

未来の街

Discovering Singapore

User Guide

Travel Recommend & Scheduler

25/08/2019 | v1.0

Team 13

Xu Kaixin, Yu Xiaoxi, Zhang zhiling

Joint CA project for Machine Reasoning & Reasoning System at NUS-ISS Intelligent System

Contents

Our Approach	3
Requirements	3
Deployment	3
Using the System	3
Test Cases	6

Our Approach

We implemented an integrated system upon Spring-boot backend framework and Angular 8 frontend framework, to incorporate JBPM rule based system for our Spot Attribute filtering as well as Optaplaner for Spot Scheduling.

Requirements

1. Java jdk8: <https://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html>
2. Maven 3.6.1: <https://maven.apache.org/download.cgi>
3. Node.js & Npm: <https://www.npmjs.com/package/xinui>

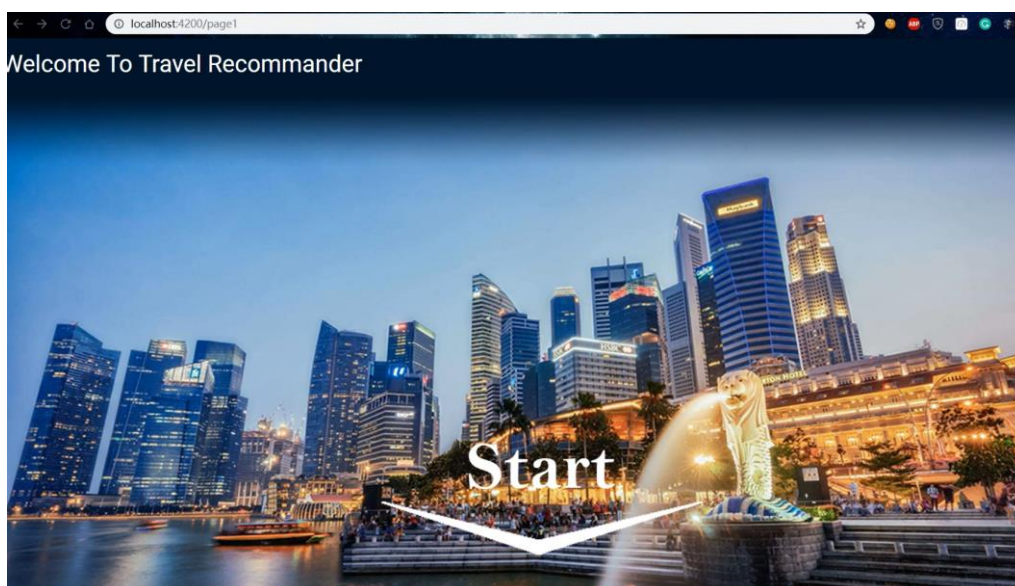
Follow the guidelines provided from above links to install them correctly.

Deployment

1. Git clone our project repository to your local machine, or download a zip file and unzip;
2. Navigate to `SystemCode/travel_recommender_service` directory;
3. For Windows, double click `run.bat`, For linux, double click `run.sh`;
4. Ignore the Reflections Warnings output in the terminal, if you finally see "Started application in XXX seconds";
5. Open `localhost:4200` in your web browser, preferably Google Chrome, and it's good to go.

Using the System

1. At the first page, click "Start" at the lower bottom,



- Filling the forms according to your preferences. Notice that, to guarantee the service has the genuine output, please check the departure date and leaving date you enter is after current date.

Welcome To Travel Recommender

Which country do you prefer?

-

Your estimated departure date?

-

Your estimated leaving date?

-

Do you have high expectation for food?

- ☒ YES ☐ NO

Do you want to experience legit local culture?

- ☐ YES ☐ NO

- After finished all the queries, a "next" button will pop up at the left bottom corner, click that button to proceed. notice that if you don't feel wanting to tell the budget for your trip, please leave it blank, as a result, we would recognize that you don't have limitation on budget at the moment.

Do you enjoy city skyline and outlook?

- ☒ YES ☐ NO

How about some refreshment with animals and plants?

