but with an error message. The 'Write your review' section has a red label 'Please Select a rating' above the 5-star rating dropdown. The text area is empty. The 'Publish Your Review' button is still present. The rest of the page, including the header, previous review, and footer, remains the same.

Searching for an item that exists in the database

This test case we are searching for an item that exist in the database in this case it is annerley.

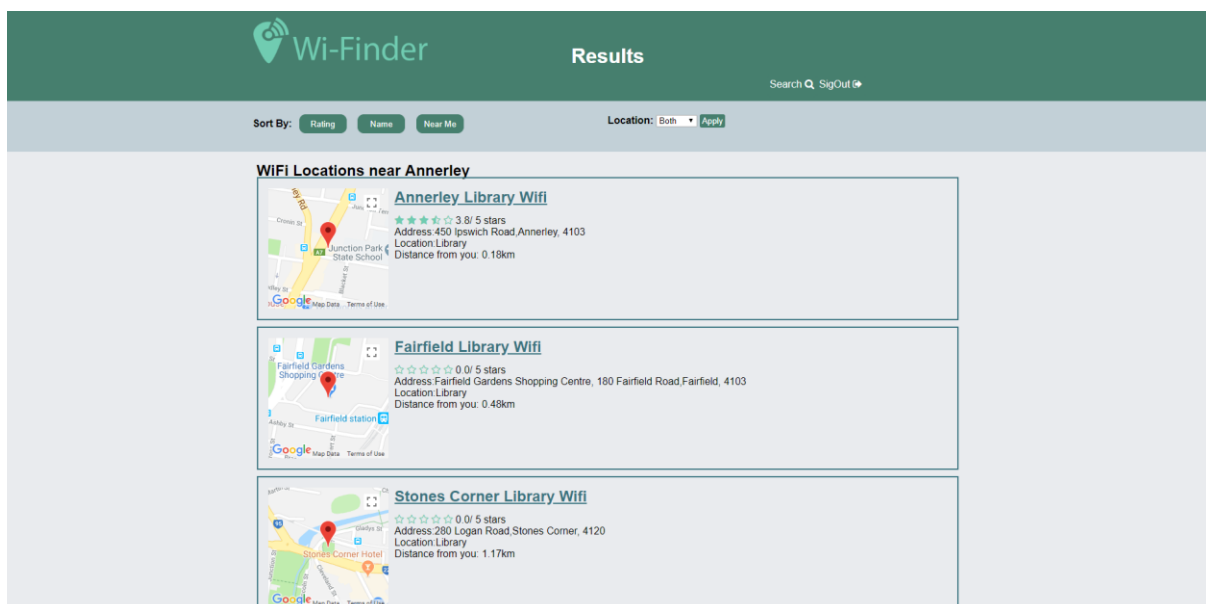


The image shows the 'Advance Search Page' of the Wi-Finder application. The header is dark green with the Wi-Finder logo and the text 'Advance Search Page'. Below the header, there is a search form with the following fields and options:

- Search for WiFi:** A text input field containing 'Annerley' and a location pin icon.
- Search By:** A dropdown menu set to 'Address'.
- Narrow your search results by...**
 - Near:** A dropdown menu set to 'Both'.
 - With a minimum rating of:** A star rating selector set to 0.5.
- Search:** A green button to execute the search.

At the bottom of the page, there is a footer with the text 'Our Mission' and 'Connect With Us On:' followed by social media icons for Facebook, Instagram, and Twitter.

The results it shows are then displayed so the user can see.

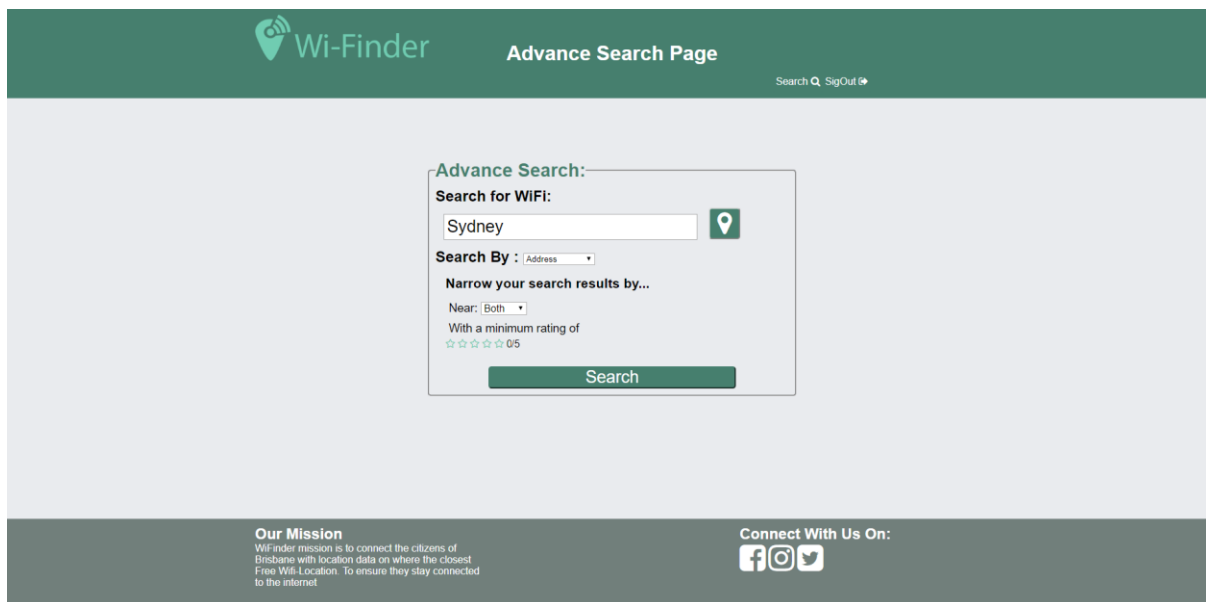


The image shows the 'Results' page of the Wi-Finder application. The header is dark green with the Wi-Finder logo and the text 'Results'. Below the header, there is a search bar and a 'Sort By' dropdown menu. The search bar contains 'Annerley' and a location pin icon. The 'Sort By' dropdown menu is set to 'Rating'. Below the search bar, there is a table of results titled 'WiFi Locations near Annerley'.

WiFi Location	Rating	Address	Location	Distance from you
Annerley Library Wifi	3.8/5 stars	Address: 450 Ipswich Road, Annerley, 4103	Location: Library	Distance from you: 0.18km
Fairfield Library Wifi	0.0/5 stars	Address: Fairfield Gardens Shopping Centre, 180 Fairfield Road, Fairfield, 4103	Location: Library	Distance from you: 0.48km
Stones Corner Library Wifi	0.0/5 stars	Address: 280 Logan Road, Stones Corner, 4120	Location: Library	Distance from you: 1.17km

Searching for an item that doesn't exist in the database

In this test case we are searching for an item that doesn't exist in the database which is sydney

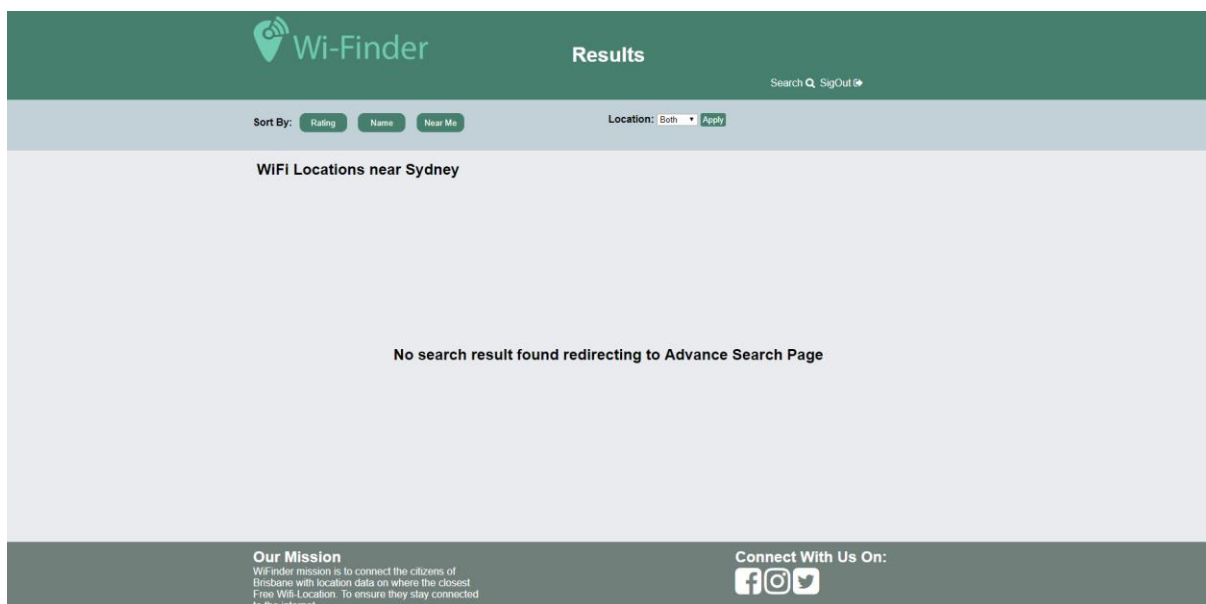


The image shows the 'Advance Search Page' of the Wi-Finder application. The header is dark green with the Wi-Finder logo and the text 'Advance Search Page'. Below the header, there is a search form with the following elements:

- Search for WiFi:** A text input field containing 'Sydney' and a location pin icon.
- Search By:** A dropdown menu set to 'Address'.
- Narrow your search results by...** A section with two options:
 - Near:** A dropdown menu set to 'Both'.
 - With a minimum rating of:** A star rating system showing 5 stars, with the text '0.5' below it.
- Search:** A green button to submit the search.

