NTU INTERNAL PRODUCT CHALLENGE 2024

Travel Board

Your buddy for seamless trip planning with friends

01

Problem Validity

Trip Planning: A nightmare

Key user problems:

- Finding a central platform
- Crafting the trip itinerary
- Ensuring everyone's preferences is taken into account

Current Solutions

Telegram

GDocs

Canva

In short,

The current solutions are:

- Fragmented
    - Poor organisation of places of interest
    - Repetitive toggling between platforms
- Inefficient for preference and sentiment tracking -> **Group decision paralysis**

02

Our Solution

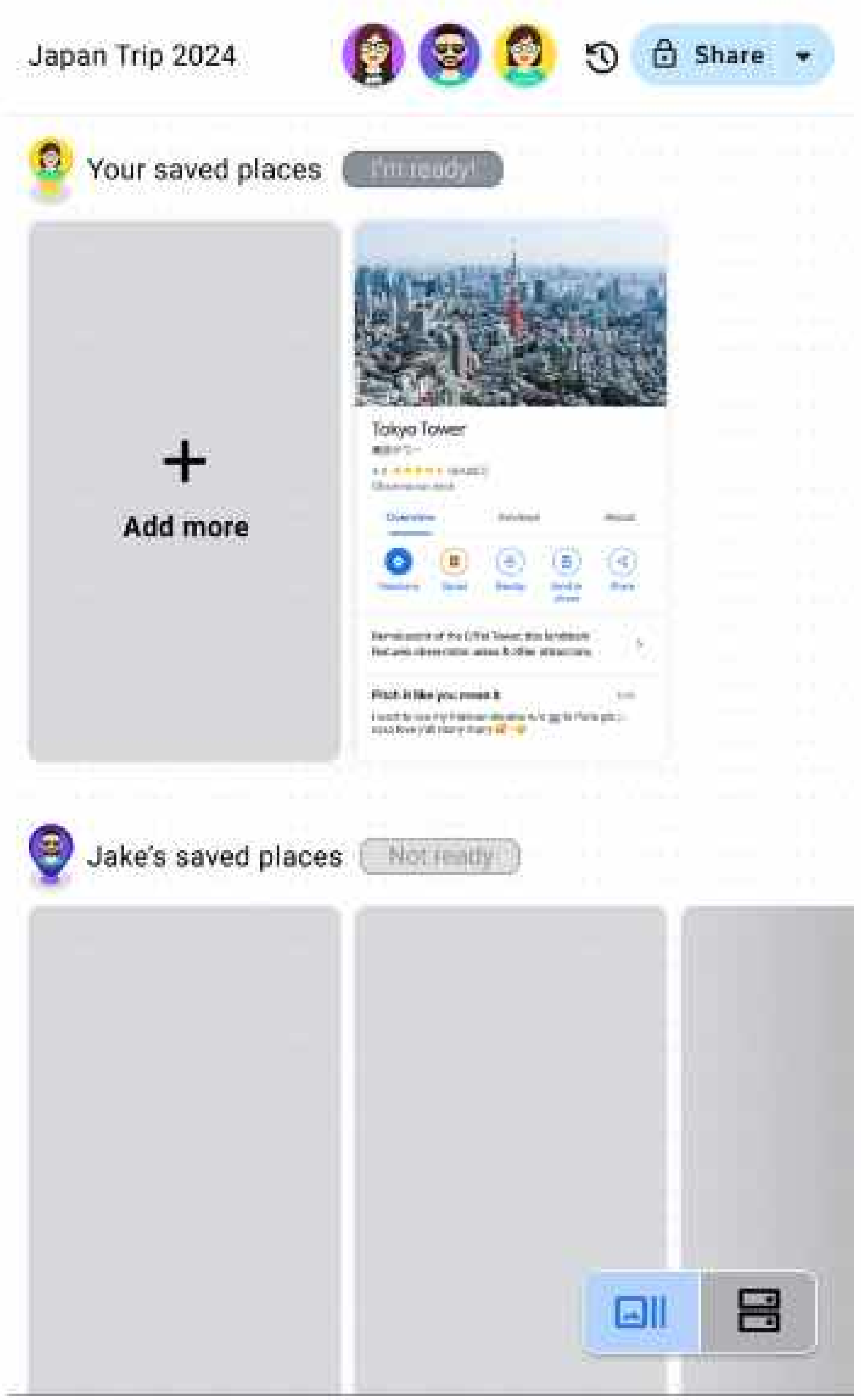
Travel Board

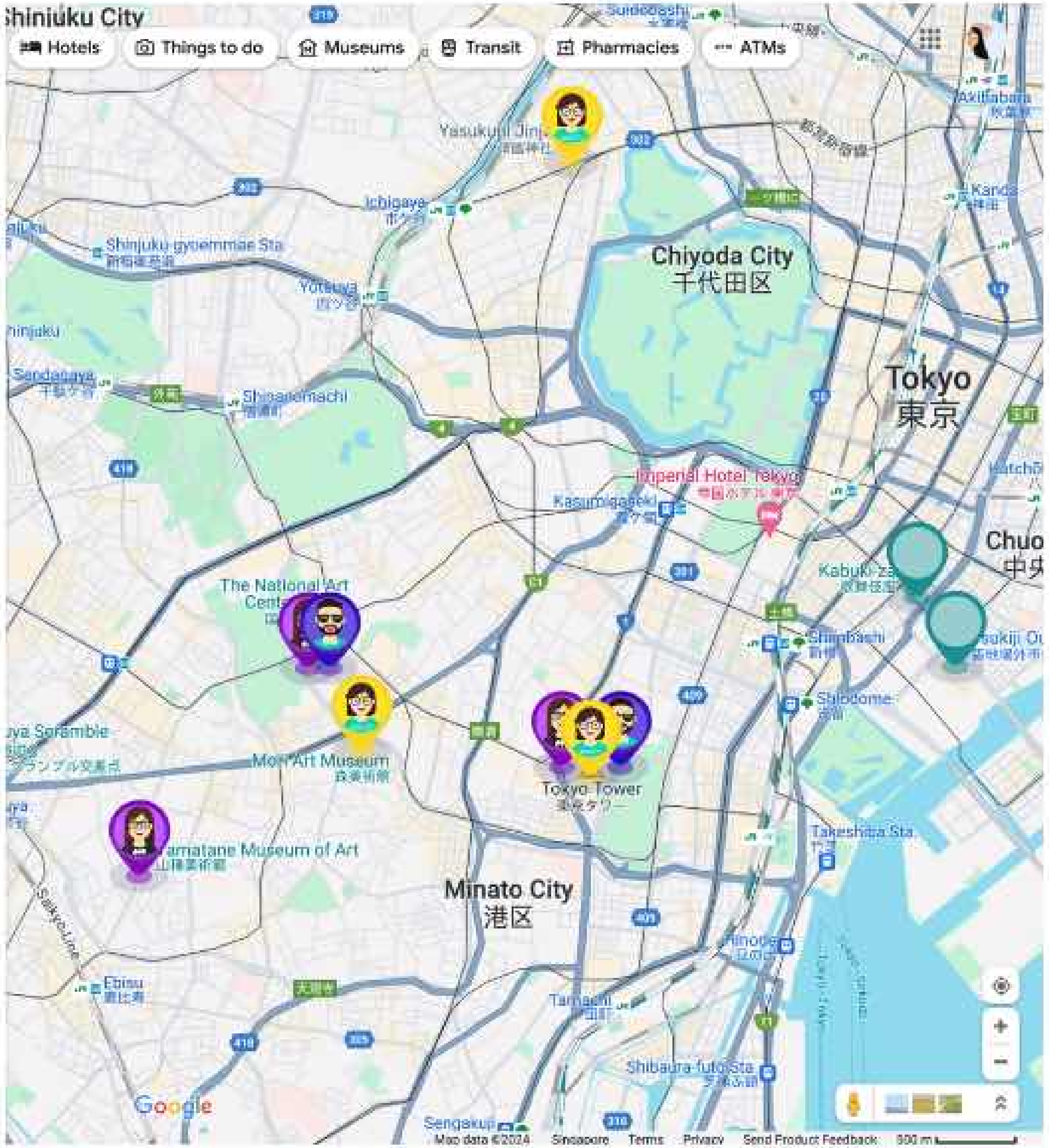
- Centralised platform for saving and organising places of interest
- Visual preference aggregation
- Streamlines decision-making process
- Integrated with existing tools users are familiar with

