

# 2022

## IFN666 Web APP – Client Side



IFN666

Web APP – Client Side

Link to Demo video:

drive:

[https://drive.google.com/file/d/1IOzDVk2jyinvzv9hlBoUwp9nieRI-7\\_L/view?usp=share\\_link](https://drive.google.com/file/d/1IOzDVk2jyinvzv9hlBoUwp9nieRI-7_L/view?usp=share_link)

Youtube:

<https://youtu.be/bWanR6NBSLI>

TING-HSIANG SU (Jordan)

n11189983

4/5/2023

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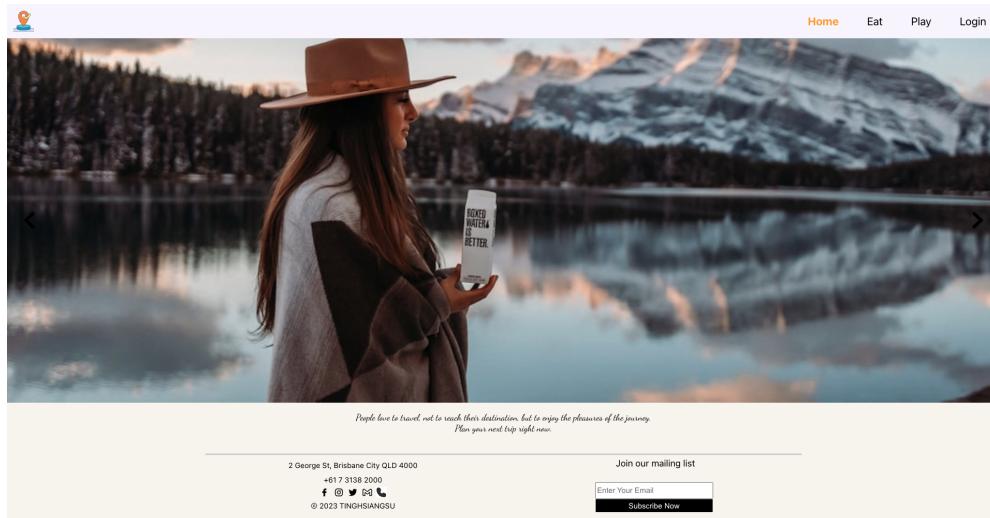
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## Introduction

### Purpose & description

For providing a better and smooth user experience and attractive user interface. I use a modern front-end framework – react and some other libraries to build this website.

This is a website which can provide users with travel suggestions. It provides two search functions on this website – find attractions and restaurants. The purpose of this website is to help travelers find the information they want more easily by using our interactive website.



### Completeness and Limitations

Work function – Search place, filter by user input, showing the data fetch from api, list all the data clearly, navigation handled by react router, visualize the information on google map.

### Use of APIs

1. Unsplash Image Api
2. TripAdvisor Api
3. Google Map Api (Indirectly)

### Use of End Points of the chosen API

1. Unsplash Image Api
  - a. Get photos by specified query. Below are the parameters I used.

```
query: 'landscape' // search keyword
orientation: 'landscapde' // specified the photo orientation
per_page: 5 // the number of image fetch from api each time
```

```
query: 'landscape' // search keyword
orientation: 'landscapde' // specified the photo orientation
per_page: 5 // the number of image fetch from api each time
```

2. TripAdvisor Api (The search condition I used is boundary search. That will show all the result located in that area. Hence, I need to provide the boundary of the google map):
  - a. Get Restaurant information:

```
params: [
  searchType: 'restaurants'
  bl_latitude: '11.847676', // bottom left latitude of google map
  tr_latitude: '12.838442', // top right latitude of google map
  bl_longitude: '109.095887', // bottom left longitude of google map
  tr_longitude: '109.149359', // top left right longitude of google map
  limit: '30', // number of data fetch from api each time
]
```

b. Get Attractions information:

```
params: [
  searchType: 'attractions',
  bl_latitude: '11.847676', // bottom left latitude of google map
  tr_latitude: '12.838442', // top right latitude of google map
  bl_longitude: '109.095887', // bottom left longitude of google map
  tr_longitude: '109.149359', // top left right longitude of google map
  limit: '30', // number of data fetch from api each time
]
```

## Modules used

### Material UI:

This library helps me to build an attractive and nice-looking user interface easily. There are many powerful components that can be used. For example, <Card>, <Paper> ..etc. And it is easy to customize.

<https://mui.com/material-ui/getting-started/overview/>

### React-Lottie

This library can let developers render the lottie file on the website. Compared to the traditional svg file and animation lottie file has smaller file size and higher render performance.

<https://www.npmjs.com/package/react-lottie>

### React-alert

I use this library to show notifications on the website more clearly. For example after user login/logout or successfully subscribe our latest news. It will make the website more interactive.

<https://www.npmjs.com/package/react-alert>

### Google-map-react

This library is a component written over a small set of the Google Maps API. It can help me to render the google map on my website easily. The reason why I chose this module is that using a light module to embed google maps in the simple website is more efficient than using native Google Maps API.

<https://www.npmjs.com/package/google-map-react>

## Application Design

### Navigation and Layout

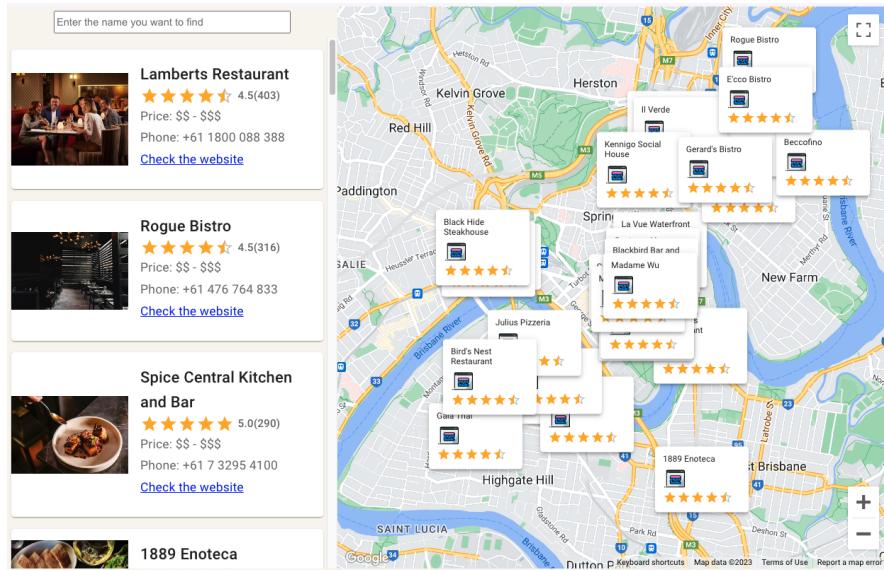
After surveying lots of different types of website designs, I chose a layout which is easily to use. I separate my website into three different parts – header, content and footer. That layout is consistent in every page. Hence, the only thing that will change is the content component when one page navigates to another page.

That is the header bar which will let users choose which page they want to use.



Home      Eat      Play      Login

That is the content part which will show the proper information of this page.



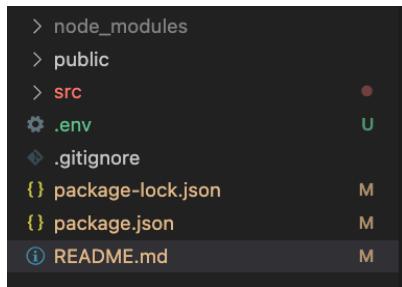
Footer which will show the information about this website.