- ☒ YES ☐ NO

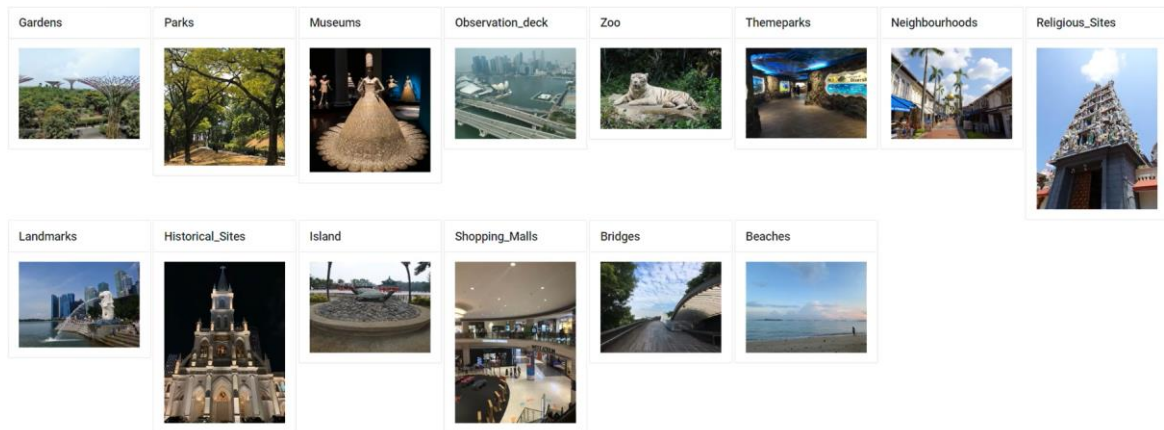
Could you estimate your budget for the whole trip?

-

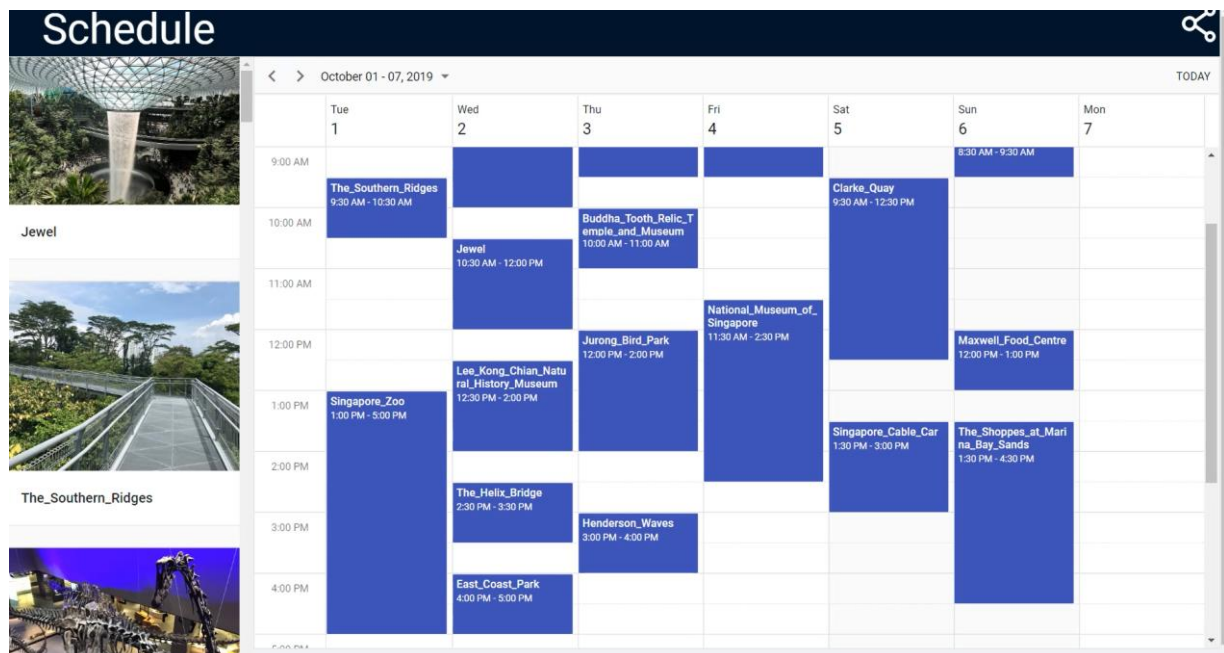
Next

- In the next page, we show you some granulate types of travel attractions that we have in our database, e.g. religious sites and landmarks, which are already a filtered result based on the choice made in previous page. Please click the card to discard some of them you not in your consideration.