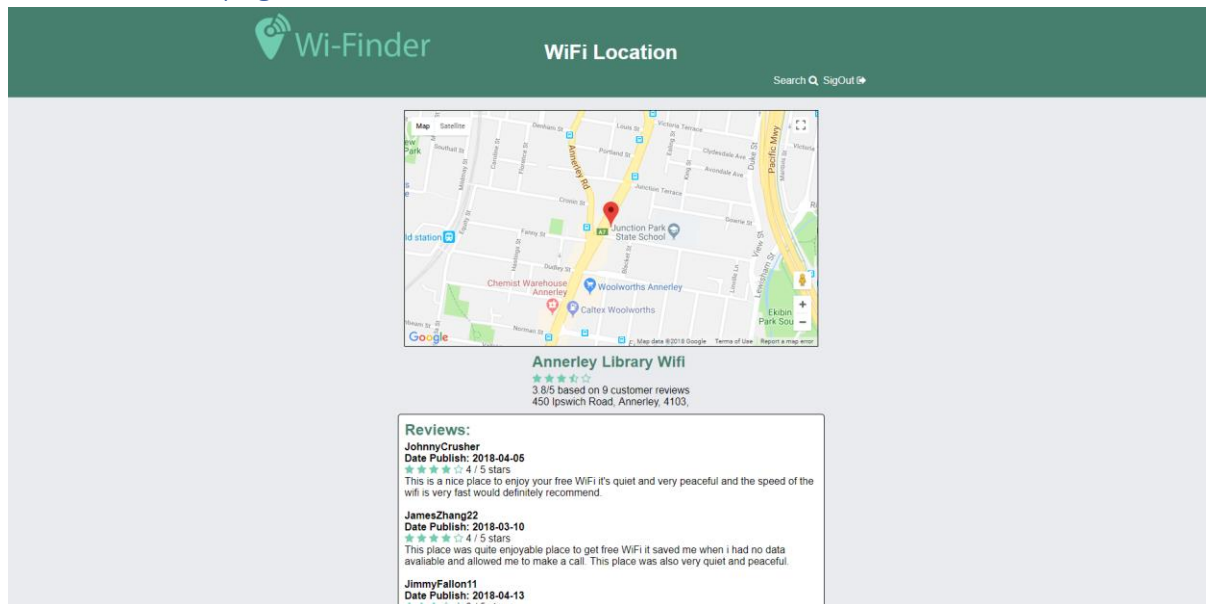
At the bottom of the page, there is a footer with the text 'Our Mission' and 'Connect With Us On:' followed by social media icons for Facebook, Instagram, and Twitter.

Then shows that there are no results in the search results page which will then redirect to the search page so the user can perform another search.



The image shows the 'Results' page of the Wi-Finder application. The header is dark green with the Wi-Finder logo and the text 'Results'. Below the header, there is a search bar with the text 'Search' and a location pin icon. Below the search bar, there are two tabs: 'Rating' and 'Name'. Below the tabs, there is a section titled 'WiFi Locations near Sydney'. Below this section, there is a message that says 'No search result found redirecting to Advance Search Page'. At the bottom of the page, there is a footer with the text 'Our Mission' and 'Connect With Us On:' followed by social media icons for Facebook, Instagram, and Twitter.

Individual item page



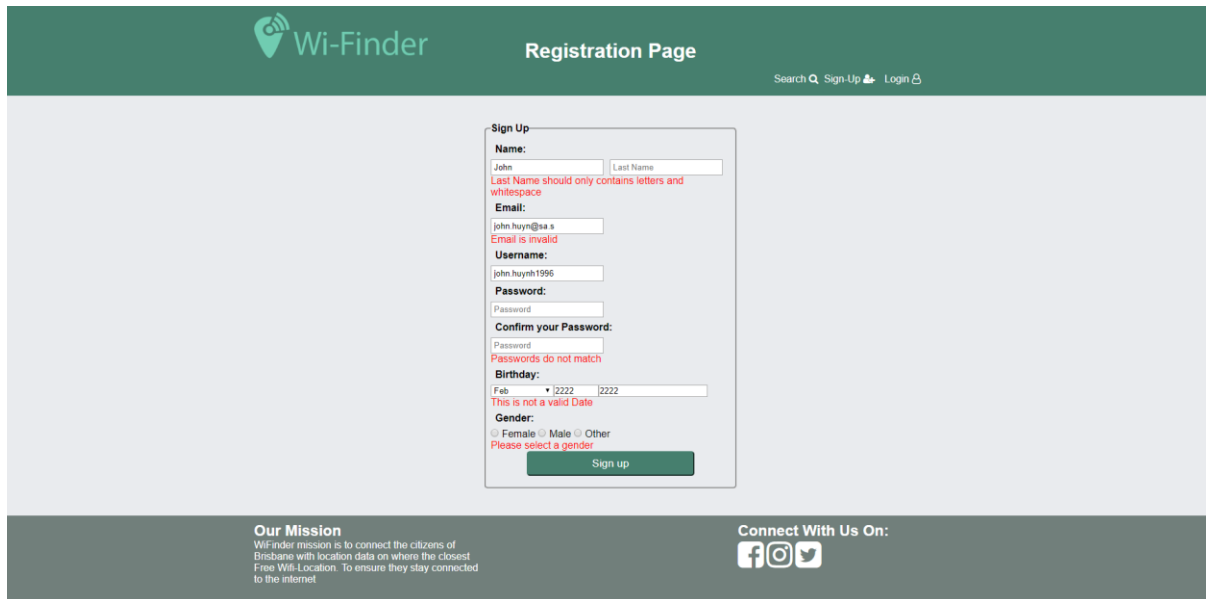
This page shows the individual item page

A user not being able to register with invalid data including examples of invalid numeric, alphabetic, and email

This test cases we are testing if the registration form has validation by entering values that aren't allowed in these boxes or invalid dates or mismatched passwords.

The screenshot shows the 'Wi-Finder' application interface for the 'Registration Page'. The header is green with the 'Wi-Finder' logo and 'Registration Page' text. Below the header is a search bar with 'Search', 'Sign-Up', and 'Login' buttons. The main content area features a 'Sign Up' form with the following fields: 'Name' (with 'John' and 'Last Name' sub-fields), 'Email' (with 'john.huynh@sa.s'), 'Username' (with 'john.huynh1996'), 'Password' (with a strength indicator), 'Confirm your Password' (with a strength indicator), 'Birthday' (with a date picker set to 'Feb 2222'), and 'Gender' (with radio buttons for 'Female', 'Male', and 'Other'). A 'Sign up' button is located at the bottom of the form. The footer contains 'Our Mission' text and 'Connect With Us On:' with social media icons for Facebook, Instagram, and Twitter.

After submitted the form it then display these errors that the user needs to correct before they can become a registered user.



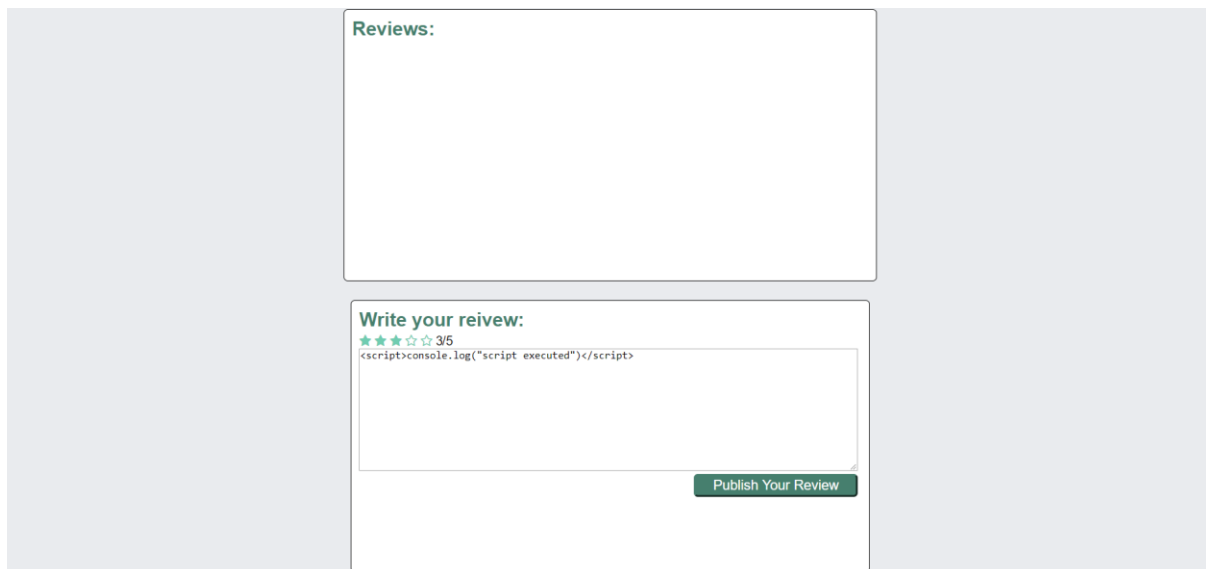
The screenshot shows the 'Registration Page' of a website called 'Wi-Finder'. The page has a green header with the logo and navigation links: Search, Sign-Up, and Login. The main content area is light gray and contains a 'Sign Up' form. The form has several fields with error messages:

- Name:** First Name: John, Last Name: [empty]. Error: Last Name should only contains letters and whitespace.
- Email:** john.huynh@sa.a. Error: Email is invalid.
- Username:** john.huynh1996.
- Password:** [empty].
- Confirm your Password:** Password: [empty]. Error: Passwords do not match.
- Birthday:** Feb 12222. Error: This is not a valid Date.
- Gender:** Radio buttons for Female, Male, and Other. Error: Please select a gender.

A green 'Sign up' button is at the bottom of the form. The footer contains 'Our Mission' text and social media links for Facebook, Instagram, and Twitter.

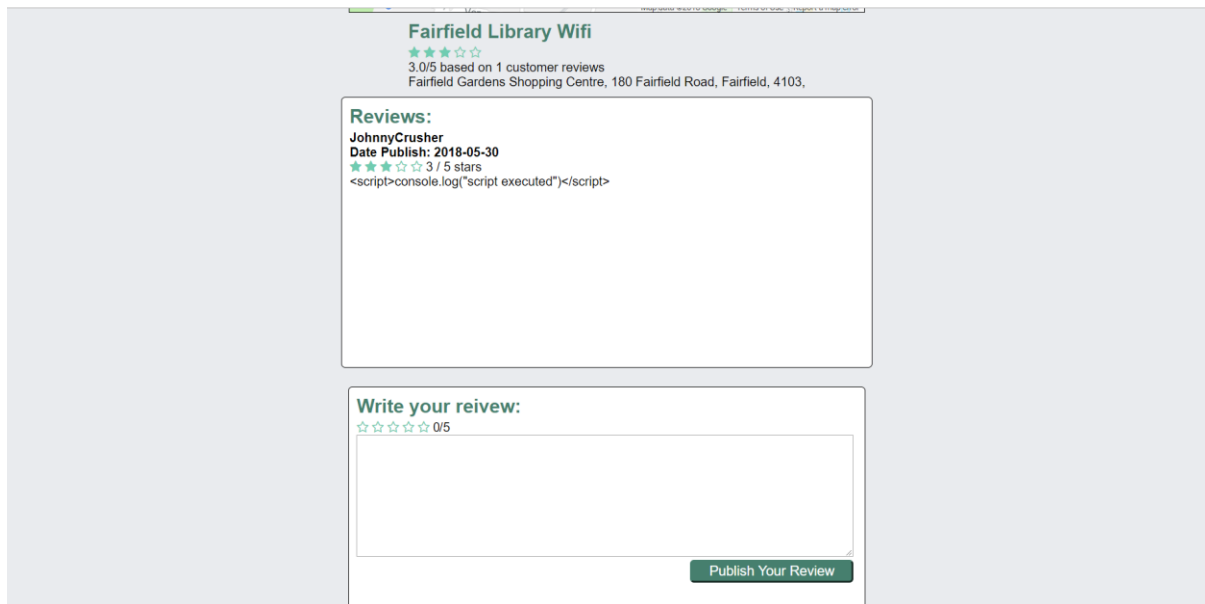
Attempts to use a cross site scripting attack that are unsuccessful

In this test cases we are demonstrating XSS attacks a common entry point for our web application is writing scripts in the review page. As if successful then when the user clicks on the page a script will be executed.

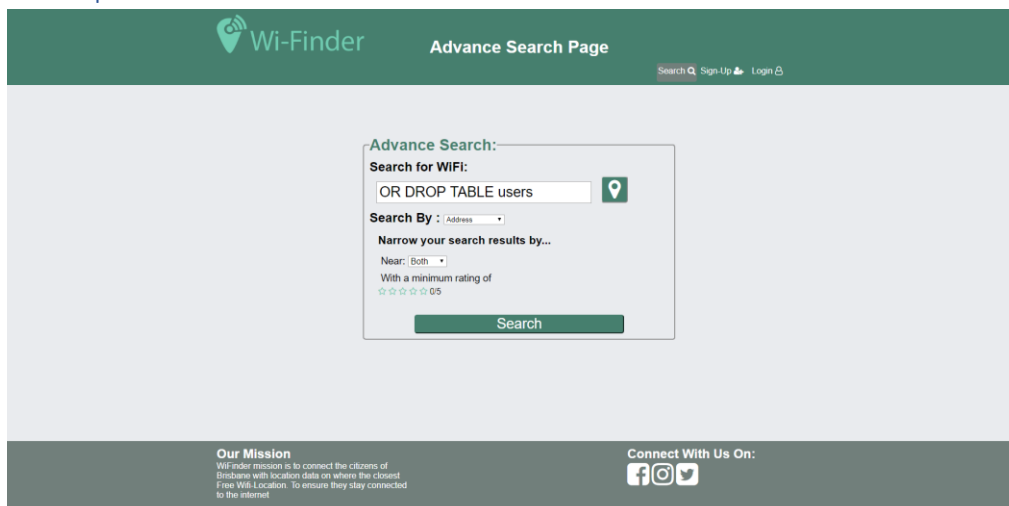


The screenshot shows the 'Reviews' section of the website. It has a 'Reviews:' heading and a 'Write your reivew:' form. The form includes a star rating (3/5) and a text area where a script has been injected: `<script>console.log("script executed")</script>`. A green 'Publish Your Review' button is at the bottom right of the form.

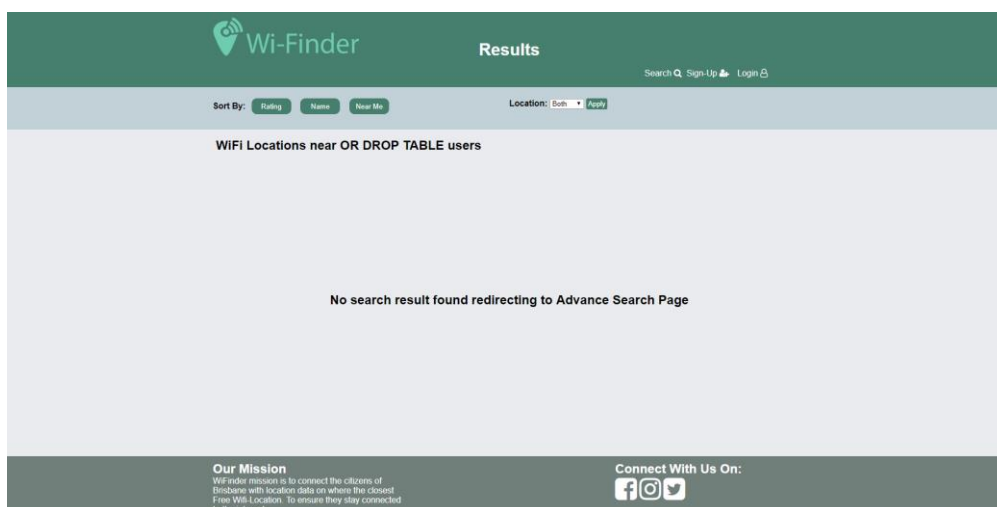
Upon performing the XSS attack it is unsuccessful as instead of executing a script in printing the script in the html document hence not executing it.

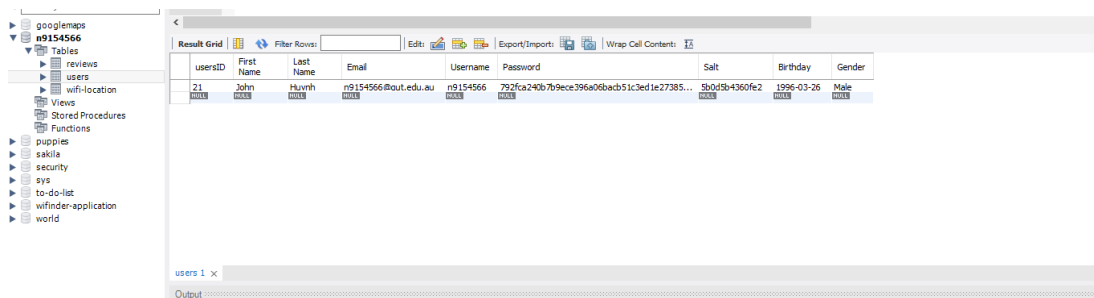


Attempts to use a SQL attack that are unsuccessful



After performing that SQL injection command it had no affect to the database as upon observing the schema the user table is still there



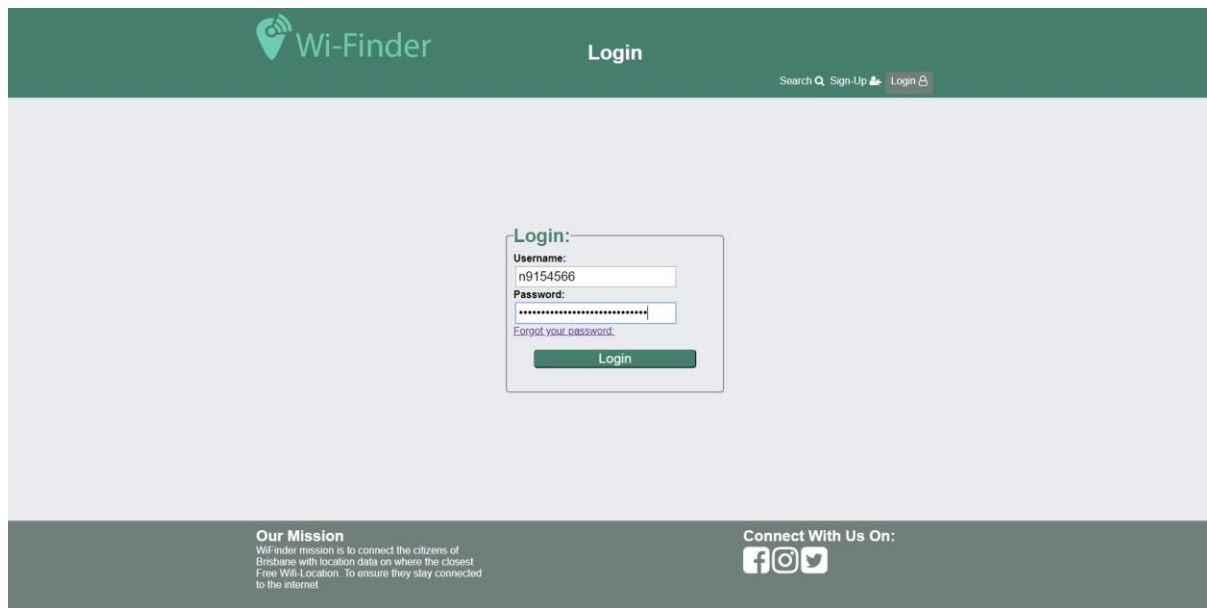


The screenshot shows a database management interface. On the left is a sidebar with a tree view containing folders like 'googlemaps', 'n9154566', 'reviews', 'users', 'wifi-location', 'Views', 'Stored Procedures', 'Functions', 'puppies', 'salis', 'security', 'sys', 'to-do-list', 'wifinder-application', and 'world'. The main area displays a table named 'users' with the following columns: usersID, First Name, Last Name, Email, Username, Password, Salt, Birthday, and Gender. There is one row of data:

usersID	First Name	Last Name	Email	Username	Password	Salt	Birthday	Gender
21	John	Huynh	n9154566@out.edu.au	n9154566	792fa240b7b9ece396a06bad51c3ed1e27385...	5b0d9b4360fe2	1996-03-26	Male

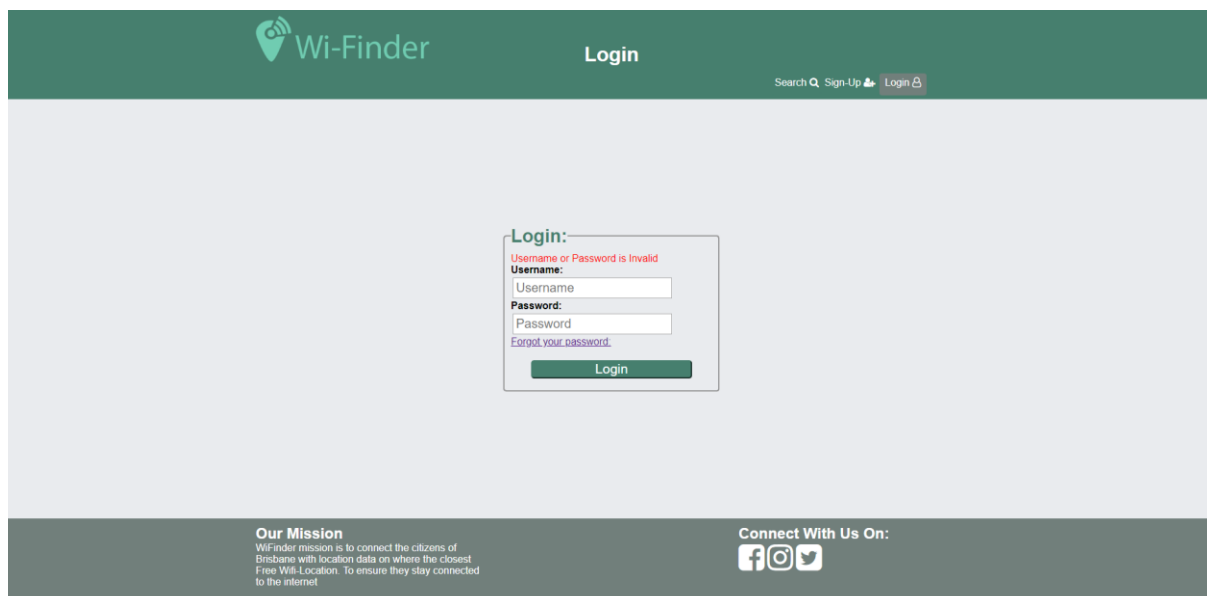
A user not being able to log in if they are not registered

In this case a user is trying to log in when they are not registered.



The screenshot shows the Wi-Finder Login page. The header is green with the Wi-Finder logo and the word 'Login'. Below the header is a light gray area containing a login form. The form has two input fields: 'Username' with the value 'n9154566' and 'Password' with a masked password. Below the password field is a link that says 'Forgot your password.'. A green 'Login' button is at the bottom of the form. At the bottom of the page is a dark gray footer with 'Our Mission' text and social media links.

Upon submitted their details for their non existing account they are greeted with an error message prompting them either the username or password is wrong.

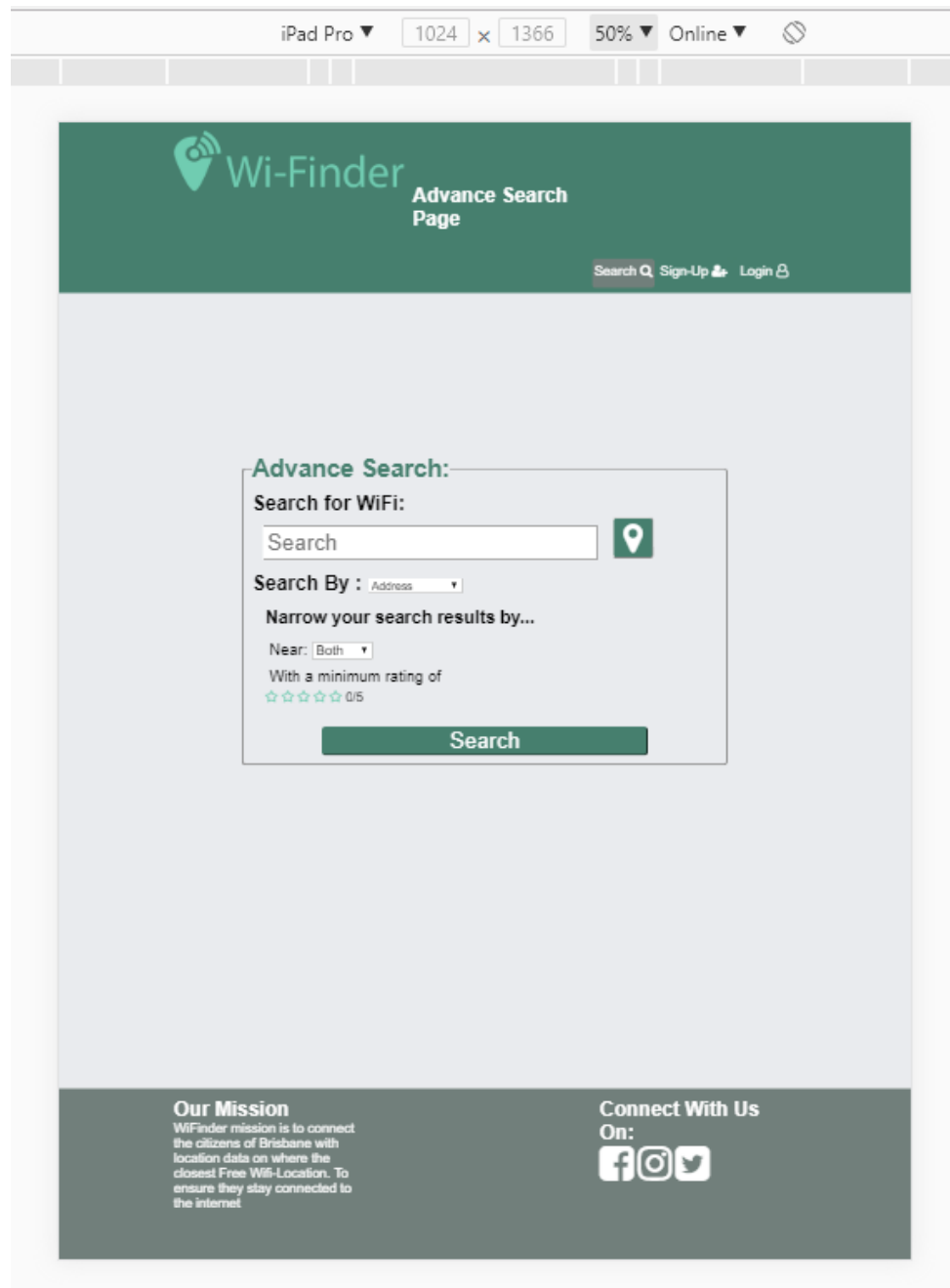


The screenshot shows the Wi-Finder Login page with an error message. The header is green with the Wi-Finder logo and the word 'Login'. Below the header is a light gray area containing a login form. The form has two input fields: 'Username' and 'Password'. Above the 'Username' field is a red error message that says 'Username or Password is Invalid'. Below the password field is a link that says 'Forgot your password.'. A green 'Login' button is at the bottom of the form. At the bottom of the page is a dark gray footer with 'Our Mission' text and social media links.

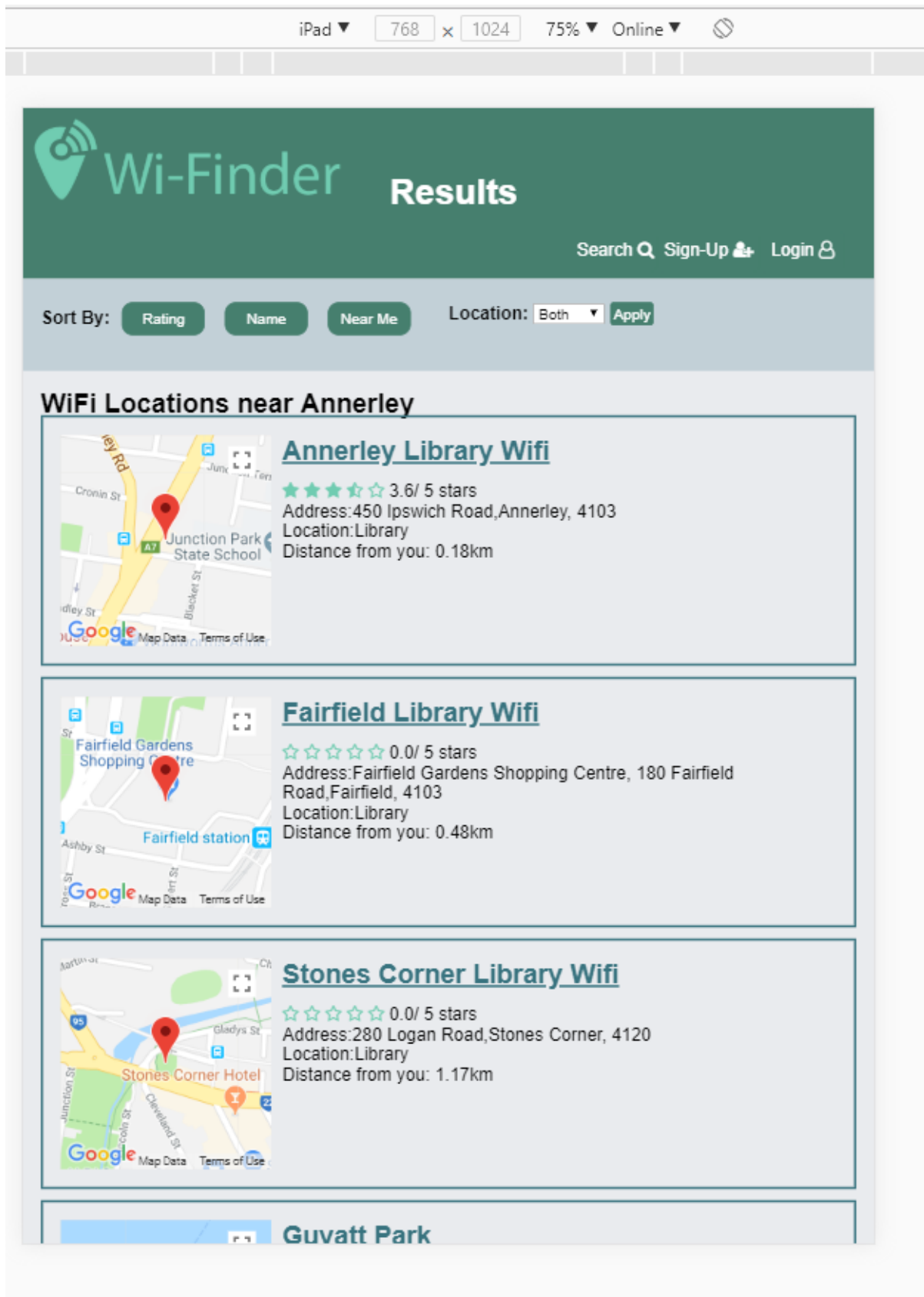
Add on #3 Mobile Ready Design

Evidence of site operating gracefully in multiple resolutions

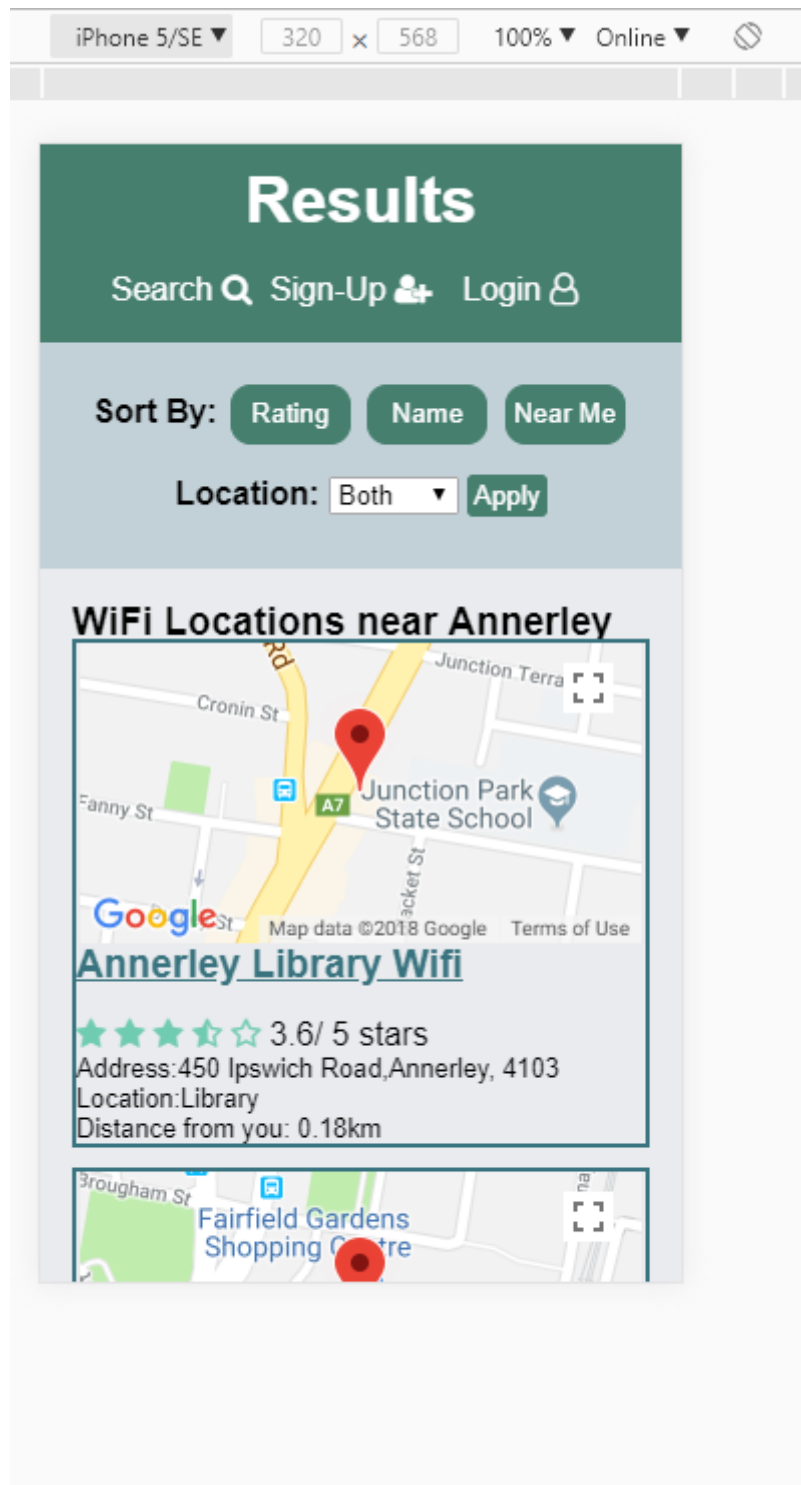
In this test case we are testing if our page works on different resolution. The first resolution is of an iPad Pro with a resolution of 1024x1366 the page seems to display correctly.



The second resolution is a resolution of a typical iPad which is 768 x 1024.



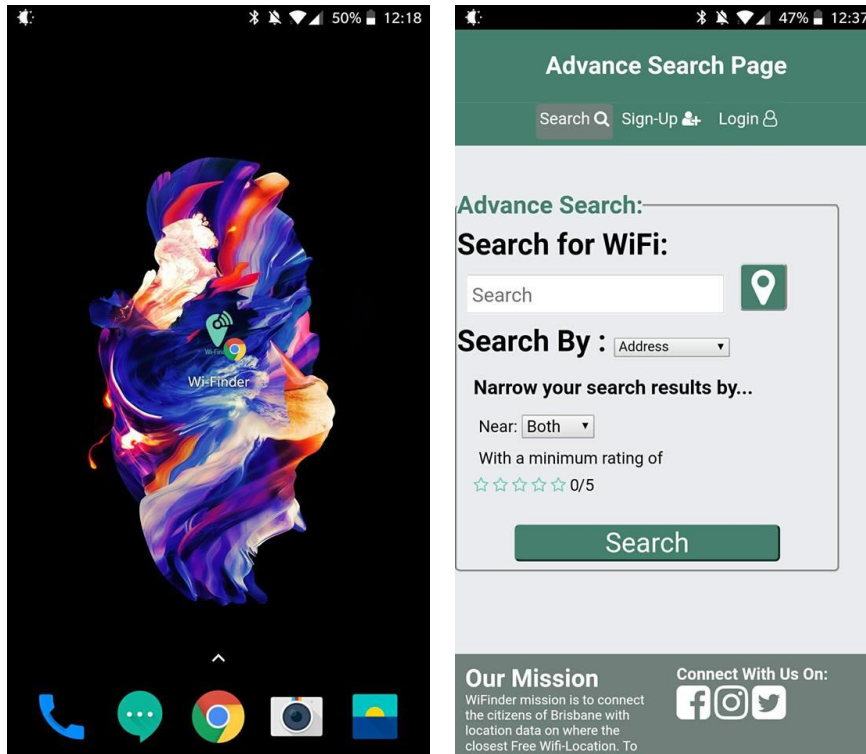
This final resolution is one of an iPhone 5 which was the smallest resolution our website had to be designed for and it displays perfectly.



Evidence of Mobile Ready (site accessible from a button on mobile phone)

Android

To show that our site was mobile ready we had to add our website to the home screen which in our case did and it showed our site logo. Upon launch the application it showed it as a full fledged web app with no chrome interfaces.



To create an android mobile app a manifest.json file had to be created in that contains name of the app different image resolutions and then a starting url and display type. Shown in the code below.

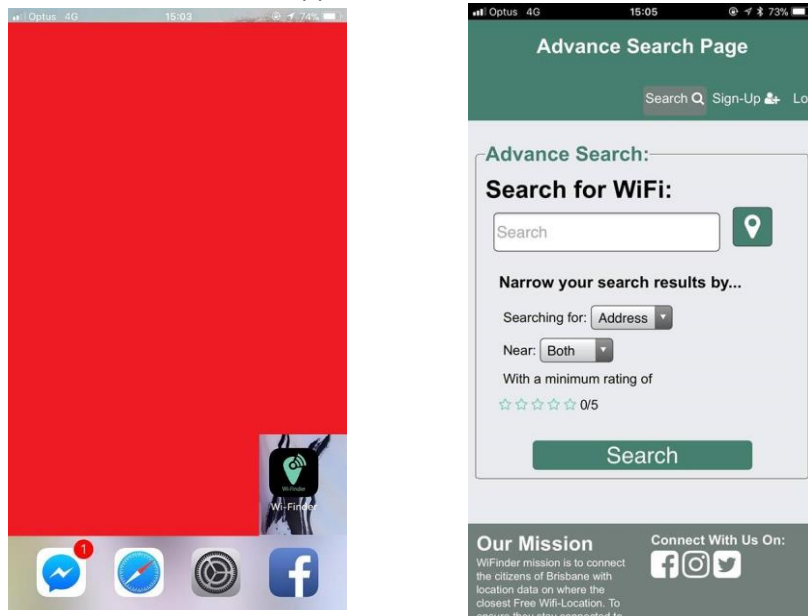
```
{
  "short_name": "Wi-Finder",
  "name": "CAB230 Wi-Finder",
  "icons": [
    {
      "src": "img/logofinal36x36.png",
      "sizes": "36x36",
      "type": "image/png",
      "density": 0.75
    },
    {
      "src": "img/logofinal48x48.png",
      "sizes": "48x48",
      "type": "image/png",
      "density": 1.0
    },
    {
      "src": "img/logofinal96x96.png",
      "sizes": "72x72",
      "type": "image/png",
      "density": 1.5
    },
    {
      "src": "img/logofinal128x128.png",
      "sizes": "96x96",
      "type": "image/png",
      "density": 2.0
    },
    {
      "src": "img/logofinal144x144.png",
      "sizes": "144x144",
      "density": 3.0
    },
    {
      "src": "img/logofinal192x192.png",
      "type": "image/png",
      "sizes": "192x192",
      "density": 4.0
    }
  ],
  "start_url": "search_page.php",
  "display": "standalone"
}
```

```
<link rel="manifest" href="/manifest.json">
```

^ Here is the line that is used to load the manifest json file so the web browser knows it's a web app.

IOS

(Had to censor because it contained personal information on home screen as its not my phone but this screenshots shows the application on the home screen and can be identified as an IOS device)



For IOS it required 2 meta tag and 1 link tag to generate the mobile app 1 first meta tag defined the title second tag defined if it web app capable and the link is the icon of the webapp.

```
<meta name="apple-mobile-web-app-title" content="Wi-Finder">
<meta name="apple-mobile-web-app-capable" content="yes">
<link rel="apple-touch-icon" href="img/logofinal144x144.png">
```

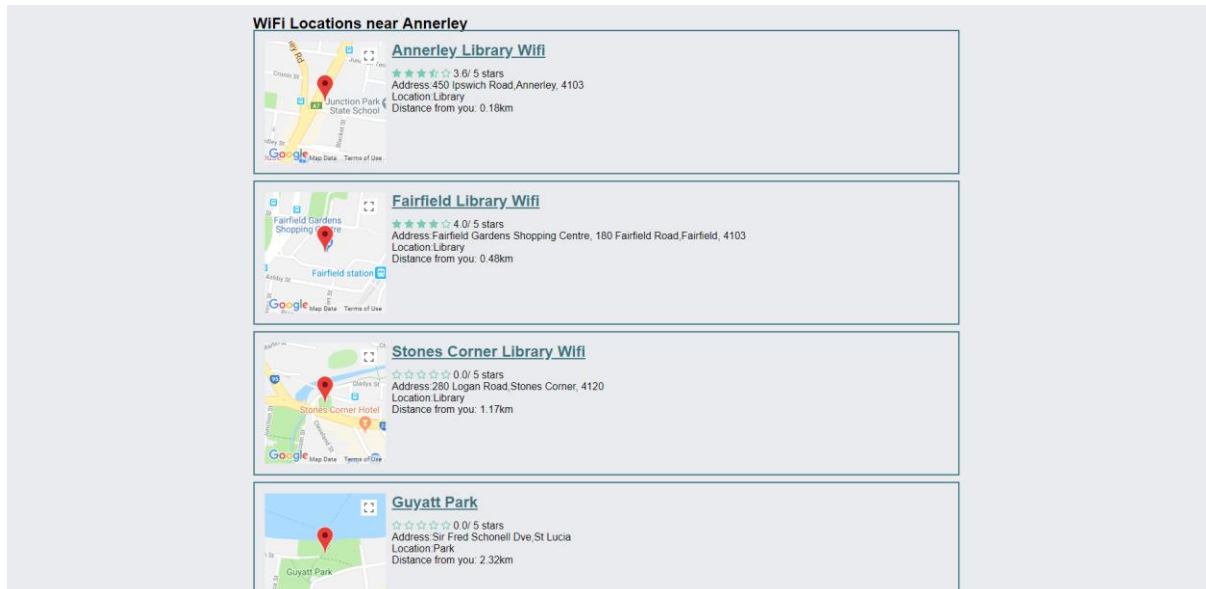
An example of a SQL Query that is implemented in code and a description of where this Query is located.

```
$retrieveSearches = $pdo -> prepare("SELECT w.WifiHotspotName,w.LocationType,w.Address,w.Suburb,w.Latitude,w.Longitude, ".
"(3959 * acos(cos(radians(:latitude))*cos(radians(Latitude))*cos(radians(Longitude)-radians(:longitude))+sin(radians(:latitude))*sin(radians(Latitude)))) ".
"AS distance, ifnull(round(avg(r.rating),1),0) AS AvgRating FROM `wifi-location` w ".
"LEFT JOIN reviews r ".
"ON w.WifiHotspotName = r.WifiHotspotName ".
"WHERE ".$where ." ".
"GROUP BY WifiHotspotName ".
"HAVING distance<20 AND avgRating >= :rating ".
"ORDER BY ".$search ." LIMIT 0,20");
```

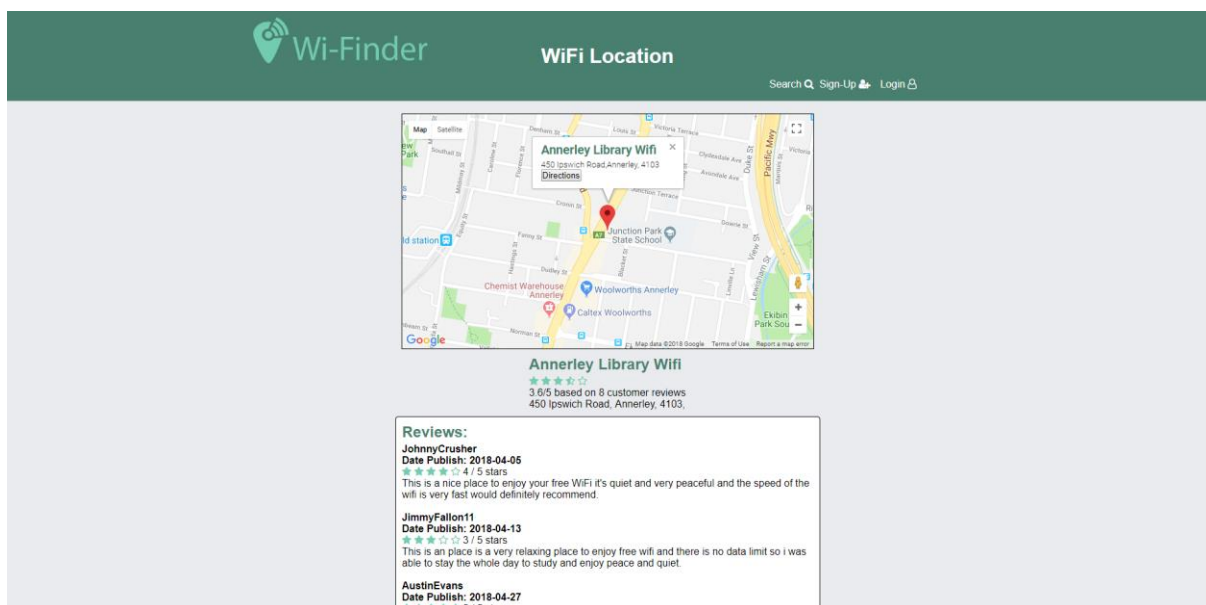
This SQL Query is the most complicated SQL query used for the website in consisted of grabbing data from two tables and merging them. From one table it grabbed the WifiHotspotName, LocationType, Address, Suburb, Latitude and Longitude and also calculated the distance using the Haversine formula. Then grabbed all entries from reviews table and merged the avgReview with the matched location and filter out if it had a distance over 20km and the avgRating is below the specified rating. This query is in the retrieveFromDatabase.php file.

Add On #1 Maps

The first addon tasked consisted having a map for both the search page and the individual item page. Since we decided to do a tile based design it was a much better option to have all the maps of all the location next to the item name. As opposed to one big map which all the locations this helped make the sites look nicer and not incorporate the static tabular design.

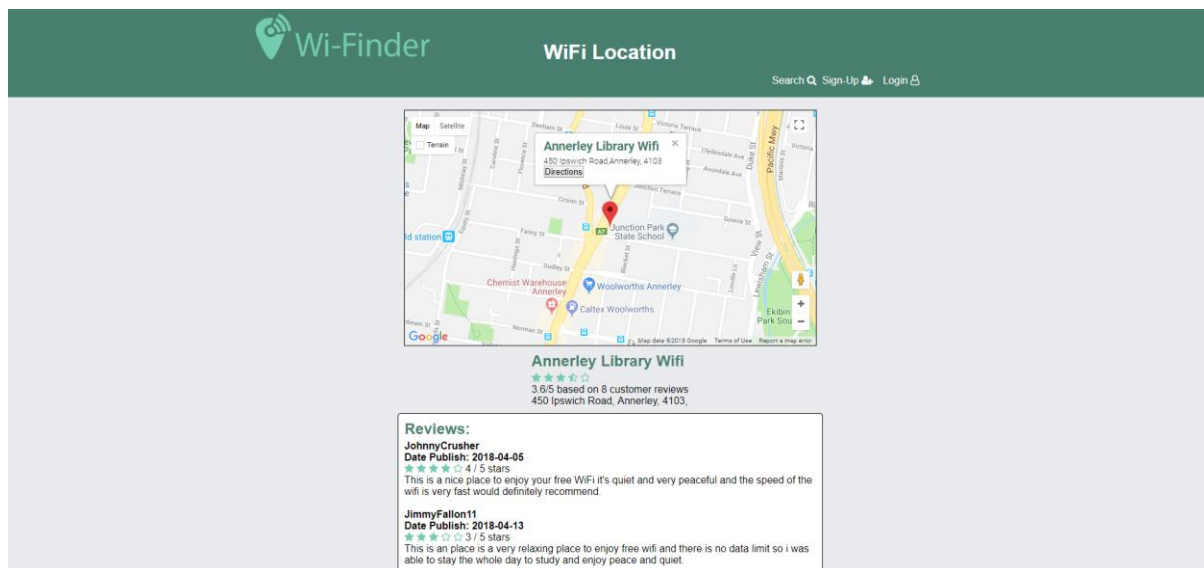


The individual result page has a bigger picture of the map and contains a marker which displays information of the wifi location and as an added feature if the user clicks on the direction button then they will be forward to a google map location marker where they can get directions to.



Add on #2 Metadata and Microdata

This is a individual results page that contains the microdata of the place and review description.



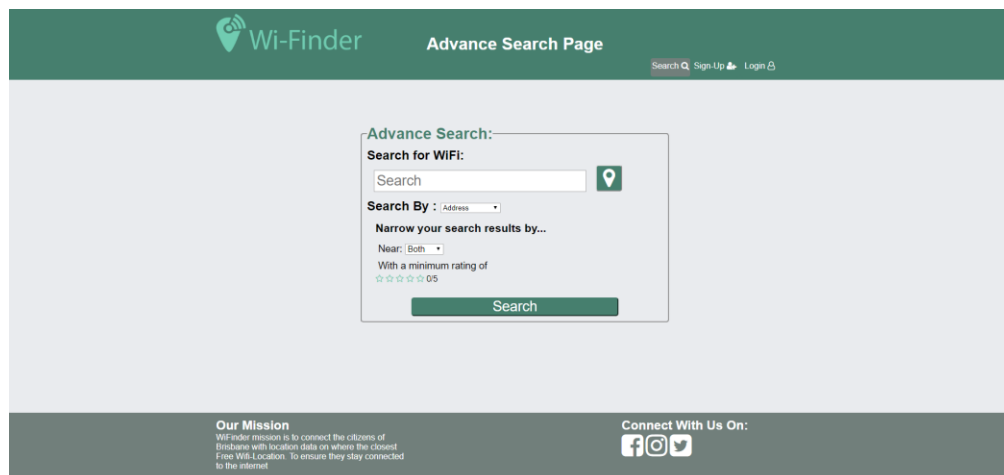
Here is the output of the microdata using the Google Data Structuring tool it shows that this is a place and has its required fields. It also incorporates the review schema as it shows the reviews schema information below.

Place	0 ERRORS 0 WARNINGS ^
ID: https://search.google.com/structured-data/testing-tool/content	
@type	Place
@id	https://search.google.com/structured-data/testing-tool/content
name	Annerley Library Wifi
aggregateRating	
@type	AggregateRating
ratingValue	3.6
reviewCount	8
address	
@type	PostalAddress
name	Annerley Library Wifi
streetAddress	450 Ipswich Road
addressRegion	Annerley, 4103
review	
@type	Review
@id	https://search.google.com/structured-data/testing-tool/review-one
datePublished	Date Publish: 2018-04-05
description	This is a nice place to enjoy your free WiFi it's quiet and very peaceful and the speed of the wifi is very fast would definitely recommend.
author	
@type	Thing
name	JohnnyCrusher
reviewRating	
@type	Rating
worstRating	1
ratingValue	4
bestRating	5

Web Design Principles

User Experience

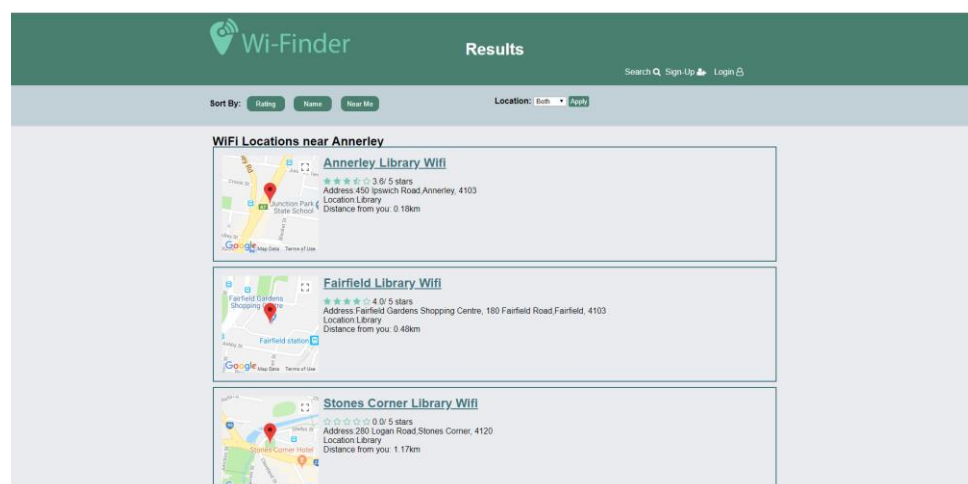
User Experience was an important aspect in our website design as it incorporated a simple design where every function was either very obvious on what its purpose was or had text next to it to describing its purpose. Allowing the user to quickly identify what that button/input box was designed for which incorporated the “don’t make me think!” principle.



For example our search page is quite easy to understand it has a input box where the user can type either the address or name they want to search for. Then below it there a label that allows the user to select the searching mode they want. Then next each drop down box there is label next to it to describe its purpose. Finally, there is 2 buttons one of them is for the geolocation which can be identified by looking at the button with the universally recognised GPS logo and the other one is wide button labelled search. These elements contain a different colour to other elements so it's easier to differentiate.

Visual Design

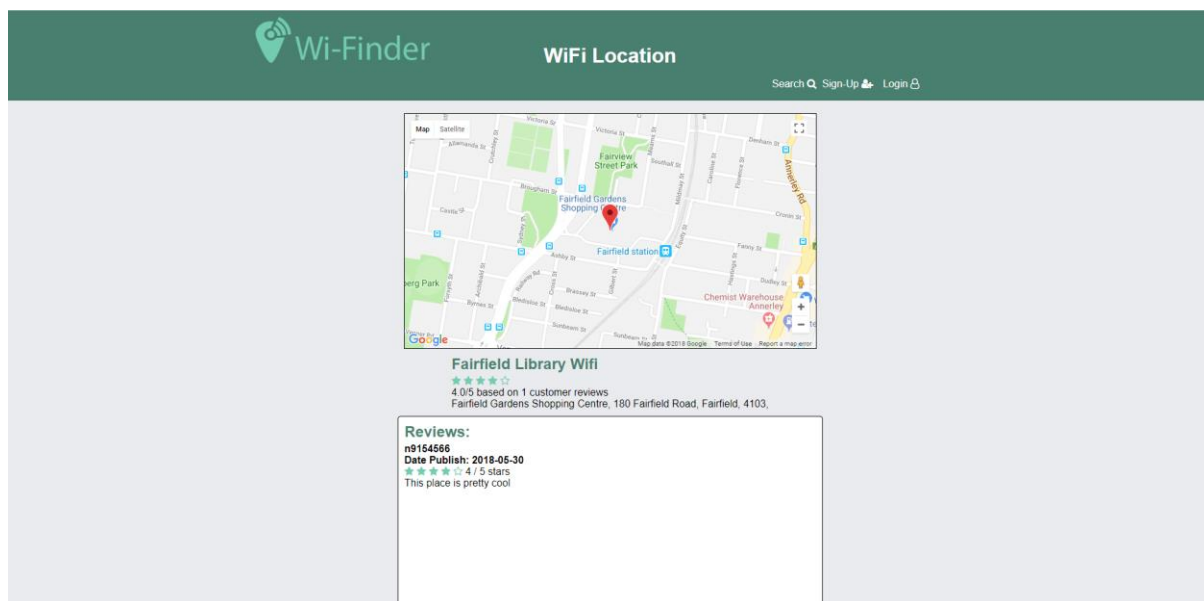
For the visual design aspect, it was decided to keep it simple by having a consistent colouring scheme through the whole website. This consistent colour scheme consisted of a dark green header bar, grey content bar and a greyish green footer and all other elements followed a similar colour scheme. For the contrasting aspect of the visual design it was decided to use dark backgrounds with lighter text and lighter backgrounds with darker text. This made it easier to read the text and contributed to the overall readability of the website and improved the overall look and feel.



This page uses the aforementioned design patterns which including having dark text on light background and vice versa. It also has a very simplistic interface where it easier to read and understand each elements purpose.

Page Layout

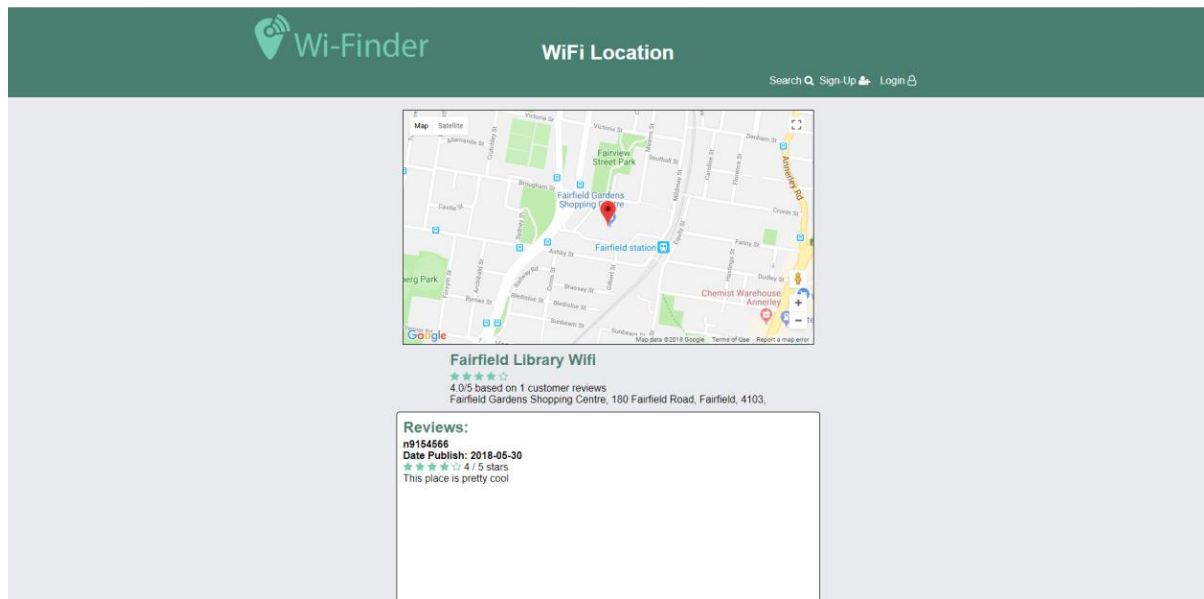
For the page layout aspect, it was decided to use some sort of grid layout which was implemented using CSS Grid Layout. Which made the page look very well structured and professional thus making the page more presentable. Another design aspect was separating the different sections from each other this was achieved by having different background for each section of the page section the header, navbar, footer and content. Also, each subsection had their own colour scheme but not to the point it overpowers the user with many different colours. Another design consideration was using a centred page design where most of the content would reside in the centre and the sides would contain active whitespace and will dynamically adjust as the screen width gets smaller.



The page above incorporates the aforementioned principles where it is using a grid-based layout, there is an obvious transition between the different sections and incorporates page centred design where the content is centred in the page.

Standards

For standards consideration to cater for people who require the use for accessibility features this requires having sufficient contrast to make things easier to see for people who are colour blind. The colour isn't overwhelming as well which is a huge benefits as it won't causes seizures. All images have alternate text as well which helps users who are colour-blind identify the purpose of the picture. This website uses a lot of structured elements such as h1,h2,h3 etc to emphases important contents such as titles, sub heading and location names.



Take the individual results page for example the contrast is great where it has dark colour on light text for the heading and for the content it has light background on dark text. It also has different headings to show the emphasis of these titles making screen reader job even easier.

Header with dark green background and white text using WebAIM Color Contrast Checker.

Normal Text

WCAG AA: **Pass**

WCAG AAA: **Fail**

The five boxing wizards jump quickly.

Large Text

WCAG AA: **Pass**

WCAG AAA: **Pass**

The five boxing wizards jump quickly.

Content with grey background and black text using WebAIM Color Contrast Checker.

Normal Text

WCAG AA: **Pass**

WCAG AAA: **Pass**

The five boxing wizards jump quickly.

Large Text

WCAG AA: **Pass**

WCAG AAA: **Pass**

The five boxing wizards jump quickly.