## Technical Description

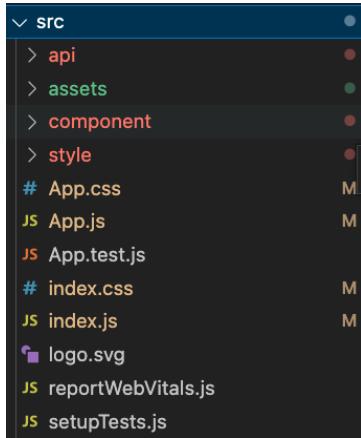
### Architecture

That is the overall structure of this project. I use a .env file to store the api key used in this project for security reasons.



```
> node_modules
> public
> src
  > .env
  > .gitignore
{} package-lock.json
{} package.json
① README.md
```

Let's dig into the src file. There are four folders under it. Api functions and code will be stored in the api folder. All the images/lottie file/icon/font will be stored in the assets folder. Component folder will involve all the jsx files used in this project. Besides, I didn't write the css code in the jsx file. I chose to write in the separate file style.jsx which will make the code more tidy and readable. And the components can use that by importing this file.



## Test plan

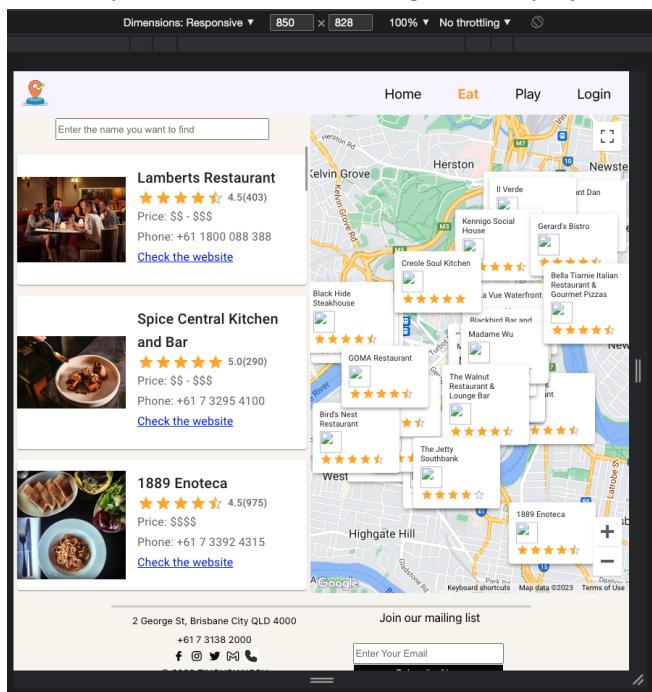
Your tests should include

Task	Expected Outcome	Result	Screenshot(s)
<b>Checking home page</b>			
Home page shows on <a href="http://localhost:3000/">http://localhost:3000/</a>	Home page displayed, with table populated	PASS	Figure 1
Check image slide work properly	Image slider display images and the previous/next button work fine	PASS	Figure 2
<b>Checking Restaurants page</b>			
Type into search bar to filter by name (restaurants)	restaurants filtered by name	PASS	Figure 3
Place will be displayed on the google map properly	All the place which has been listed will be show on the google map as well	PASS	Figure 4
Display no match result	show no match result on the screen	Failed	Figure 5
Resize the google map and the data will be auto update	refresh the data depends on the new location	PASS	Figure 6
<b>Checking Attraction page</b>			
Type into search bar to filter by name	Attraction filtered by name	PASS	Figure 7
Place will be displayed on the google map properly	All the place which has been listed will be show on the google map as well	PASS	Figure 8
Display no match result	show no match result on the screen	Failed	Figure 9
Resize the google map and the data will be auto update	refresh the data depends on the new location	PASS	Figure 10
<b>Checking Login page</b>			

User cannot login without input any information	The button will be disabled when account or password is empty	PASS	Figure 11
User can log out and clean the user information	Login information will be clean after click logout	PASS	Figure 12
Input value should be validate	It should not login when the user input any invalid characters	FAILED	Figure 13

## Difficulties / Exclusions / unresolved & persistent errors /

I think the major roadblock for me is dealing with the google map. Although it is not a pretty tricky issue, there are too many things I need to dig into. It is because the google map api is a really powerful api which has plenty of functions that can be used. Hence, I choose to use a lightweight third-party library to help me handle all the problems. However, I think using the native google map api is the best way for developing a bigger project. Besides, I face a problem with the layout. I reckon I have implemented the RWD design on this project for over 80 percent. It still has some edge cases.



In this case, the footer will be a little bit truncated. But in my design, header and footer won't be affected during resize. Because I used gridTemplateRows to arrange the layout.

```
display: 'grid',
gridTemplateRows: '1fr 12fr 140px'
```

After I dug into that problem, I found that it could be caused by the map component. Due to the third-party library, the author has already set some css style on that size. Hence, it will make my own style not work properly.

For the functionality, there is a problem on the tripadvisor api when I want to get hotel data. I use the same coordinates to fetch data. Sometimes it can get data properly. Sometimes I got nothing. And the test result on their website is the same. Hence, I removed this page from my website. (I test it on RAPID API: <https://rapidapi.com/apidojo/api/travel-advisor>)

Furthermore, there is a problem with the node\_module. If I just use `npm i` to install the node modules. It will show the following problem. I think there are some version conflict problems that need to be solved. But I have no time to dig into that now. So the solution is to add `--force` or `--legacy-peer-deps` when you want to install the node module ( I have written this step on README).

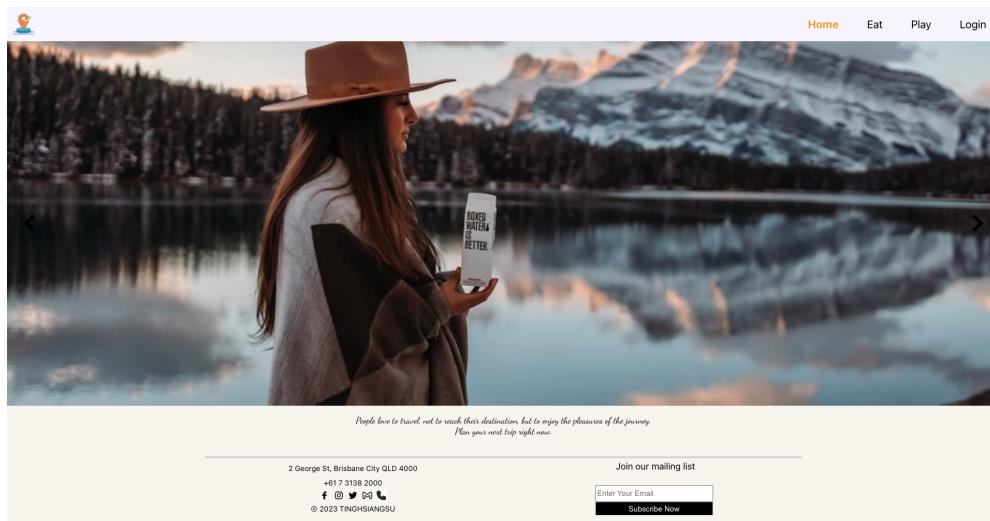
## Extensions (Optional)

There are some improvements that I want to do after this semester. First, I will make the connection between the list and the map more closely and make it more interactive. For now, users cannot do many things via the map. Next, I will implement the login/logout. That's a pretty basic function of a website. Furthermore, I want to add more search functions on this website. Users can just search restaurants and attractions for now. I reckon finding flights/accommodation/activities will be helpful for travelers. Last but not least, I want to provide more interesting and useful functions on the map. For example, users can check the distance between two places or get the information about how to get there. Besides, I reckon I need to add the sort function on the list which is a pretty simple to implement but really helpful for users.

Although there are so many travel websites right now, I think this website still has strong potential. This is because it is a multi-function website. The final purpose of this website is to provide a website where travelers can find all the information in one website and they can book flights/accommodation/tickets as well.

## User guide

That is my homepage.



Then you can click any page you want to go to on the header bar. Below are the screenshots of each page.

Enter the name you want to find

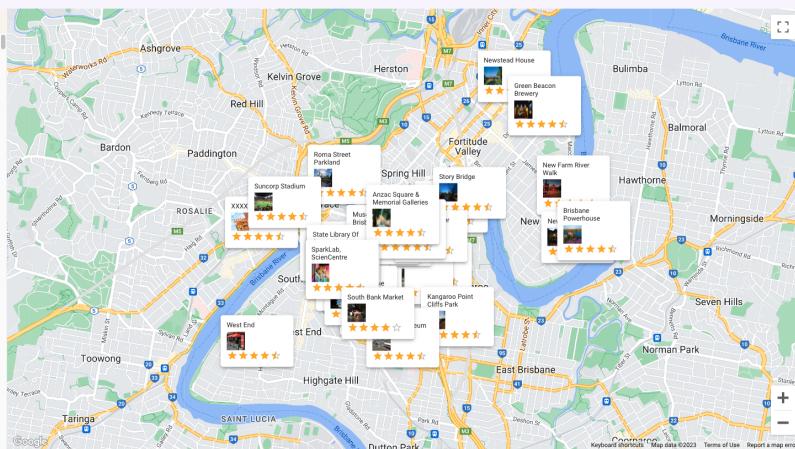
**South Bank Parklands**



★★★★★ 4.5(11622)

South Bank Parklands is Brisbane's premier lifestyle and cultural destination. Located on the southern banks of the Brisbane River, its 17 hectares of lush parklands, world-class eateries, stunning river views and hundreds of delightful events all year round make it the perfect place to relax and unwind.

[Check the website](#)



The map shows the South Bank Parklands area in Brisbane, highlighting various landmarks and attractions. Key points include Roma Street Parkland, Anzac Square & Memorial Galleries, State Library Of Queensland ScienceCentre, South Bank Market, Kangaroo Point Cliffs Park, Story Bridge, New Farm Park, Brisbane Powerhouse, and New Farm River Walk. The map also shows the surrounding neighborhoods like Ashgrove, Paddington, Rosalie, Kelvin Grove, Herston, Fortitude Valley, Spring Hill, New Farm, Hawthorne, Morningside, Seven Hills, Norman Park, and East Brisbane.

[Home](#)
[Eat](#)
[Play](#)
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Enter the name you want to find

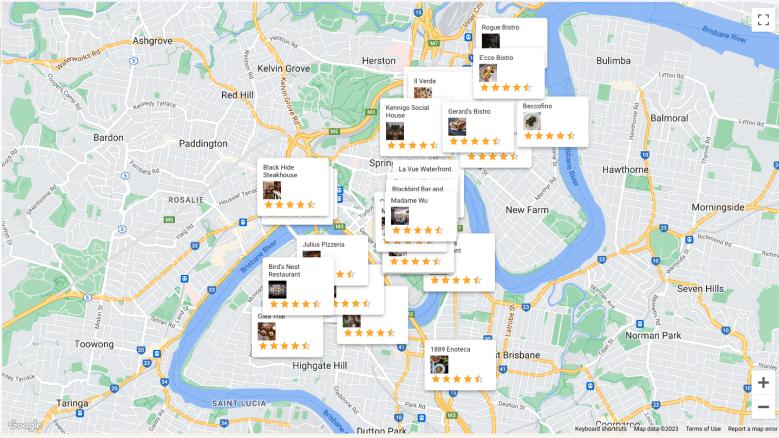
**Lamberts Restaurant**



★★★★★ 4.5(403)

Price: \$\$\$ - \$\$\$  
Phone: +61 1800 088 388

[Check the website](#)



The map shows the central business district of Brisbane, focusing on the area around the Brisbane River. It highlights several restaurants including Black Hide Steakhouse, Julius Pizzeria, Bird's Nest Restaurant, Gazebo, La Vue Waterfront, Blackbird Bar and Madame Wu, Ecco Bistro, Gerard's Bistro, and Beccofino. The map also shows the surrounding areas like Ashgrove, Paddington, Rosalie, Kelvin Grove, Herston, Spring Hill, New Farm, Hawthorne, Morningside, Seven Hills, Norman Park, and East Brisbane.

[Home](#)
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After date fetching, you can scroll the list to find the place you are interested in or you can enter the place name you want to find. (Here I enter Black for example)

Enter the name you want to find

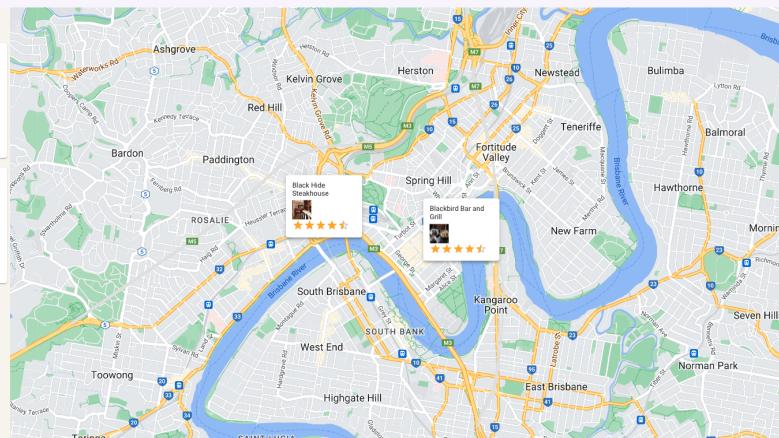
**Black Hide Steakhouse**



★★★★★ 4.5(716)

Price: \$\$\$-\$  
Phone: +61 7 3369 9500

[Check the website](#)



The map shows the central business district of Brisbane, focusing on the area around the Brisbane River. It highlights the Black Hide Steakhouse, which is located in the South Bank area. The map also shows the surrounding areas like Ashgrove, Paddington, Rosalie, Kelvin Grove, Herston, Spring Hill, New Farm, Hawthorne, Morningside, Seven Hills, Norman Park, and East Brisbane.

[Home](#)
[Eat](#)
[Play](#)
[Login](#)