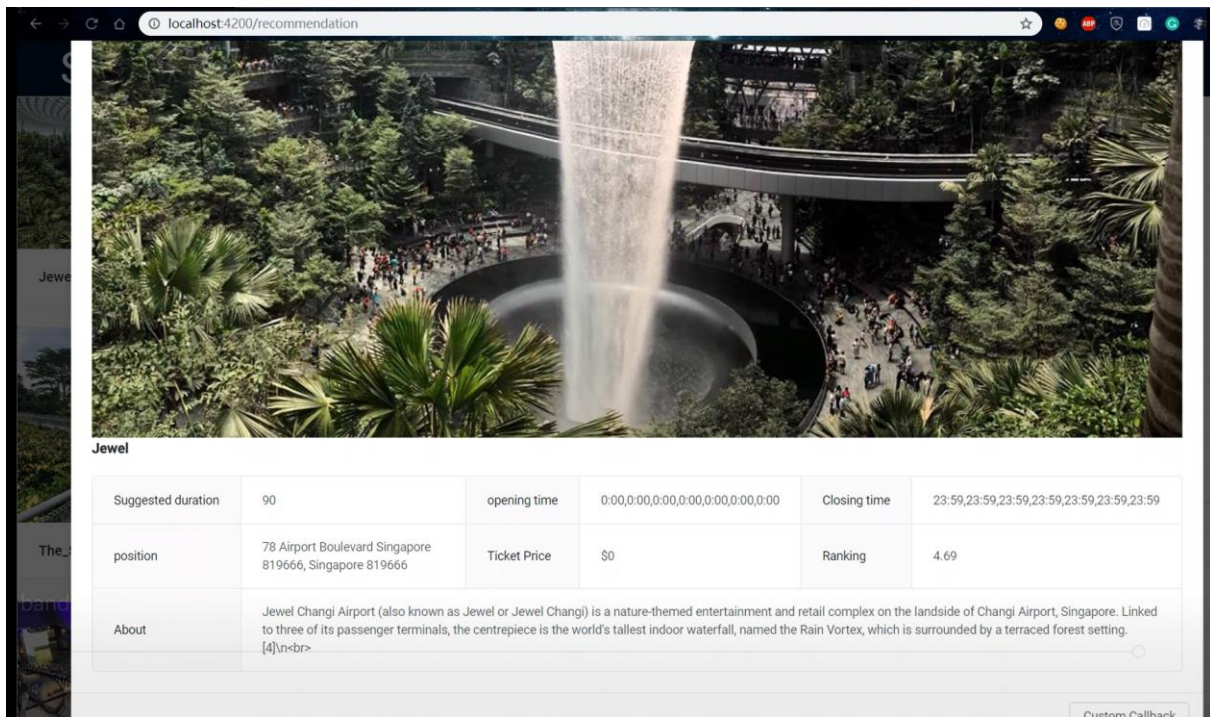
Click the card to delete the place you don't like.



5. Click the “forward” button at the bottom to proceed
6. Wait for less than or about 1 minute to see the final Spot recommendation and corresponding schedule result. Spot Recommendations are on the left panel, and Time table containing the schedule is on the right.



7. [Optional] Click the spot element on the left to check some information about the spot, including the opening and closing times throughout the week, ticket price, ranking from other visitors, location and a description.



Test Cases

Test #1:

Page1 selections:

Departure Time	Leaving Time	With Kid/Elder	Food Expectation	Cultural	Budget	Souvenir
2019-10-10	2019-10-13	Yes	Yes	No	1000	Yes
Downtown	View	Natural				
No	No	No				

Page2:

Types After Deleted:

Gardens	Parks	Museums	Observation Decks	Zoo	Theme parks	Neighbourhood	Religious Sites
Yes	Yes	No	Yes	Yes	Yes	Yes	No
Landmark	Historical Sites	Island	Shopping Malls	Bridges	Beaches		
Yes	Yes	Yes	Yes	Yes	Yes		

*The museum type didn't even show up in page2 since KIE filtered it out based on the Cultural attribute from previous page.

Page3 Result:

Optaplanner filters out the spots that cannot arrange into the timeslot given, which effects on the final recommendation list, which was reduced to 4 spots.

Schedule



Jewel



The_Helix_Bridge



< > October 10 - 13, 2019 ▾

	Thu 10	Fri 11	Sat 1
7:00 AM			
8:00 AM	The Helix Bridge 8:00 AM - 9:00 AM	Raffles Hotel Arcade 8:00 AM - 8:30 AM	
9:00 AM			
10:00 AM			
11:00 AM	Jewel 11:00 AM - 12:30 PM		
12:00 PM			
1:00 PM			
2:00 PM			

Schedule



The_Helix_Bridge



Henderson_Waves



Raffles_Hotel_Arcade

< > October 10 - 13, 2019 ▾

	Thu 10
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	
6:00 PM	
7:00 PM	
8:00 PM	
9:00 PM	Henderson Waves 8:30 PM - 9:30 PM

Test #2:

Page1 selections:

Departure Time	Leaving Time	With Kid/Elder	Food Expectation	Cultural	Budget	Souvenir
2019-9-24	2019-9-28	No	Yes	No	10000	No
Downtown	View	Natural				
No	No	No				

Page2:

Types After Deleted:

Gardens	Parks	Museums	Observation Decks	Zoo	Theme parks	Neighbourhood	Religious Sites
No	No	No	No	No	No	Yes	No
Landmark	Historical Sites	Island	Shopping Malls	Bridges	Beaches		
No	No	Yes	No	No	no		

Page3 Result:

