



SG TRIPPINGO

User Guide

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REQUIREMENTS

System Overview

The system consists of two parts: firstly, attraction recommendation. Secondly, itinerary optimization.

For the final result, travellers will get a full picture of how their trips in Singapore will be like: the best combinations of attractions for every day, directions between attractions, and even the promotions.

Recommended Browsers

BTO Recommender system supports the following Web Browsers::

- Internet Explorer 11
- Microsoft Edge 39 and above
- Firefox 53 and 52 ESR and above
- Google Chrome Version 59 and above
- Safari Version 10 and above

User Interface

Our user interface runs in Python.

For the recommendation part, once our inference engine outputs the result, the result would be sent to python which then queries the most appropriate attractions from our database, and displays the results onto the web interface.

For the route optimization part, we will use opta-planner to optimize the travel itinerary after user selecting their preferred attractions and send the result to python, which then displays the route onto the web interface.

Development

Back-end

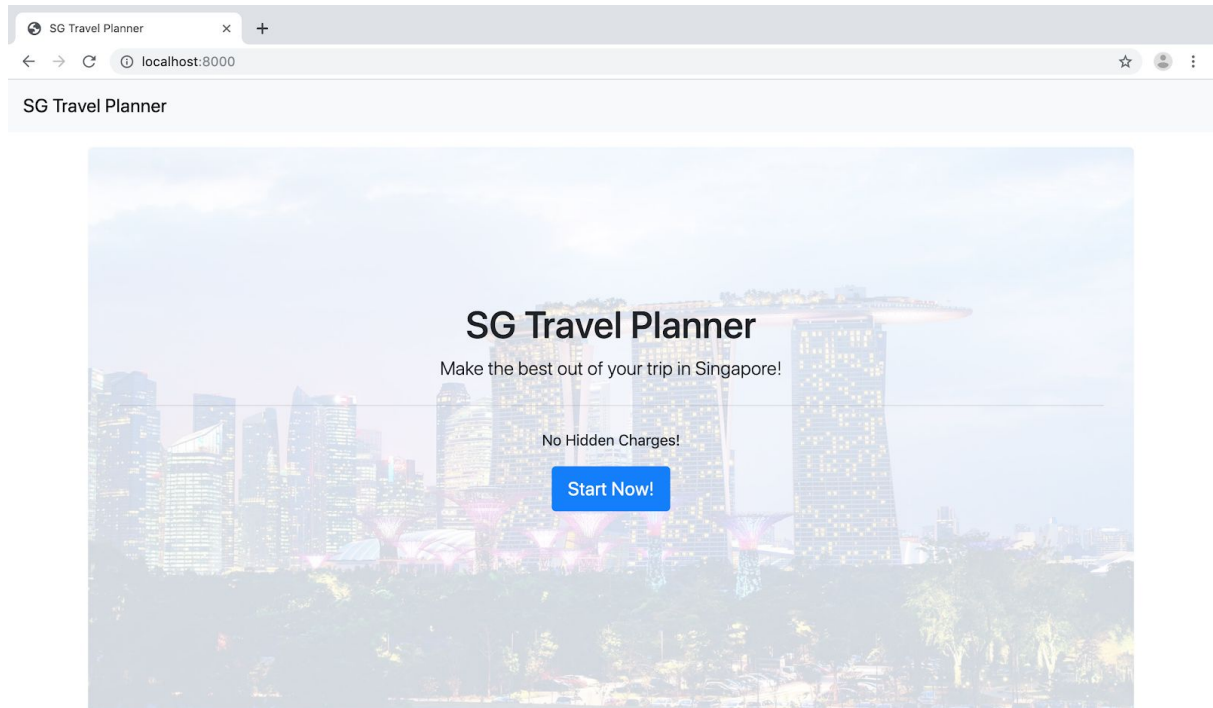
- Download jar file from latest release from <https://github.com/vidur6789/trippingo/releases/tag/v2.0> into a new project directory
- Download datastore.mv.db into a new sub-directory 'data'
- Navigate to project directory and execute `java -jar trippingo.jar` in command line
- API will be available on 8001 port of the localhost

Front-end

- Open a terminal and enter:
 - ◆ `pip install -r requirements.txt`
- Download the Django application from Trippingo-Web project from <https://github.com/vidur6789/trippingo-web> into a new project directory
- Open a terminal and enter:
 - ◆ `cd <path of the system>/`
 - ◆ `python manage.py runserver`

USER GUIDE

Open up your preferred browser and go to the URL “http://localhost:8000” as shown below:



Click on the START NOW button. This will lead to the questionnaire session where users would input some travel information based on the questions asked. Below is an example:

A screenshot of the 'More About you' questionnaire page. The page has a light blue header with the title 'More About you'. The main content area is titled 'Tell us more' and contains several form fields: 'Your name:' with the input 'Brad Pitt'; 'Your email:' with the input 'BradPitt@gmail.com'; 'How are you travelling:' with a dropdown menu showing 'Couple'; 'Interest:' with a list of checkboxes where 'Landmarks', 'Shopping', and 'Nature Park' are checked, and 'Museums' and 'Amusement Parks' are unchecked; and 'Travel dates:' with a dropdown menu showing 'Flexible'. At the bottom, there are navigation links '< Previous' and 'Next >'.

More About you

Tell us more

Your name:

Your email:

How are you travelling:

Interest:

- ☒ Landmarks
- ☒ Shopping
- ☐ Museums
- ☒ Nature Park
- ☐ Amusement Parks

Travel dates:

< Previous Next >

Travelling Preferences!

localhost:8000/Flex/

Travelling Preferences!

Tell us more

No of travel days:

4

Min hours per day:

4

Max hours per day:

6

Hotel name:

Marina Bay Sands






< Previous
Next >

After all the information has been collected, our system will gather all the facts. Using our inference engine, the system will then output the top 10 attractions that best fit the user's visitor type and preferences. Below shows one such example of the output:

localhost:8000/travelPlans/31
localhost:8000/travelPlans/3152/recommendations

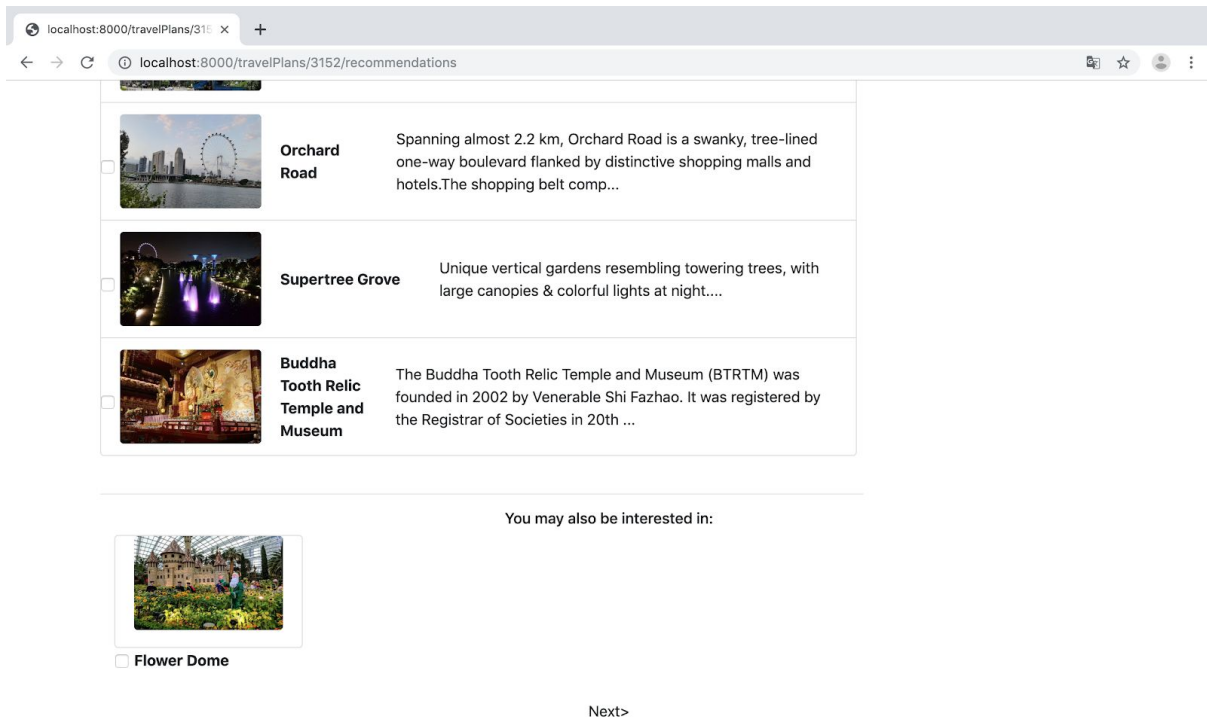
ATTRACTION RECOMMENDATION

Based on your information, we recommend these attractions to you:

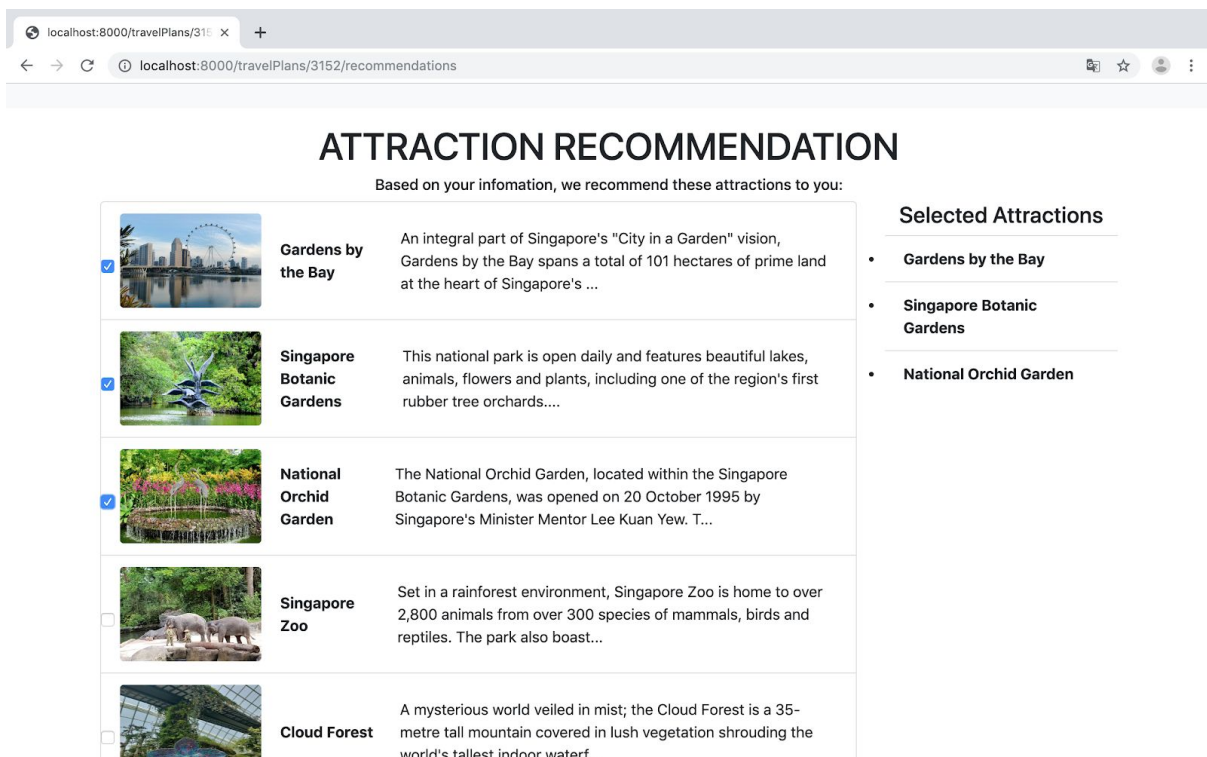
	Gardens by the Bay An integral part of Singapore's "City in a Garden" vision, Gardens by the Bay spans a total of 101 hectares of prime land at the heart of Singapore's ...
	Singapore Botanic Gardens This national park is open daily and features beautiful lakes, animals, flowers and plants, including one of the region's first rubber tree orchards....
	National Orchid Garden The National Orchid Garden, located within the Singapore Botanic Gardens, was opened on 20 October 1995 by Singapore's Minister Mentor Lee Kuan Yew. T...
	Singapore Zoo Set in a rainforest environment, Singapore Zoo is home to over 2,800 animals from over 300 species of mammals, birds and reptiles. The park also boast...
	Cloud Forest A mysterious world veiled in mist; the Cloud Forest is a 35-metre tall mountain covered in lush vegetation shrouding the world's tallest indoor waterf...

Selected Attractions

At the bottom of the page, our system shows the selections of other visitors who have the same interests with the user based on association mining.



Users can click on the checkboxes to select the attractions they would like to visit. At the right of the page, our system shows the attractions that are selected by users. Users can also cancel their choices by clicking the checkboxes in the selected attractions list.



Click on the Next> button. Our system will start to plan the itinerary for users based on their choices and show the optimized travel route. Below shows one such example of the output. Users can click on the buttons on the left of the page to see the itinerary of each day.

YOUR ITINERARY

- DAY 1
- DAY 2
- DAY 3
- DAY 4

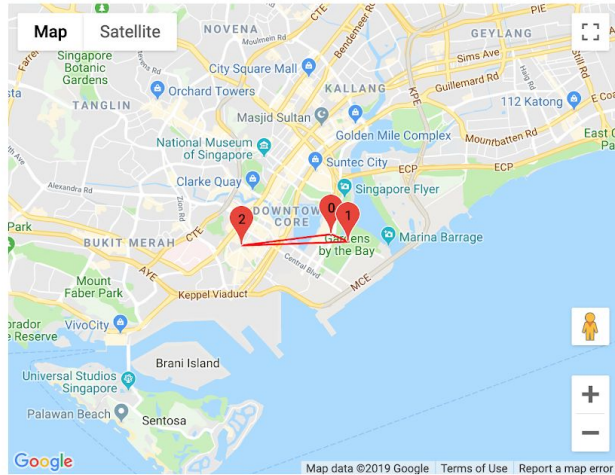
HOTEL:
Marina Bay Sands

1 Supertree Grove
Arrival Time:15:30

[Direct to Google Maps](#)

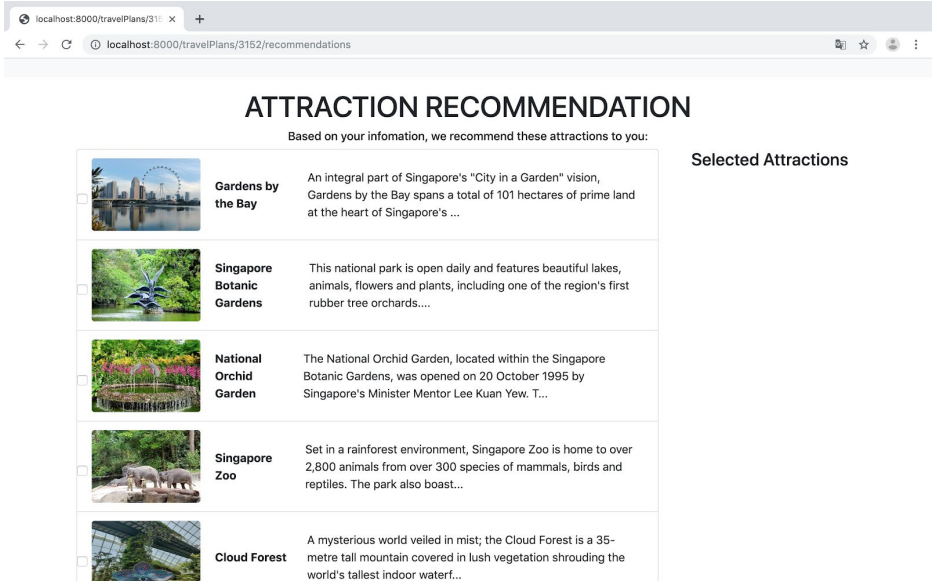
2 Buddha Tooth Relic Temple and Museum
Arrival Time:15:45










[Direct to Google Maps](#)



BUSINESS SCENARIOS: SAMPLE INPUT & SYSTEM OUTPUT

SCENARIO 1

Characteristic of user	A couple wants to come to Singapore for the honey moon. Their travel dates are flexible and prefer to visit landmarks, nature parks and shopping malls.
Questions	<ol style="list-style-type: none"> 1. Your name: Brad Pitt 2. Your email : brad_pitt@gmail.com 3. How are you traveling? Couple 4. Interests Landmarks, Shopping, Nature Parks 5. Travel Dates Flexible 6. Number of travel days 4 7. Min hours per day 4 8. Max hours per day 6 9. Hotel name: Marina Bay Sands
System output - Recommendation	 <p>The screenshot shows a web browser window with the URL <code>localhost:8000/travelPlans/3152/recommendations</code>. The page displays a section titled "ATTRACTION RECOMMENDATION" with a sub-header "Based on your information, we recommend these attractions to you:". Below this, there is a list of five attractions, each with a checkbox, a small image, a title, and a description. The attractions are: Gardens by the Bay, Singapore Botanic Gardens, National Orchid Garden, Singapore Zoo, and Cloud Forest. To the right of the list, there is a section titled "Selected Attractions".</p>

	<div><div>localhost:8000/travelPlans/3152/recommendations</div><div><div><div><div><div><div></div><div><div>Orchard Road</div><div>Spanning almost 2.2 km, Orchard Road is a swanky, tree-lined one-way boulevard flanked by distinctive shopping malls and hotels.The shopping belt comp...</div></div></div><div><div><div><div></div><div><div>Supertree Grove</div><div>Unique vertical gardens resembling towering trees, with large canopies & colorful lights at night....</div></div></div><div><div><div><div></div><div><div>Buddha Tooth Relic Temple and Museum</div><div>The Buddha Tooth Relic Temple and Museum (BTRTM) was founded in 2002 by Venerable Shi Fazhao. It was registered by the Registrar of Societies in 20th ...</div></div></div></div></div><div><div>You may also be interested in:</div><div><div><div><div></div><div><div>Flower Dome</div></div></div></div><div>Next></div></div></div></div></div></div></div></div></div></div>
Attraction selection	<div><div>localhost:8000/travelPlans/3152/recommendations</div><div><div><div>ATTRACTION RECOMMENDATION</div><div>Based on your information, we recommend these attractions to you:</div><div><div><div><div><div><div></div><div><div><input checked="" type="checkbox"/></div><div>Gardens by the Bay</div><div>An integral part of Singapore's "City in a Garden" vision, Gardens by the Bay spans a total of 101 hectares of prime land at the heart of Singapore's ...</div></div></div><div><div><div><div></div><div><div><input checked="" type="checkbox"/></div><div>Singapore Botanic Gardens</div><div>This national park is open daily and features beautiful lakes, animals, flowers and plants, including one of the region's first rubber tree orchards....</div></div></div><div><div><div><div></div><div><div><input checked="" type="checkbox"/></div><div>National Orchid Garden</div><div>The National Orchid Garden, located within the Singapore Botanic Gardens, was opened on 20 October 1995 by Singapore's Minister Mentor Lee Kuan Yew. T...</div></div></div><div><div><div><div></div><div><div><input type="checkbox"/></div><div>Singapore Zoo</div><div>Set in a rainforest environment, Singapore Zoo is home to over 2,800 animals from over 300 species of mammals, birds and reptiles. The park also boast...</div></div></div><div><div><div><div></div><div><div><input type="checkbox"/></div><div>Cloud Forest</div><div>A mysterious world veiled in mist; the Cloud Forest is a 35-metre tall mountain covered in lush vegetation shrouding the world's tallest indoor waterf...</div></div></div></div></div><div><div>Selected Attractions</div><div><div><div>Gardens by the Bay</div><div>Singapore Botanic Gardens</div><div>National Orchid Garden</div></div></div></div></div></div></div></div></div></div></div></div></div></div></div></div></div>

System output -
Optimization

DAY 1

DAY 2

DAY 3

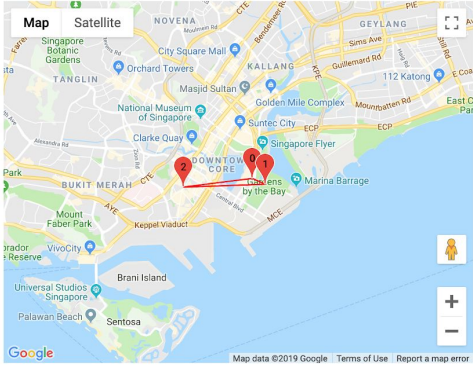
DAY 4

HOTEL:
Marina Bay Sands

1 Supertree Grove
Arrival Time:15:30
[Direct to Google Maps](#)

2 Buddha Tooth Relic Temple and Museum
Arrival Time:15:45
[Direct to Google Maps](#)

YOUR ITINERARY



DAY 1

DAY 2

DAY 3

DAY 4

HOTEL:
Marina Bay Sands

1 National Orchid Garden
Arrival Time:13:15
[Direct to Google Maps](#)

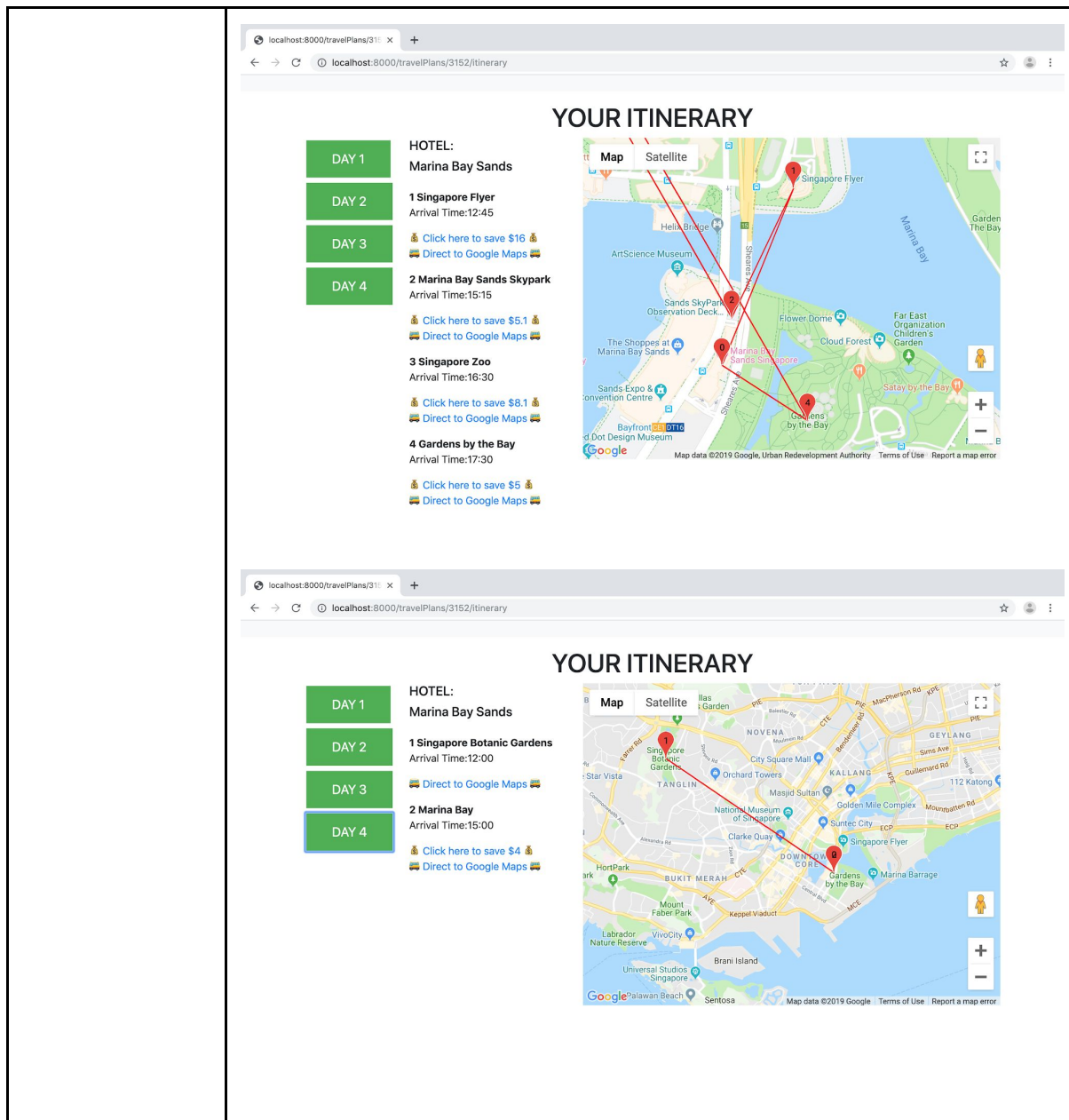
2 Orchard Road
Arrival Time:14:15
[Direct to Google Maps](#)

3 Chinatown
Arrival Time:14:30
[Click here to save \\$2](#)
[Direct to Google Maps](#)

4 Cloud Forest
Arrival Time:16:00
[Direct to Google Maps](#)

YOUR ITINERARY





SCENARIO 2

Characteristic of user	A family wants to come to Singapore for a holiday, and their travel dates are fixed. They love to visit
Questions	<p>10. Your name: Robert</p> <p>11. Your email : robert@gmail.com</p> <p>12. How are you traveling? Family</p> <p>13. Interests Landmarks, Amusement Parks, Museums</p> <p>14. Travel Dates Fixed</p> <p>15. Start date 01/02/2020</p> <p>16. End date 05/02/2020</p> <p>17. Min hours per day 5</p>

18. Max hours per day 8
19. Hotel name:


System output -
Recommendation

localhost:8000/travelPlans/3203/recommendations

ATTRACTION RECOMMENDATION

Based on your information, we recommend these attractions to you:


☐



Gardens by the Bay

An integral part of Singapore's "City in a Garden" vision, Gardens by the Bay spans a total of 101 hectares of prime land at the heart of Singapore's ...


☐



Universal Studios Singapore

Singapore's only movie-theme park features 24 rides and attractions, including a pair of dueling coasters that brush past one another in several near ...


☐



Singapore Flyer

At 165 metres tall, Singapore Flyer is a masterpiece of urban architecture and engineering that showcases not only the mesmerizing cosmopolitan citysc...


☒



Cloud Forest

A mysterious world veiled in mist; the Cloud Forest is a 35-metre tall mountain covered in lush vegetation shrouding the world's tallest indoor waterf...

☐




Orchard Road

Spanning almost 2.2 km, Orchard Road is a swanky, tree-lined one-way boulevard flanked by distinctive shopping malls and hotels.The shopping belt comp...

Selected Attractions

localhost:8000/travelPlans/3203/recommendations


☐



Buddha Tooth Relic Temple and Museum

The Buddha Tooth Relic Temple and Museum (BTRTM) was founded in 2002 by Venerable Shi Fazhao. It was registered by the Registrar of Societies in 20th ...


☐



Merlion Park

Standing at 8.6 metres high and weighing 70 tonnes, the Merlion statue has a lion's head and a fish's body, and is housed here in this 2,500 square me...


☐





Waterfront Promenade


Marina Bay Waterfront Promenade is a 3.5-kilometre along-the-bay walkway that brings people across many attractions at Marina Centre, Collyer Quay and...

You may also be interested in:

☐  Singapore Zoo

☐  Singapore Botanic Gardens

☐  National Orchid Garden

☐  Marina Bay

Next>

Attraction selection

localhost:8000/travelPlans/3203/recommendations


← → ↻

localhost:8000/travelPlans/3203/recommendations


☆ 👤 ⋮

ATTRACTION RECOMMENDATION


Based on your information, we recommend these attractions to you:




Gardens by the Bay
An integral part of Singapore's "City in a Garden" vision, Gardens by the Bay spans a total of 101 hectares of prime land at the heart of Singapore's ...




Universal Studios Singapore
Singapore's only movie-theme park features 24 rides and attractions, including a pair of dueling coasters that brush past one another in several near ...



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At 165 metres tall, Singapore Flyer is a masterpiece of urban architecture and engineering that showcases not only the mesmerizing cosmopolitan citysc...



Cloud Forest
A mysterious world veiled in mist; the Cloud Forest is a 35-metre tall mountain covered in lush vegetation shrouding the world's tallest indoor waterf...



Orchard Road
Spanning almost 2.2 km, Orchard Road is a swanky, tree-lined one-way boulevard flanked by distinctive shopping malls and hotels.The shopping belt comp...

Selected Attractions

- Universal Studios Singapore
- Singapore Flyer
- Cloud Forest

System output - Optimization

localhost:8000/travelPlans/3203/itinerary

← → ↻

localhost:8000/travelPlans/3203/itinerary

☆ 👤 ⋮

YOUR ITINERARY

DAY 1

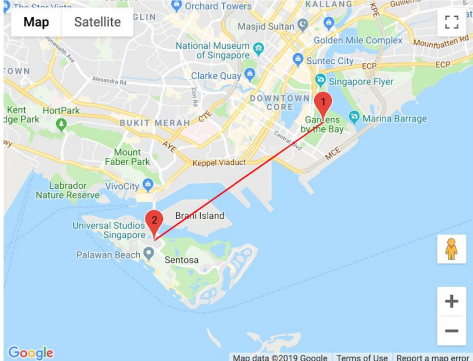
DAY 2

DAY 3

DAY 4

1 Supertree Grove
Arrival Time:11:00
[Direct to Google Maps](#)

2 Universal Studios Singapore
Arrival Time:14:15
[Click here to save \\$4](#)
[Direct to Google Maps](#)



localhost:8000/travelPlans/3203/itinerary

← → ↻

localhost:8000/travelPlans/3203/itinerary

☆ 👤 ⋮

YOUR ITINERARY

DAY 1

DAY 2

DAY 3

DAY 4

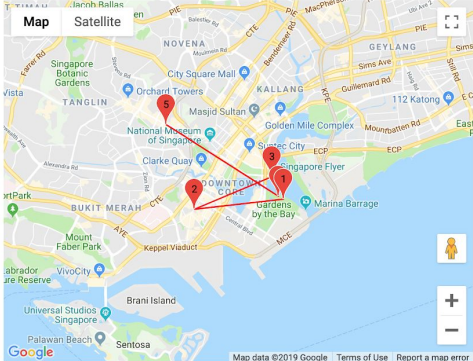
1 Cloud Forest
Arrival Time:12:45
[Direct to Google Maps](#)

2 Chinatown
Arrival Time:16:15
[Click here to save \\$2](#)
[Direct to Google Maps](#)

3 Singapore Flyer
Arrival Time:16:30
[Click here to save \\$16](#)
[Direct to Google Maps](#)

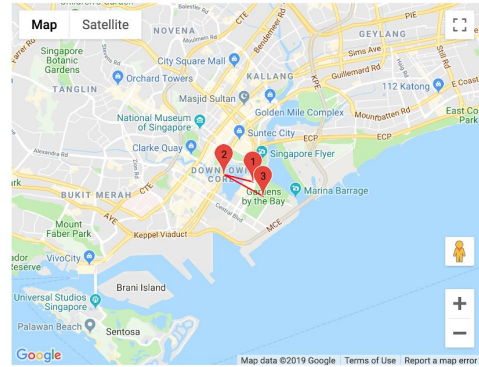
4 Flower Dome
Arrival Time:18:00
[Direct to Google Maps](#)

5 Orchard Road
Arrival Time:18:30
[Direct to Google Maps](#)



YOUR ITINERARY

- DAY 1
- DAY 2
- DAY 3
- DAY 4
- 1 Marina Bay Sands Skypark**
Arrival Time:13:45
[Click here to save \\$5.1](#)
[Direct to Google Maps](#)
- 2 Merlion Park**
Arrival Time:14:45
[Direct to Google Maps](#)
- 3 Gardens by the Bay**
Arrival Time:16:45
[Click here to save \\$5](#)
[Direct to Google Maps](#)



YOUR ITINERARY

- DAY 1
- DAY 2
- DAY 3
- DAY 4
- 1 Waterfront Promenade**
Arrival Time:11:30
[Direct to Google Maps](#)
- 2 Buddha Tooth Relic Temple and Museum**
Arrival Time:17:45
[Direct to Google Maps](#)