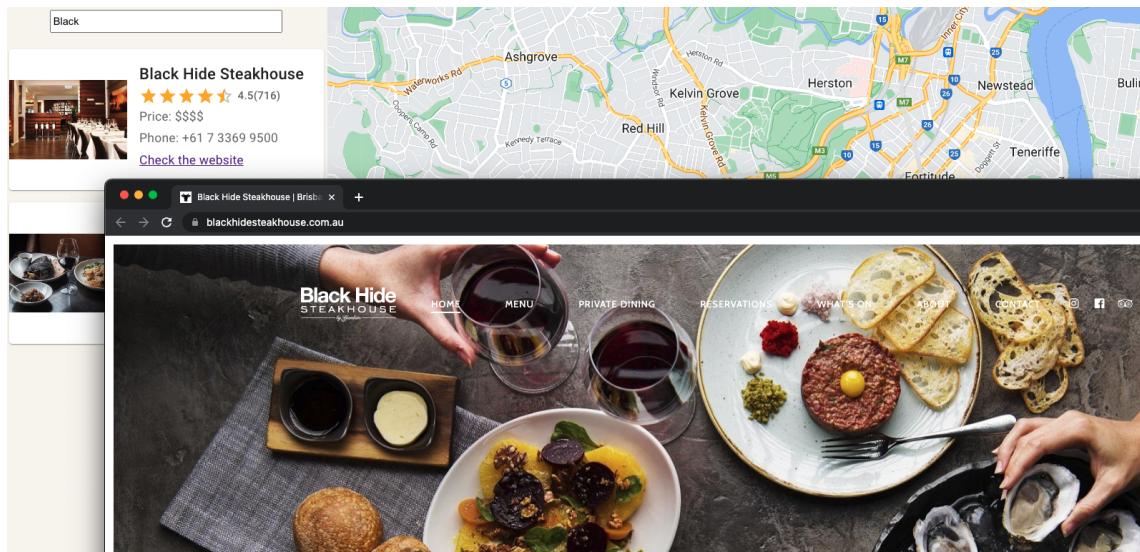
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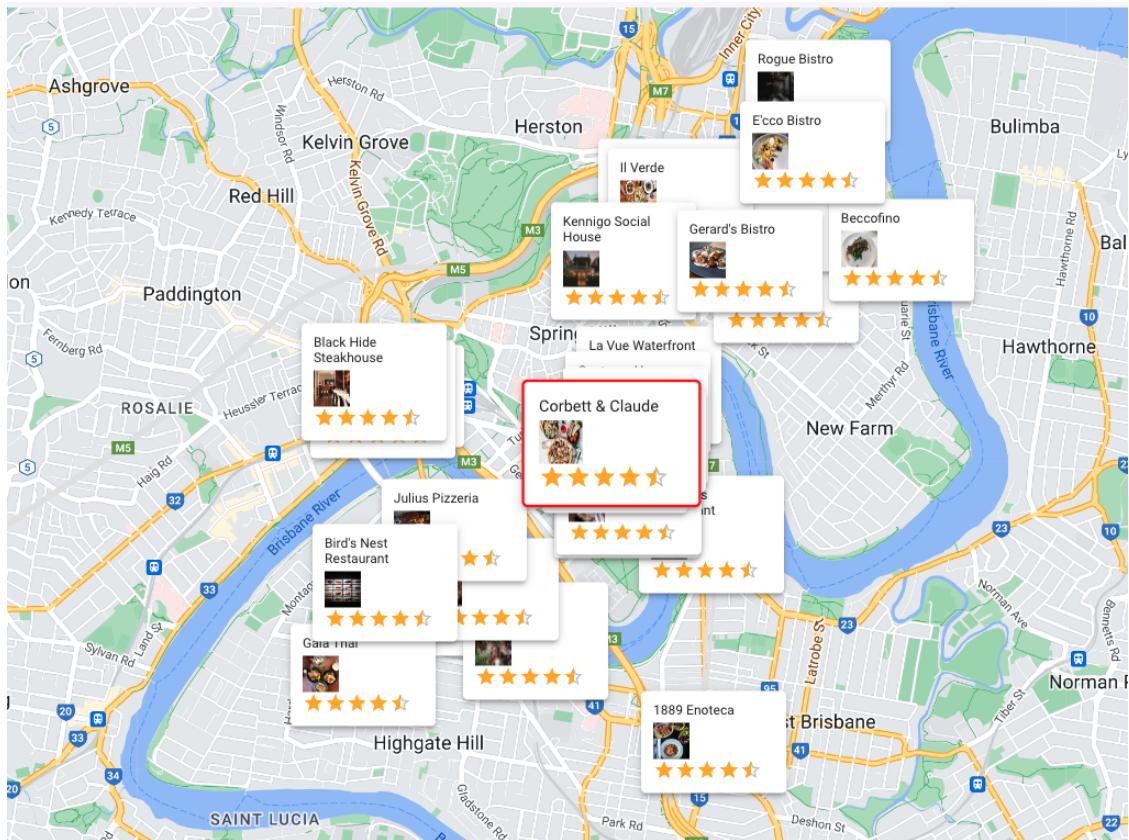
Subscribe Now

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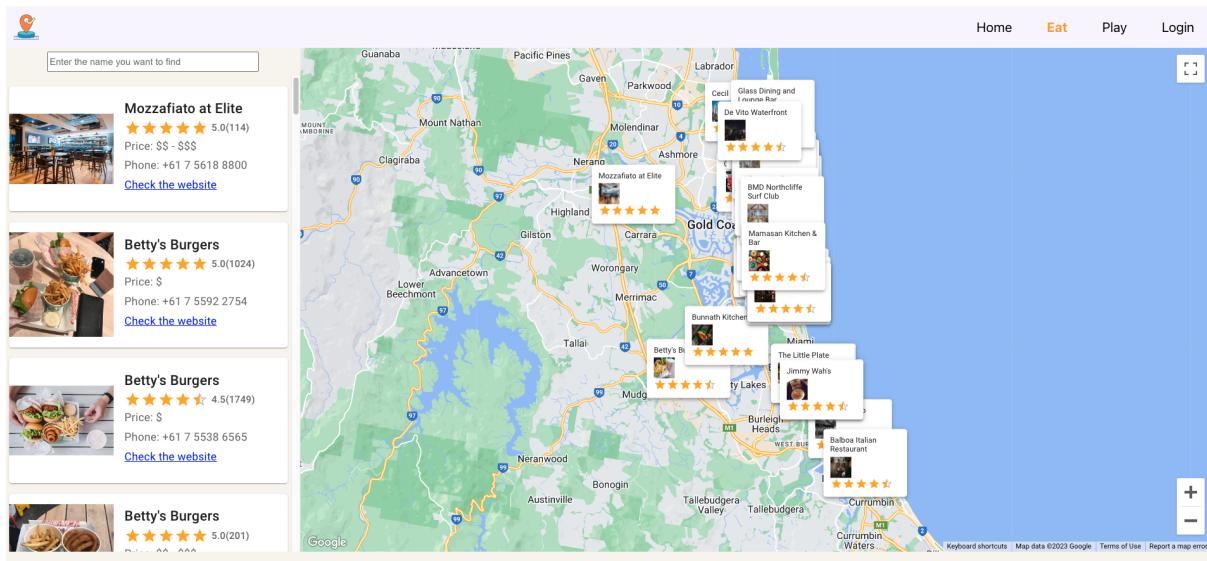
Then you can click the link on the card. It will redirect you to that website on a new tab.



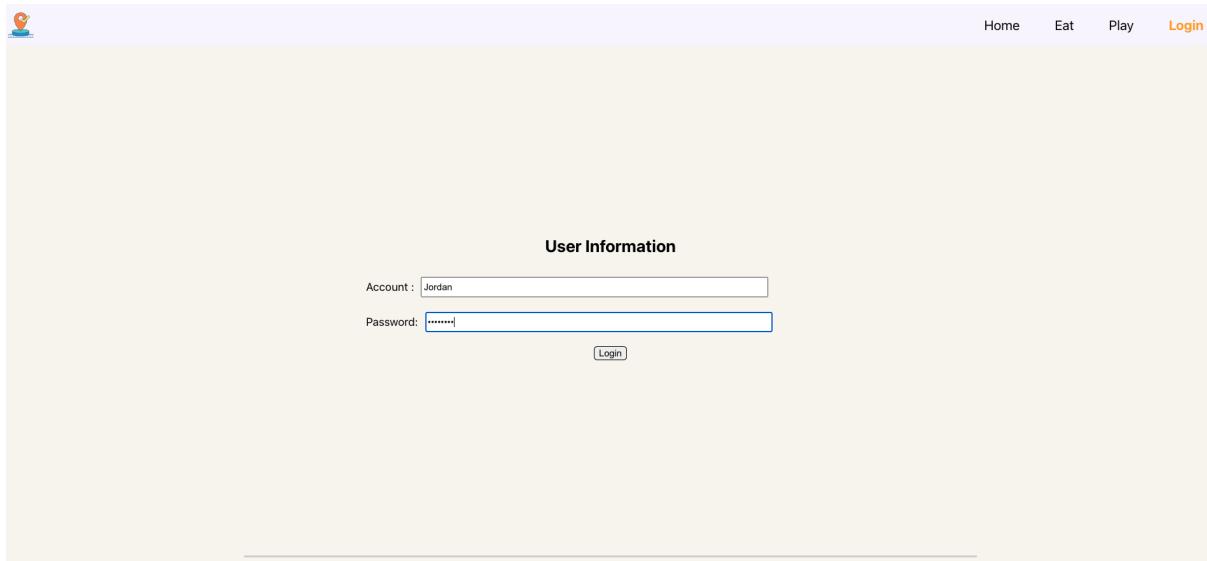
You can also find the place on the map directly. If you hover the place information it will come up to the top.



If you want to check other places just need to move on the map. And the data will be updated automatically. Below is the screenshot of moving to the Gold coast.



If you want to login to the website. Just click the Login button on the header. Then you can see the login page. Just need to enter the account name and password.



Then, the website will remember your login information. And show an alert of success login.

## Welcome Jordan

[Logout](#)

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WELCOME BACK  
JORDAN~

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Users can log out as well. And the website will clean the user information immediately.

## User Information

Account :

Password:

[Login](#)

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f o t w m c  
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## References

1. Gunde, P. (2022, November 8). Integration of Google Maps with React | Part 1 - ScaleReal - Medium. *Medium*.  
<https://medium.com/scalereal/integration-of-google-maps-with-react-part-1-86c075ab452a>
2. *How To Use Lottie Animations in a React App - LottieFiles*. (n.d.).  
<https://lottiefiles.com/blog/working-with-lottie/how-to-use-lottie-in-react-app>

## Appendices

### *Appendix A – self-checking against CRA*

Marks	Grade level (in 1- 7 scale) my work belongs to (delete the ones not suitable)	Marks I think I should get
<b>Overall Functionality (40 marks)</b>	6	32 out of 40
<b>Application Robustness (10 marks)</b> Note: error catching and handling	5	7 out of 10
<b>Application UI Design (10 marks)</b> Note: this is purely based on function and usability.	6	8 out of 10
<b>Application architecture and Code Quality (10 marks)</b> Note: modularity, programming practice, balance between client-side and server side processing. No creation of class components, No XMLHTTP Request, No Client-side file upload	6	8 out of 10
<b>Report and Reflections (20 marks)</b> Note: Reflection on good programming practices followed, architecture design, examples for client/server side processing, test cases etc.	5	12 out of 20
<b>Video demo (10 marks)</b> Note: voice + content Demo all use cases including all functions, error cases, responsiveness of pages etc.	6	8 out of 10
<b>Overall Marks (100)</b>		75 out of 100

## Appendix B – Screenshots of test plan results

Figure1

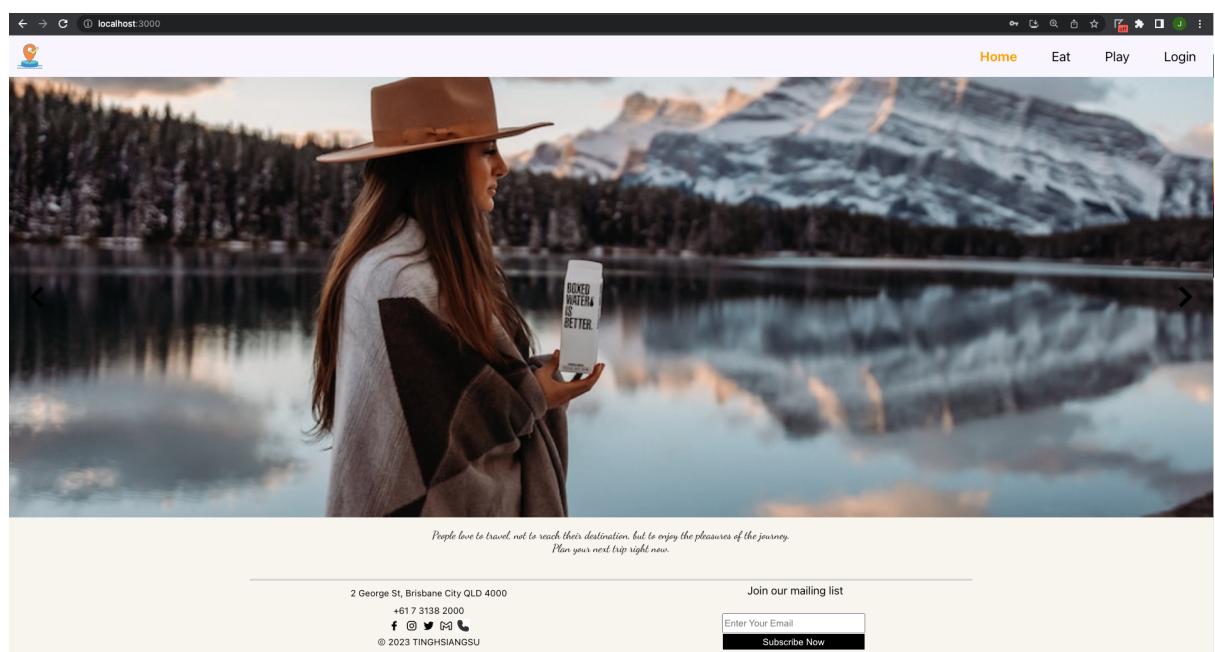
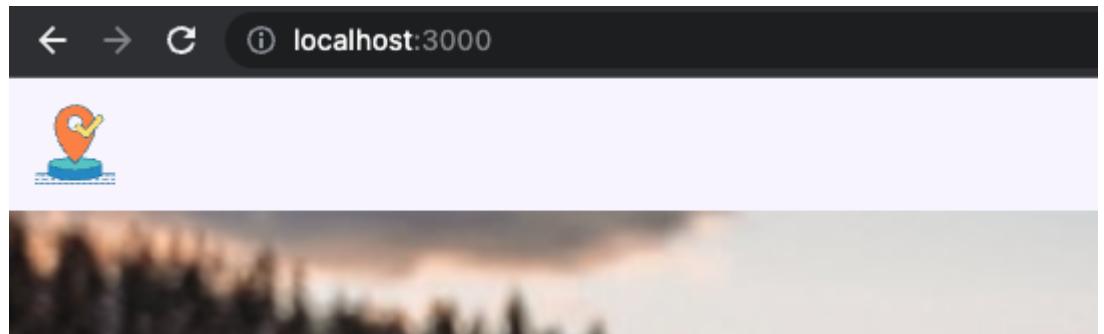


Figure2( image slides auto play)

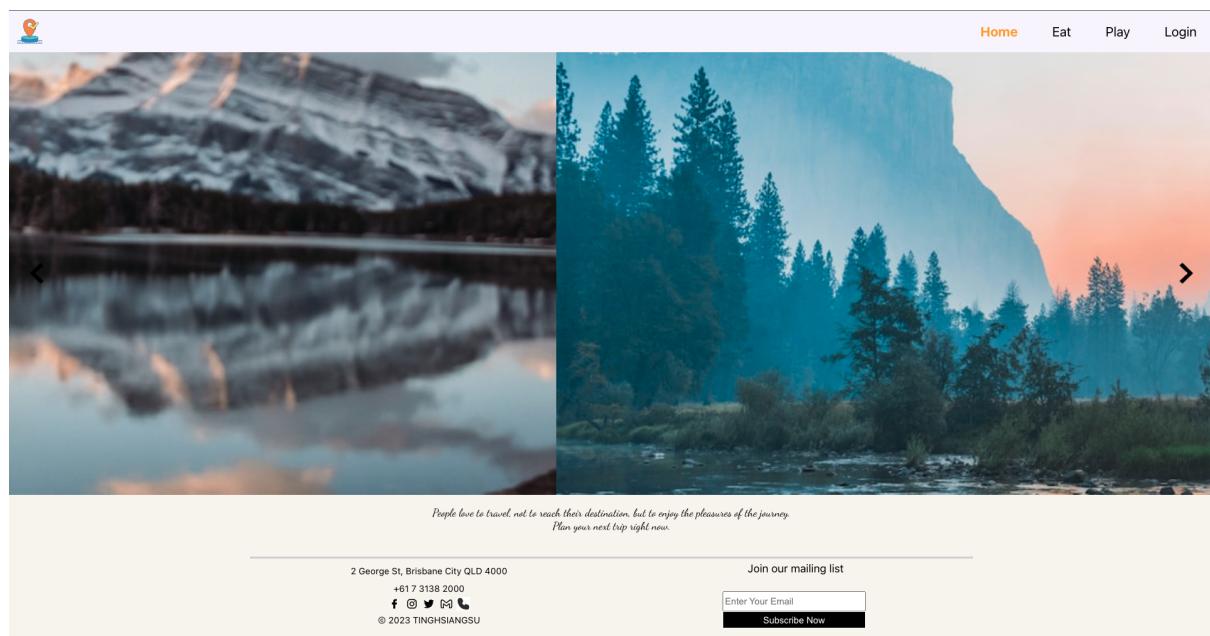


Figure3

Black

**Black Hide Steakhouse**  
★★★★★ 4.5(716)  
Price: \$\$\$  
Phone: +61 7 3369 9500  
[Check the website](#)

**Blackbird Bar and Grill**  
★★★★★ 4.5(904)  
Price: \$\$\$  
Phone: +61 7 3229 1200  
[Check the website](#)

Figure 4

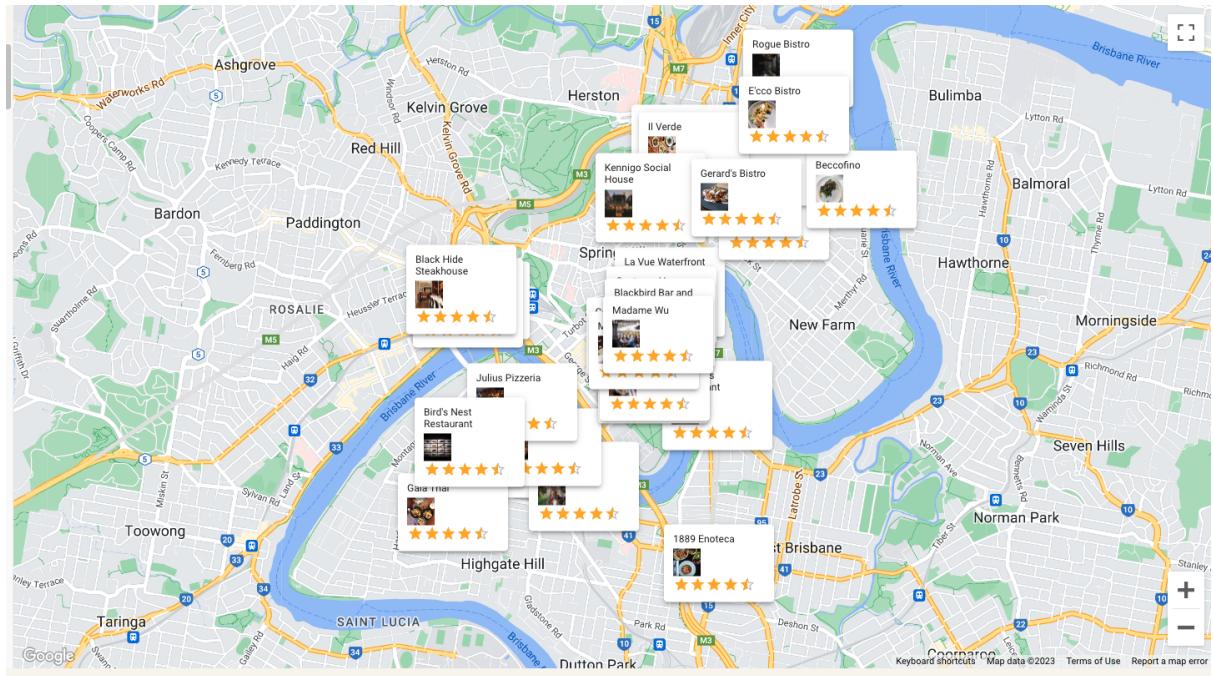


Figure 5 (Failed)

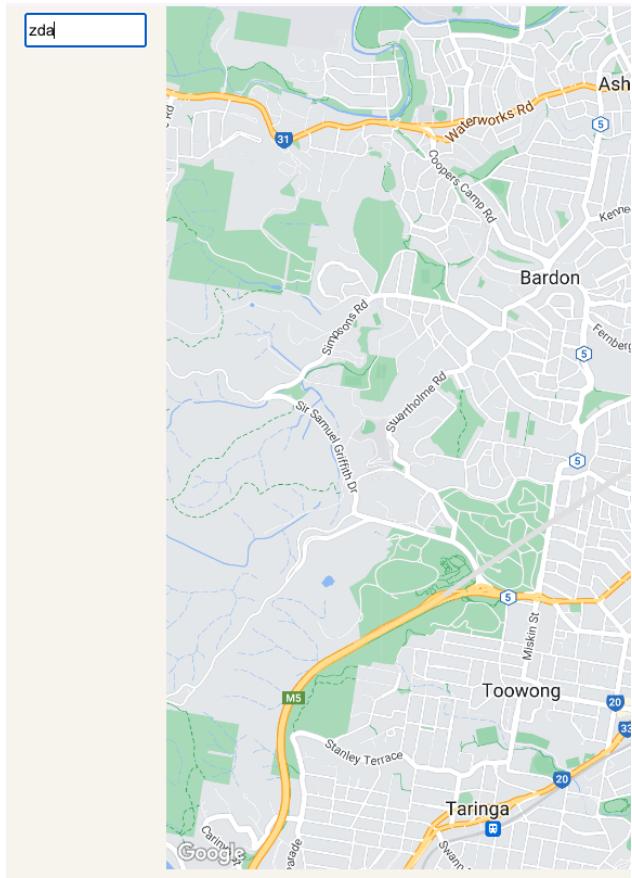


Figure 6

**Mozzafiato at Elite**  
★★★★★ 5.0(114)  
Price: \$\$ - \$\$\$  
Phone: +61 7 5618 8800  
[Check the website](#)

**Betty's Burgers**  
★★★★★ 5.0(1024)  
Price: \$  
Phone: +61 7 5592 2754  
[Check the website](#)

**Betty's Burgers**  
★★★★★ 4.5(1749)  
Price: \$  
Phone: +61 7 5538 6565  
[Check the website](#)

**Betty's Burgers**  
★★★★★ 5.0(201)

Home Eat Play Login

Figure 7

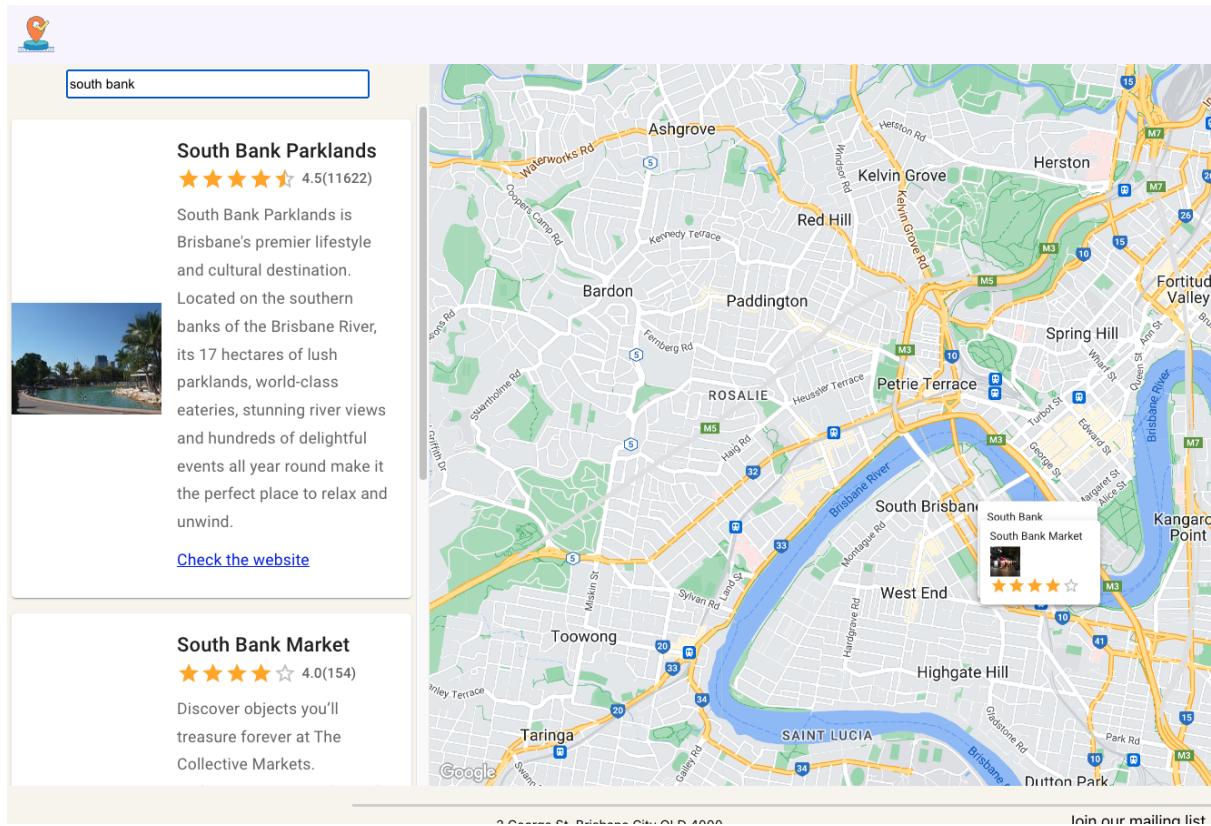


Figure 8

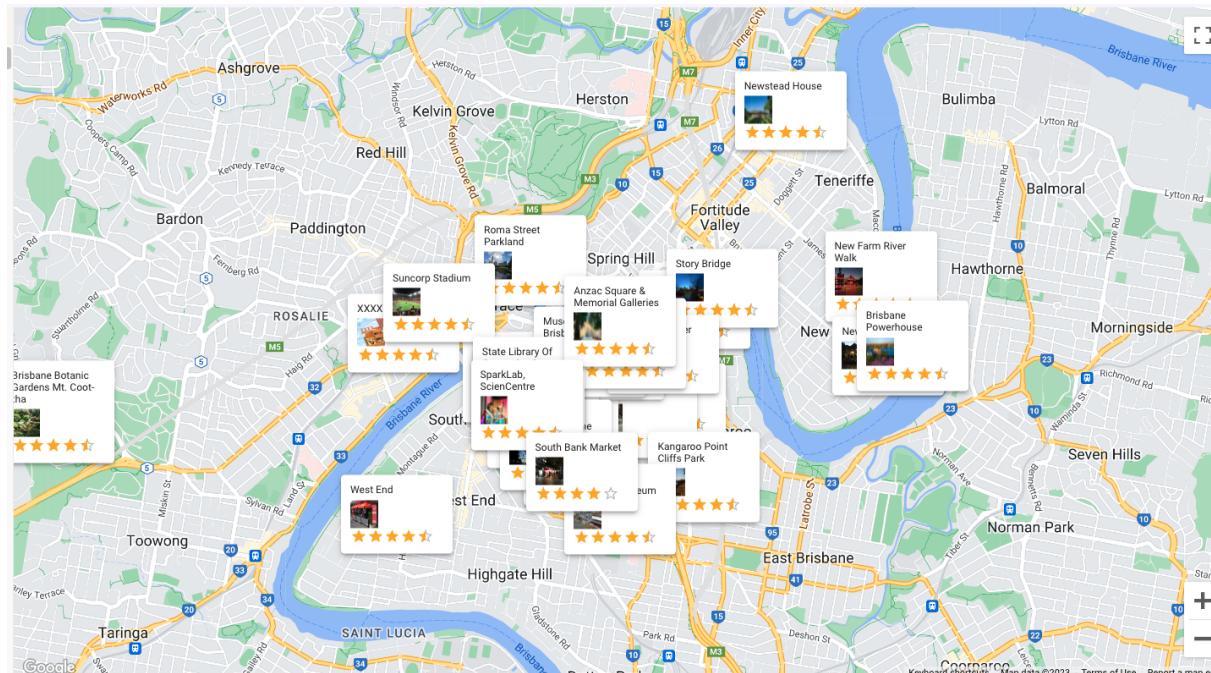


Figure 9 (Failed)

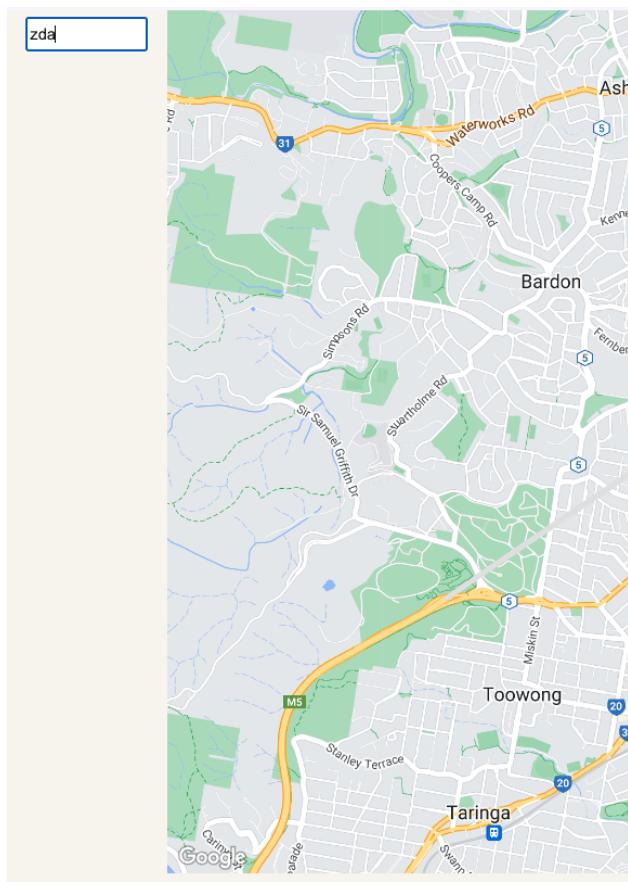


Figure 10

Surfers Paradise Beach  
★★★★★ 4.5(5965)  
The iconic skyline and golden beaches of Surfers Paradise is the Gold Coast's postcard image to Australia and the world. Each year, millions of visitors discover an energetic foreshore precinct boasting an incredible diversity of restaurant, cafe, shopping and fashion and nightlife experiences. Restaurants offering everything from fresh seafood to international cuisine have made Surfers Paradise a serious dining hub, while shopping centres and arcades display top labels and the best in lifestyle and beauty. Surfers Paradise contains 50% of the Gold Coast's accommodation –

Figure 11

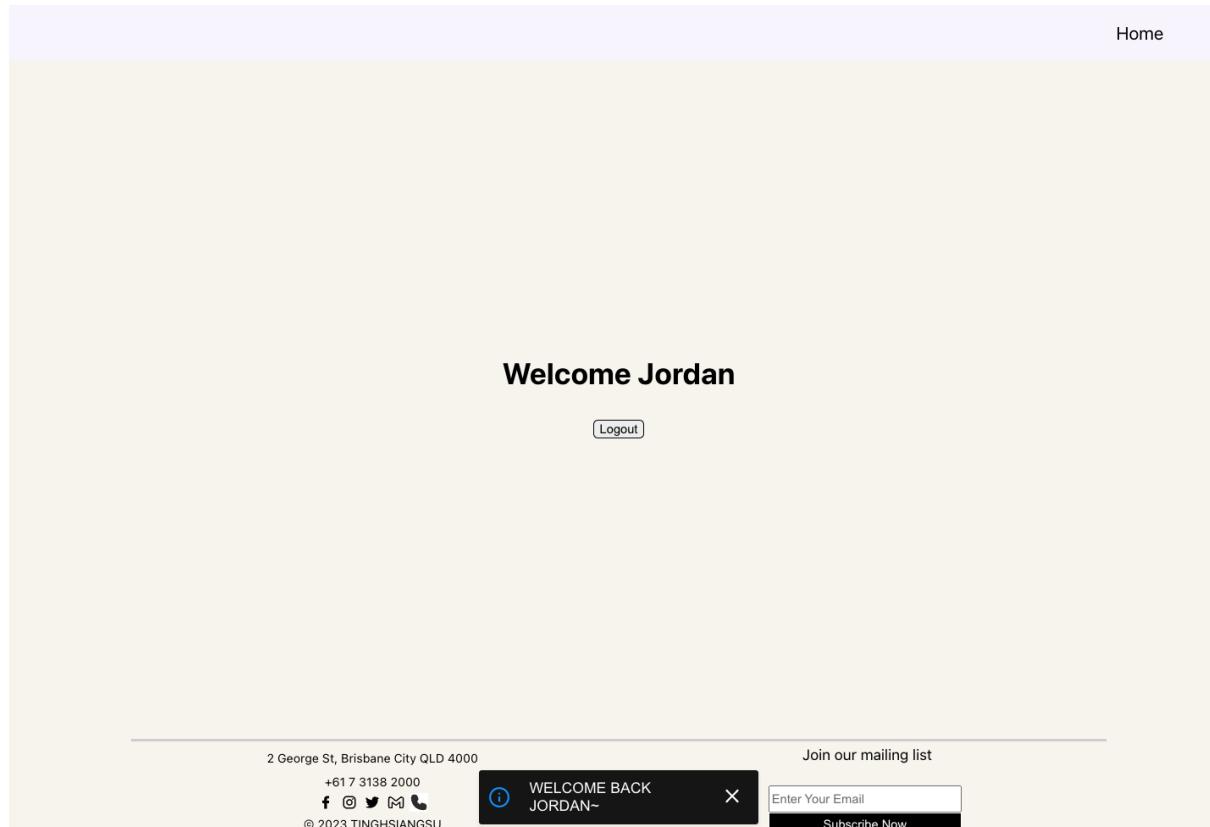


Figure 12

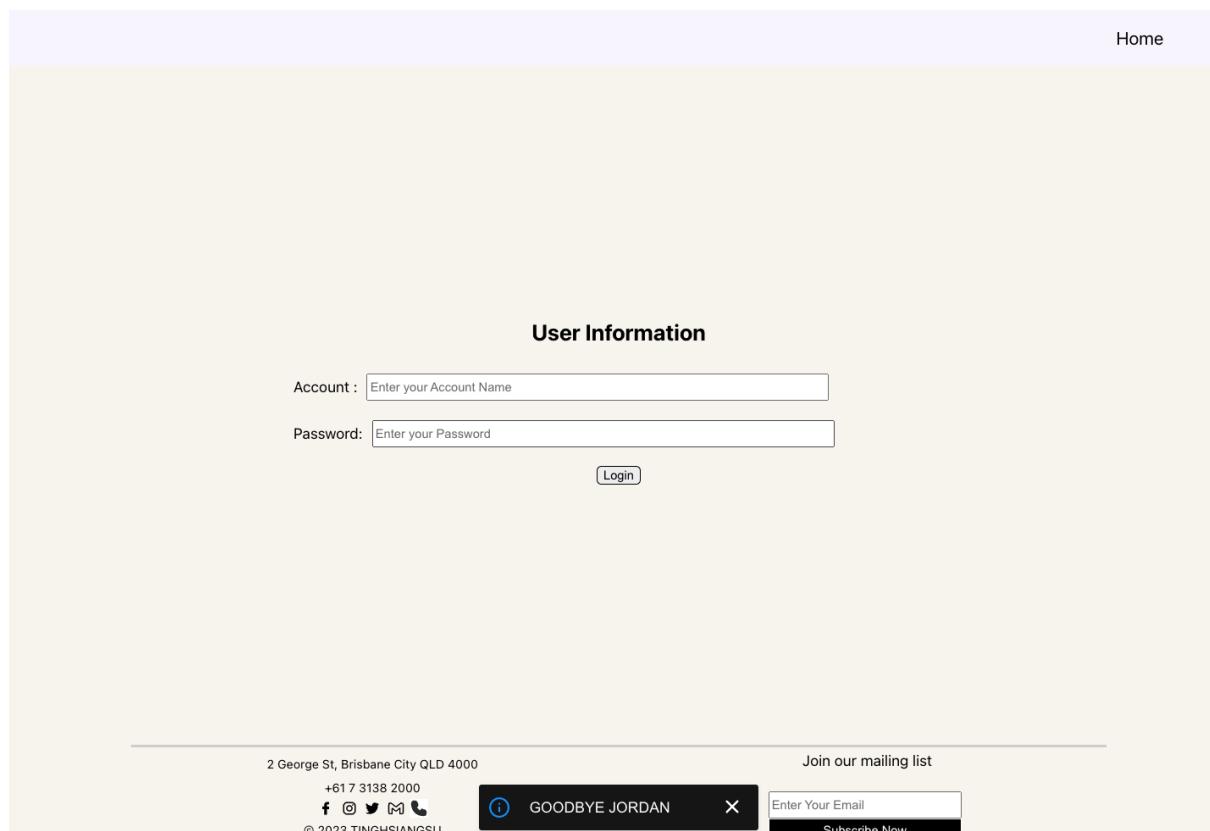


Figure 13 (Failed)