Travel Board
Your buddy, for buddies overseas

Prototype 1 Findings – The Good

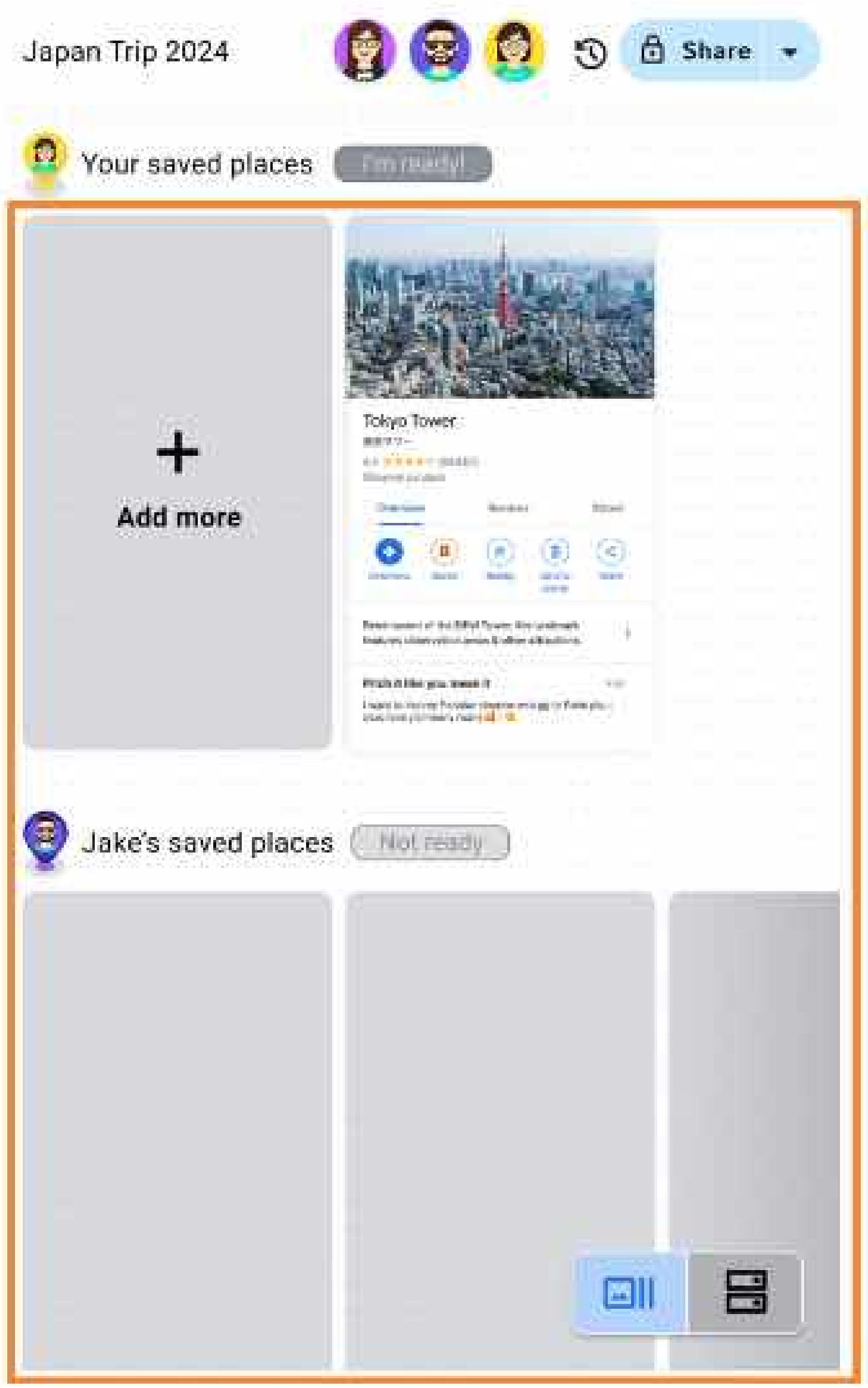
Being able to have a collaborative and visual board for planning group trips

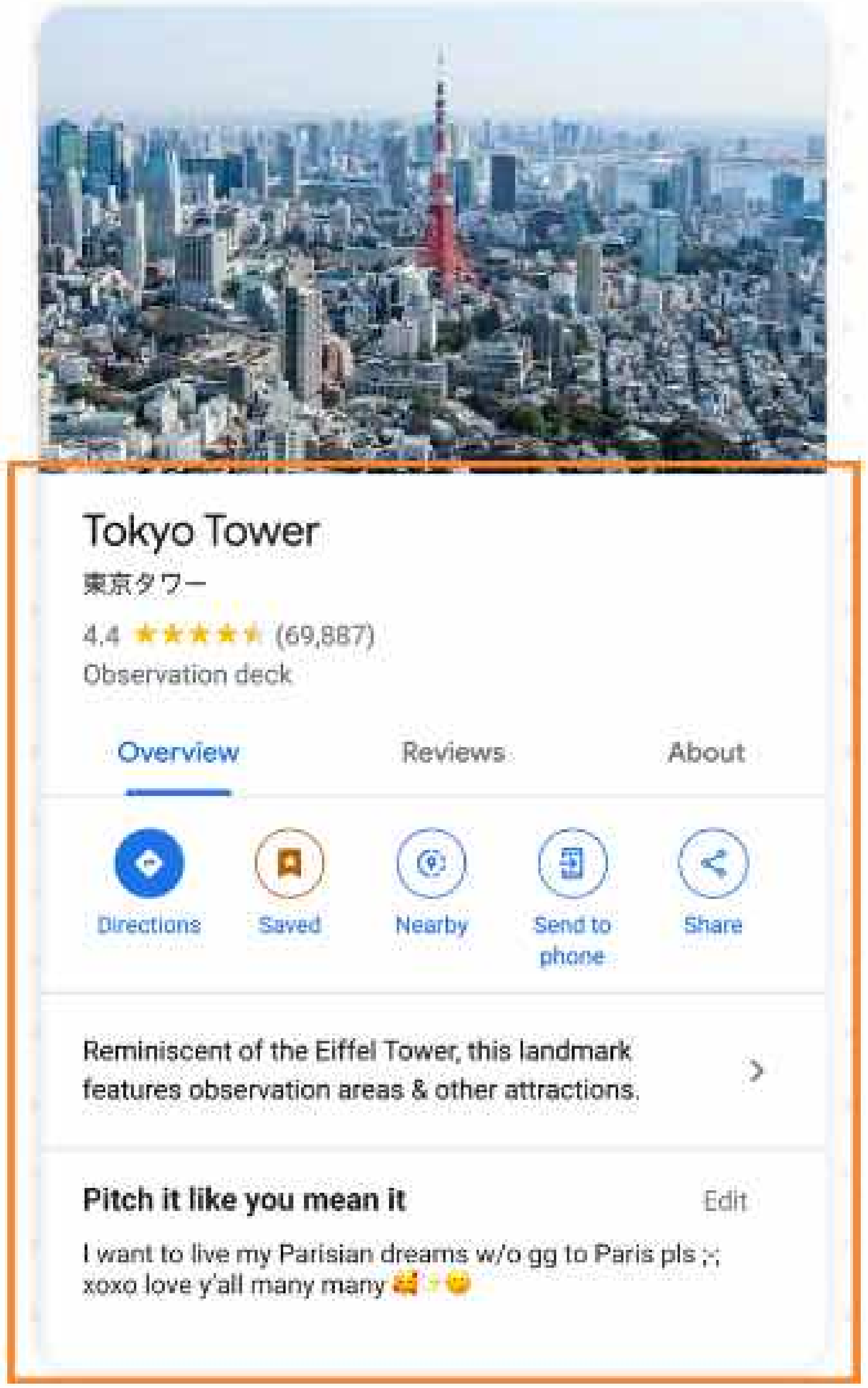

Japan Trip 2024
Share
Your saved places
I'm ready!
Add more
Tokyo Tower
Jake's saved places
Not ready


Hotels
Things to do
Museums
Transit
Pharmacies
ATMs
Chiyoda City
千代田区
Tokyo
東京
Imperial Hotel, Tokyo
The National Art Center
Mori Art Museum
Tokyo Tower
Minato City
港区
Yamatane Museum of Art
Google

Prototype 1 Findings - The Not So Good

Saved places information – Overwhelming and cluttered, Jam list – Lacks useful information and is uninformative


Japan Trip 2024
Share
Your saved places
I'm ready!
Add more
Tokyo Tower
Jake's saved places
Not ready


Tokyo Tower

東京タワー

4.4 ★★★★★ (69,887)

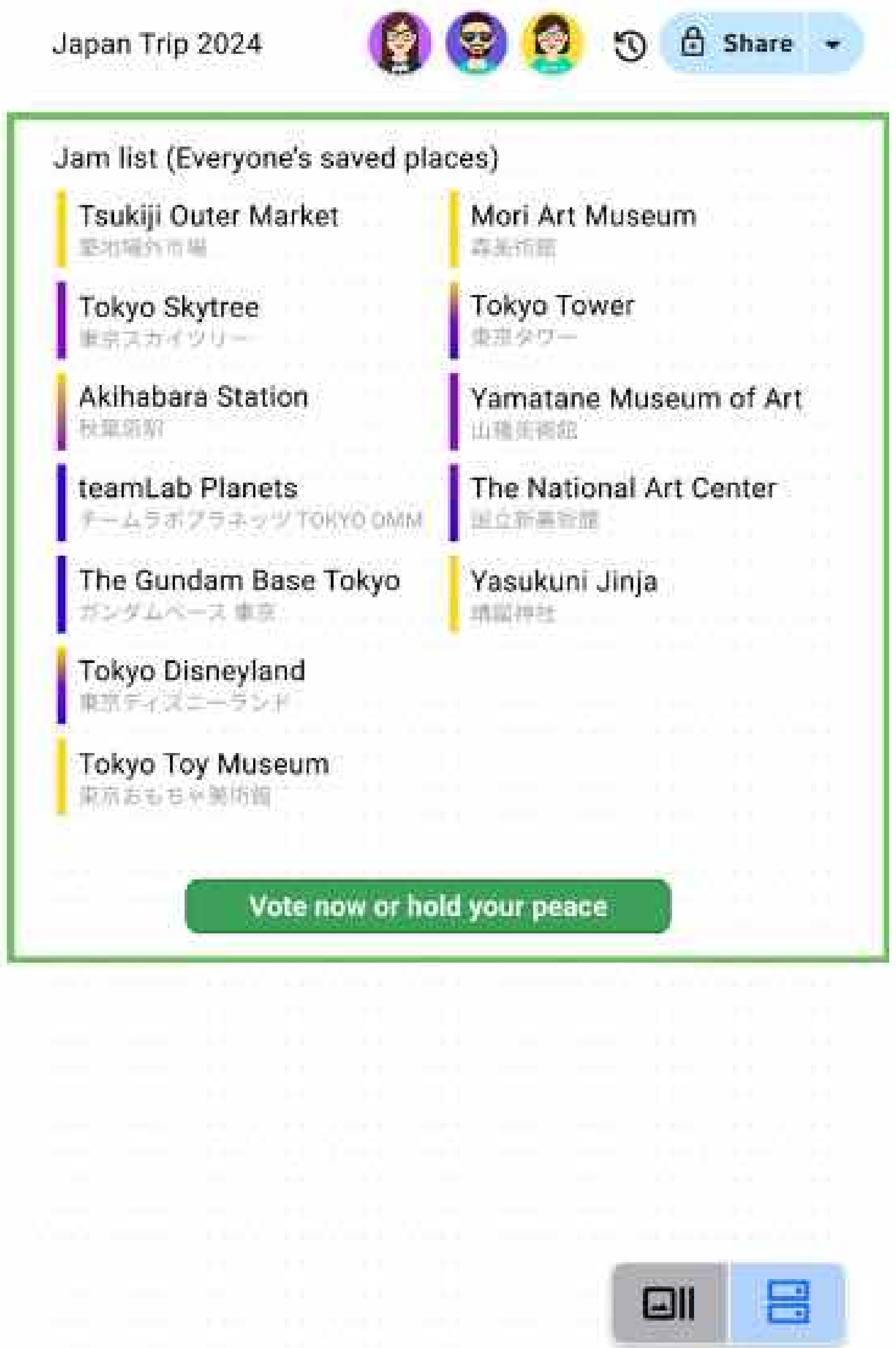
Observation deck

Overview
Reviews
About
Directions
Saved
Nearby
Send to phone
Share

Reminiscent of the Eiffel Tower, this landmark features observation areas & other attractions.

Pitch it like you mean it Edit

I want to live my Parisian dreams w/o gg to Paris pls ;-; xoxo love y'all many many 🥰✨😊


Japan Trip 2024
Share

Jam list (Everyone's saved places)

Tsukiji Outer Market
築地場外市場

Tokyo Skytree
東京スカイツリー

Akihabara Station
秋葉原駅

teamLab Planets
チームラボプラネッツ TOKYO DMM

The Gundam Base Tokyo
ガンダムベース 東京

Tokyo Disneyland
東京ディズニーランド

Tokyo Toy Museum
東京おもちゃ美術館

Mori Art Museum
森美術館

Tokyo Tower
東京タワー

Yamatane Museum of Art
山種美術館

The National Art Center
国立新美術館

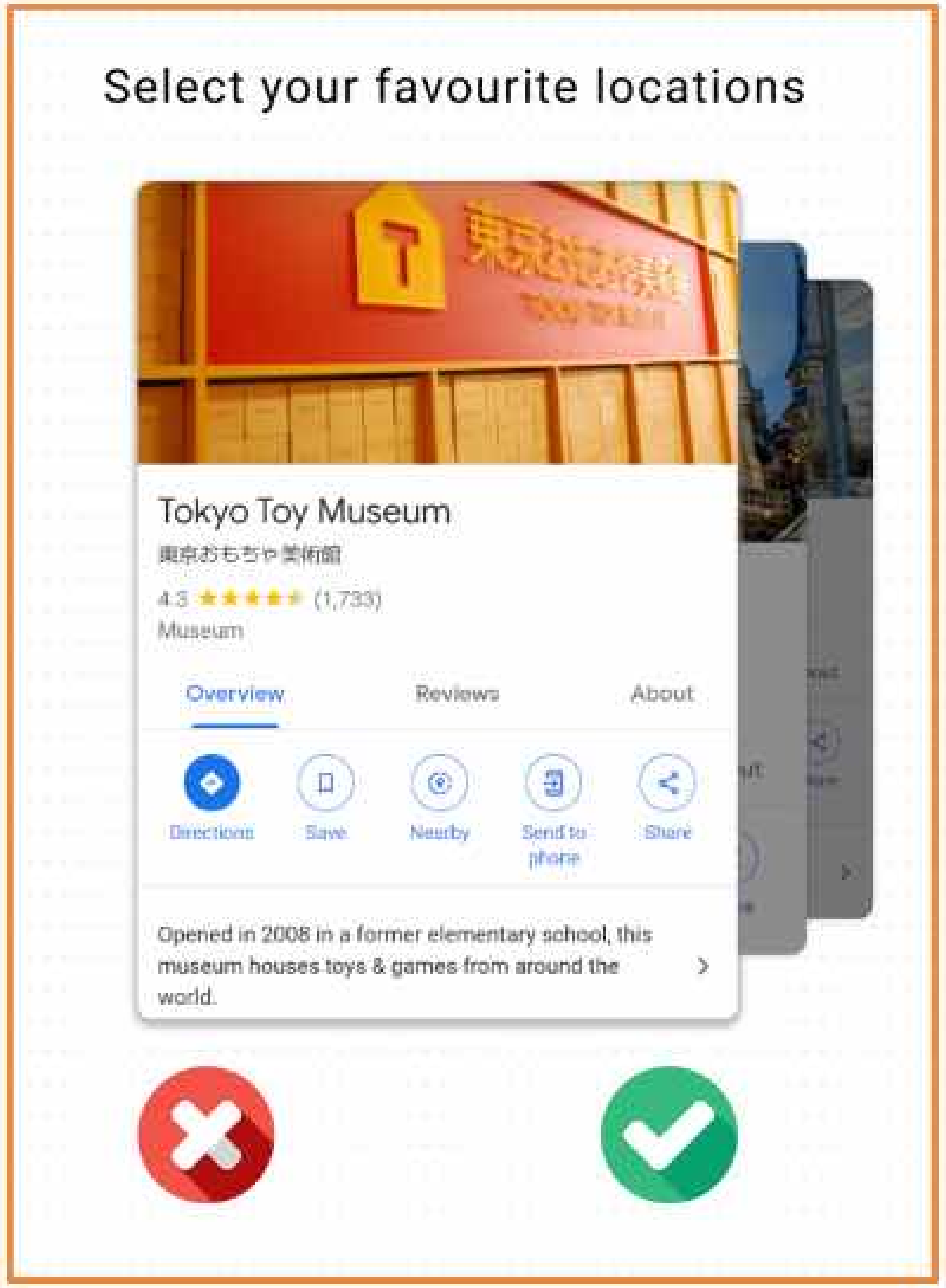
Yasukuni Jinja
靖国神社

Vote now or hold your peace

Prototype 1 Findings - The Not So Good

Voting system – Would not use if too many places to vote through,

Aesthetics of voting system



Select your favourite locations

Tokyo Toy Museum

東京おもちゃ美術館

4.3 ★★★★★ (1,733)

Museum

Opened in 2008 in a former elementary school, this museum houses toys & games from around the world.

Overview
Reviews
About
Directions
Save
Nearby
Send to phone
Share

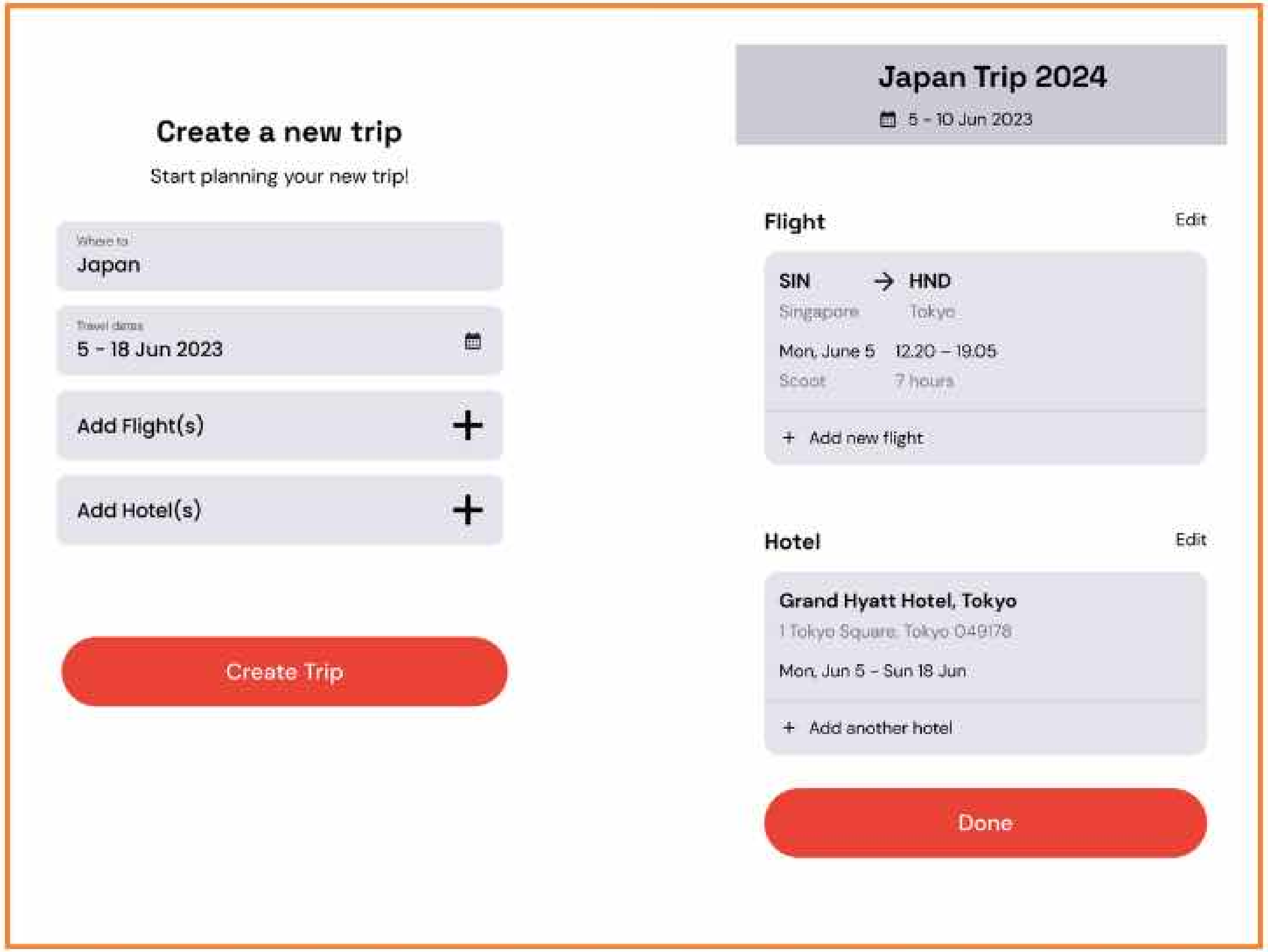
Other Findings

Users looked for:

- Sorting or filtering functions
- Search function within the board
- A view of everyone's saved places pre-voting

Prototype 2 Findings - The Good

Adding trip details + its snapshot view on board, **Filters + toggles & Search function**, **Less cluttered view** of each saved place



Create a new trip

Start planning your new trip!

Where to
Japan

Travel dates
5 - 18 Jun 2023

Add Flight(s) +

Add Hotel(s) +

Create Trip

Japan Trip 2024

5 - 10 Jun 2023

Flight Edit

SIN → HND
Singapore Tokyo
Mon, June 5 12.20 – 19.05
Scoot 7 hours

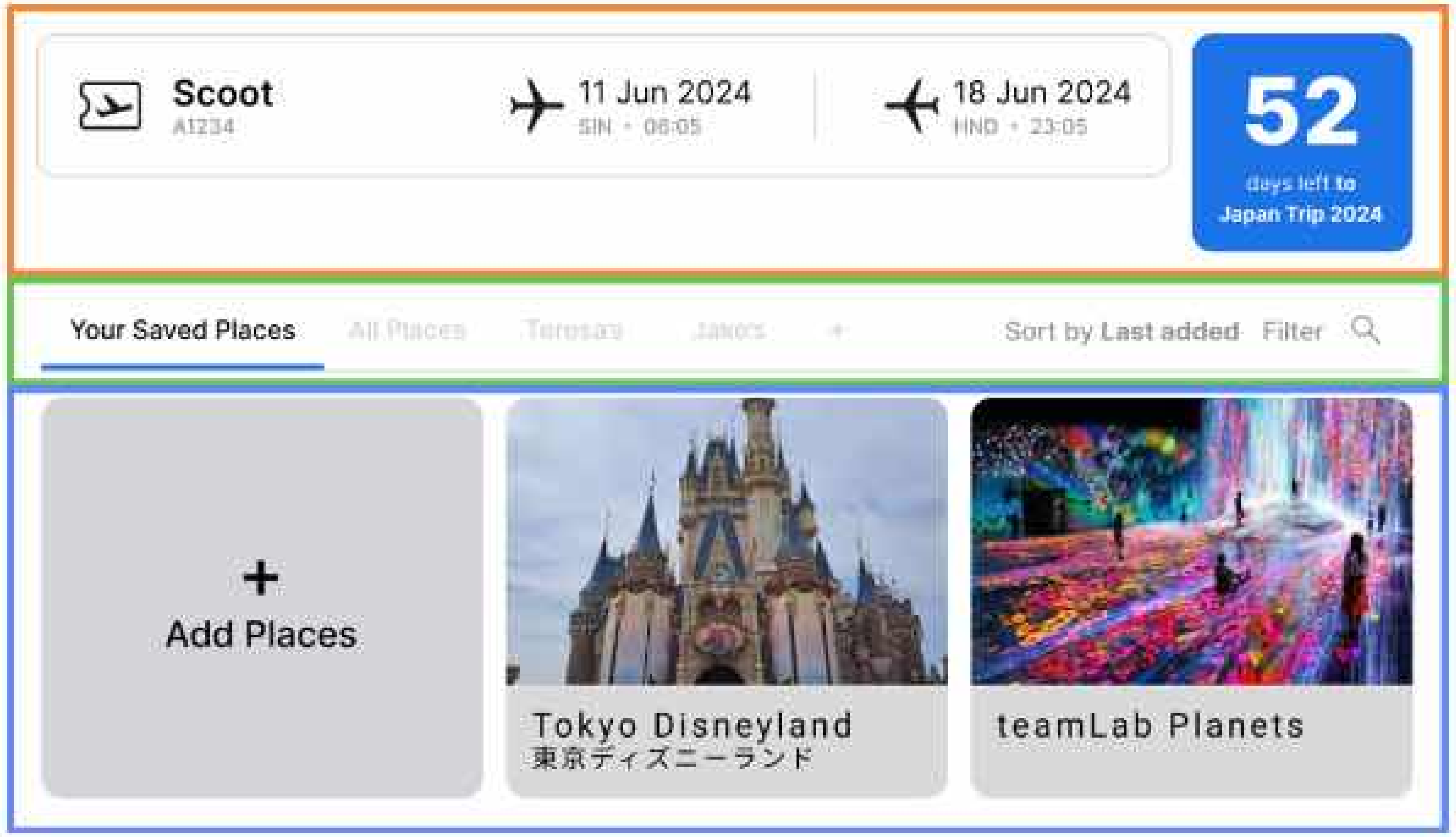
+ Add new flight

Hotel Edit

Grand Hyatt Hotel, Tokyo
1 Tokyo Square, Tokyo 049178
Mon, Jun 5 - Sun 18 Jun

+ Add another hotel

Done



Scoot
A1234
11 Jun 2024
SIN • 06:05
18 Jun 2024
HND • 23:05

52
days left to
Japan Trip 2024

Your Saved Places | All Places | Teresa's | Jake's | + | Sort by Last added | Filter

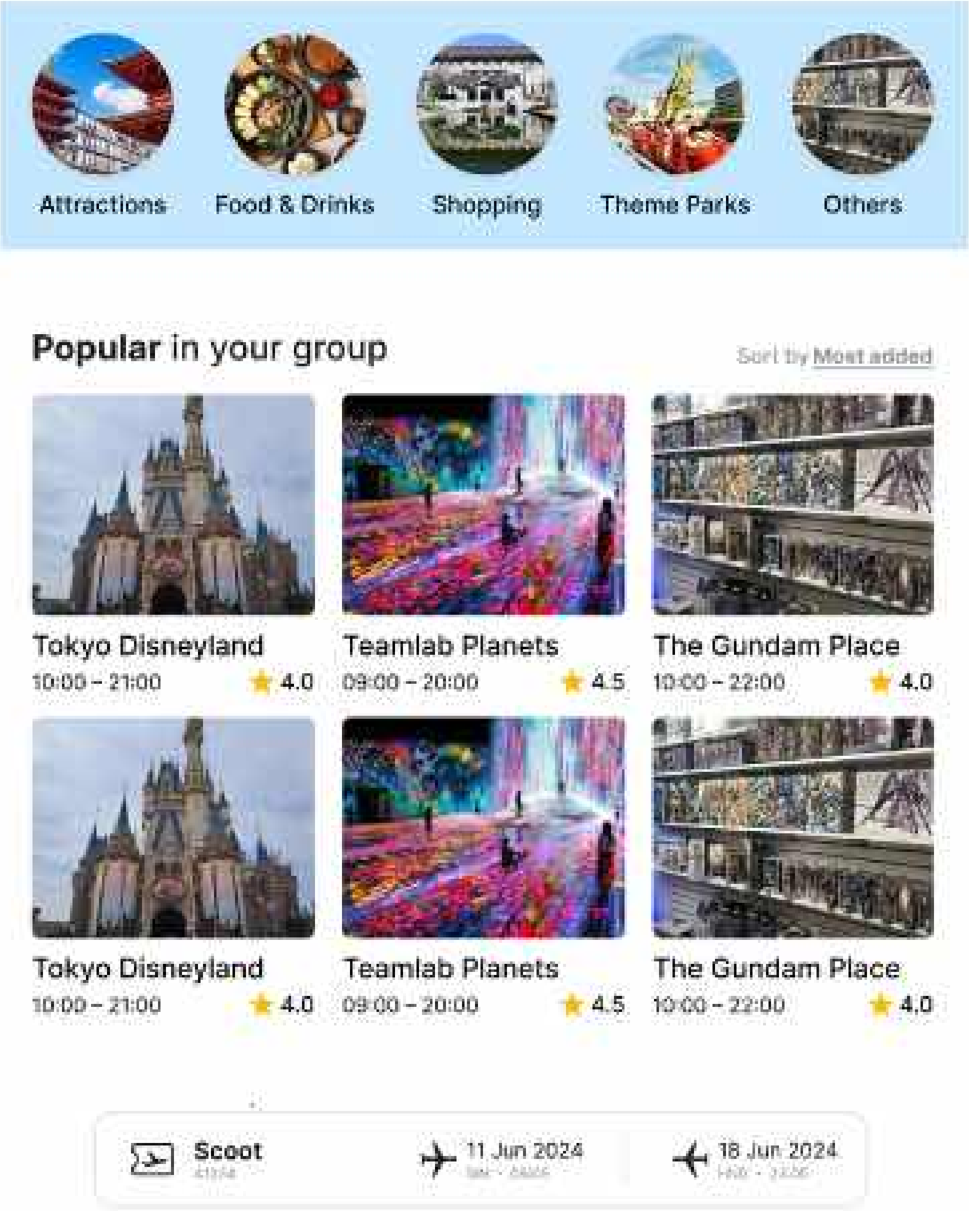
+
Add Places

Tokyo Disneyland
東京ディズニーランド

teamLab Planets

Prototype 2 Findings – Finalized List

Filtering and sorting system for finalized list (Post voting)

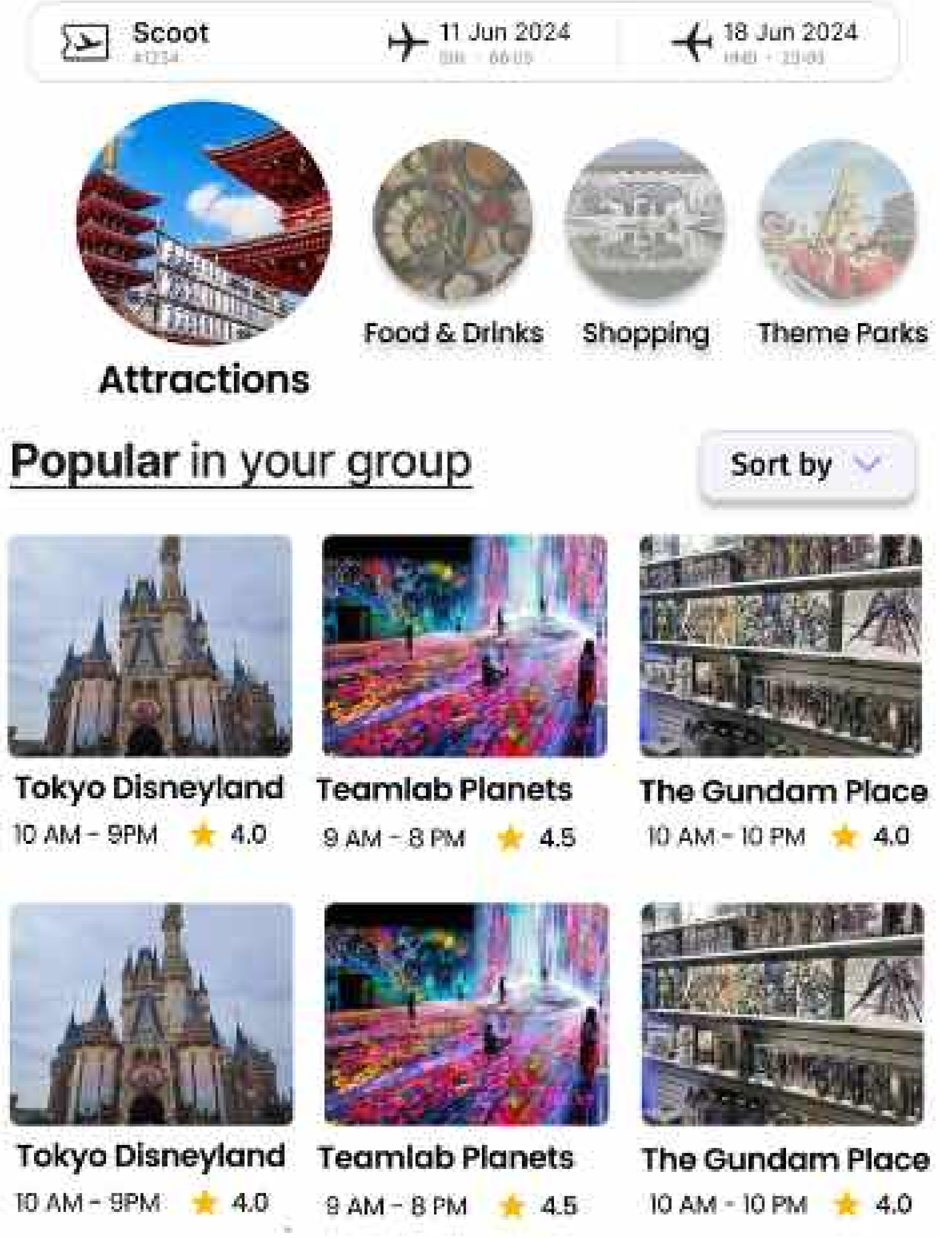

Attractions
Food & Drinks
Shopping
Theme Parks
Others
Sort by Most added

Popular in your group

Tokyo Disneyland 10:00 – 21:00 ★ 4.0
Teamlab Planets 09:00 – 20:00 ★ 4.5
The Gundam Place 10:00 – 22:00 ★ 4.0
Tokyo Disneyland 10:00 – 21:00 ★ 4.0
Teamlab Planets 09:00 – 20:00 ★ 4.5
The Gundam Place 10:00 – 22:00 ★ 4.0

Scoot 11 Jun 2024 18 Jun 2024

Sample of filtering:

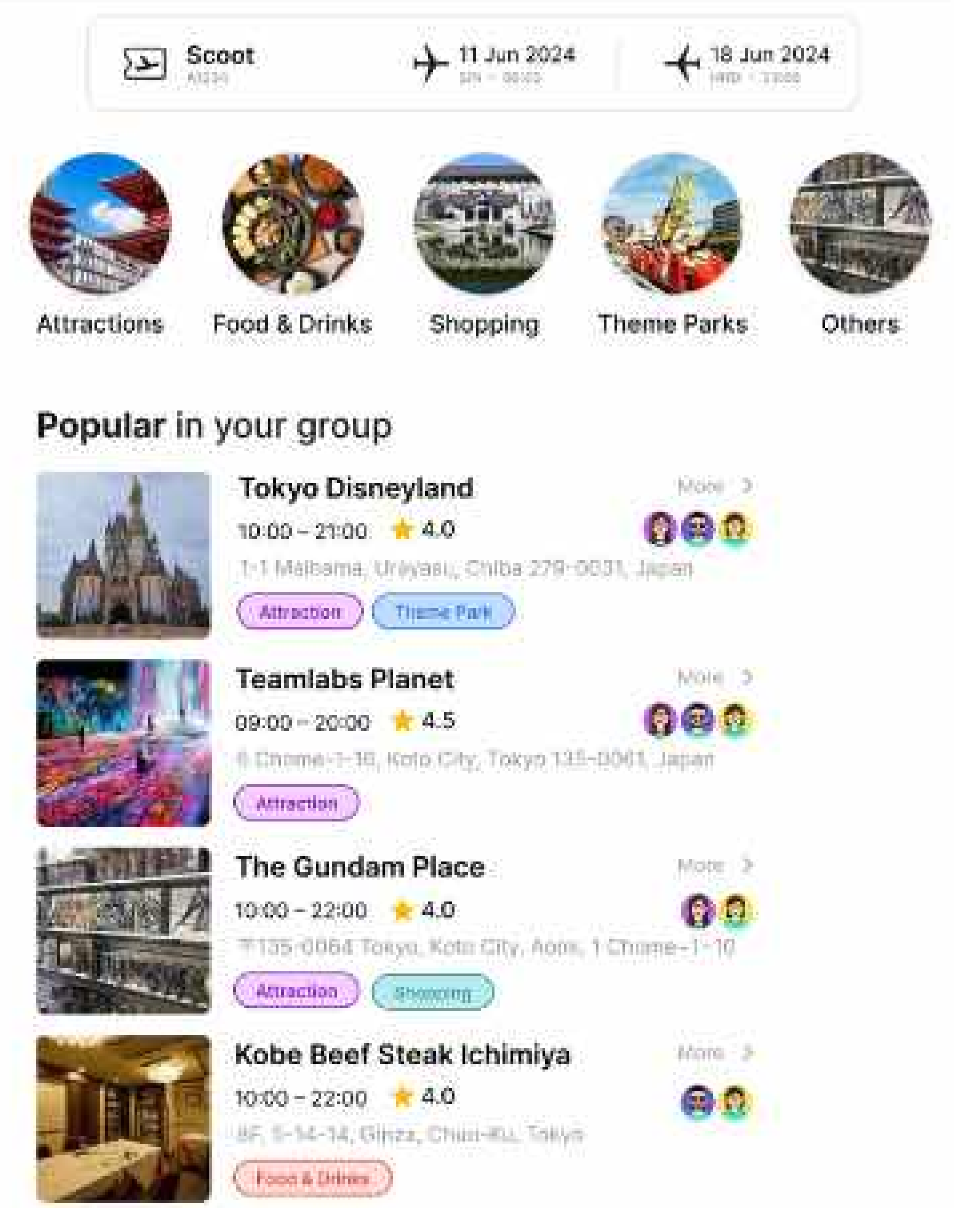

Attractions
Food & Drinks
Shopping
Theme Parks
Sort by

Scoot 11 Jun 2024 18 Jun 2024

Popular in your group

Tokyo Disneyland 10 AM - 9PM ★ 4.0
Teamlab Planets 9 AM - 8 PM ★ 4.5
The Gundam Place 10 AM - 10 PM ★ 4.0
Tokyo Disneyland 10 AM - 9PM ★ 4.0
Teamlab Planets 9 AM - 8 PM ★ 4.5
The Gundam Place 10 AM - 10 PM ★ 4.0

Users' preferred format:


Attractions
Food & Drinks
Shopping
Theme Parks
Others
More
Attraction
Theme Park
Shopping
Food & Drinks

Scoot 11 Jun 2024 18 Jun 2024

Popular in your group

Tokyo Disneyland
10:00 – 21:00 ★ 4.0
1-1 Maihama, Urayasu, Chiba 279-0031, Japan
Attraction Theme Park

Teamlabs Planet
09:00 – 20:00 ★ 4.5
6 Chome-1-16, Koto City, Tokyo 135-0061, Japan
Attraction

The Gundam Place
10:00 – 22:00 ★ 4.0
〒135-0064 Tokyo, Koto City, Aomi, 1 Chome−1−10
Attraction Shopping

Kobe Beef Steak Ichimiya
10:00 – 22:00 ★ 4.0
8F, 5-14-14, Ginza, Chuo-ku, Tokyo
Food & Drinks

In short,

Users liked:

- Sorting, filtering, and search functions
- Toggle views
- List format for finalized list of places to visit

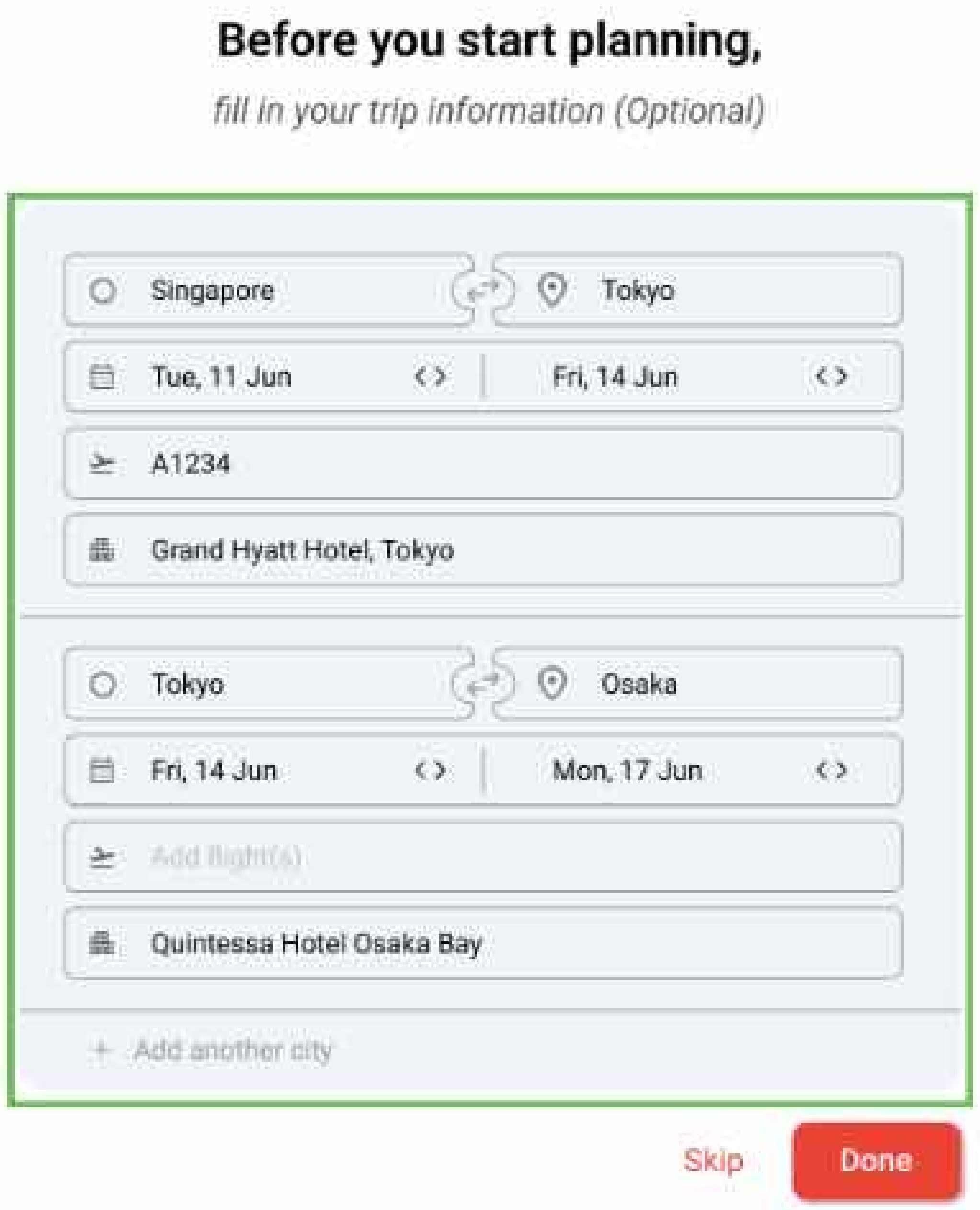
Users wanted:

- Toggle for different cities
- More information to be showcased per saved places
- Optional voting but still obtain a finalized itinerary list
- Better voting system (For those who wants it)

Final Prototype

Centralised platform

Allows users to input their **trip information**, see an **overview of all saved places per city, and easily share the board with friends**



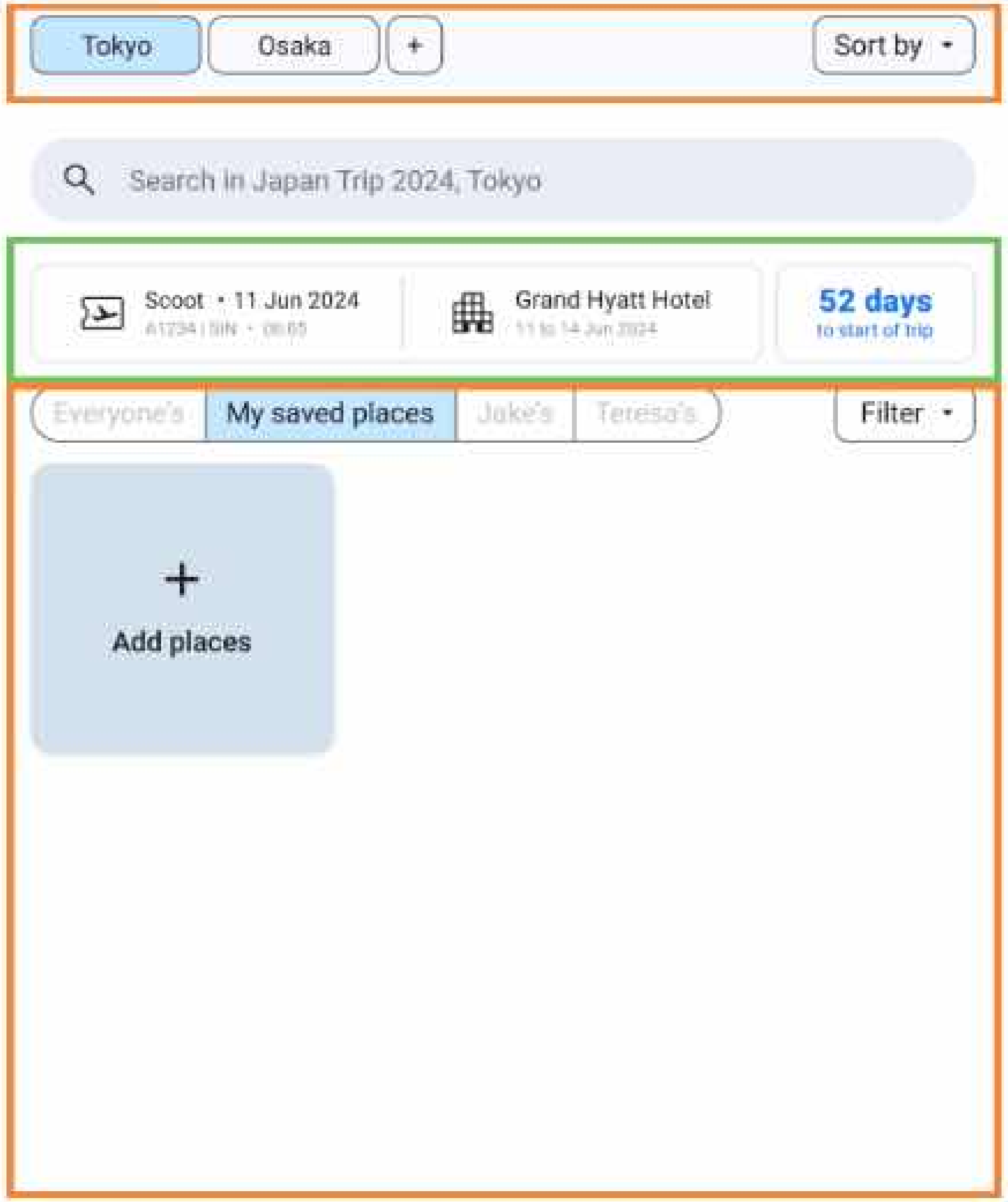
Before you start planning,

fill in your trip information (Optional)

Singapore → Tokyo
Tue, 11 Jun – Fri, 14 Jun
A1234
Grand Hyatt Hotel, Tokyo

Tokyo → Osaka
Fri, 14 Jun – Mon, 17 Jun
Add flight(s)
Quintessa Hotel Osaka Bay

+ Add another city
Skip
Done

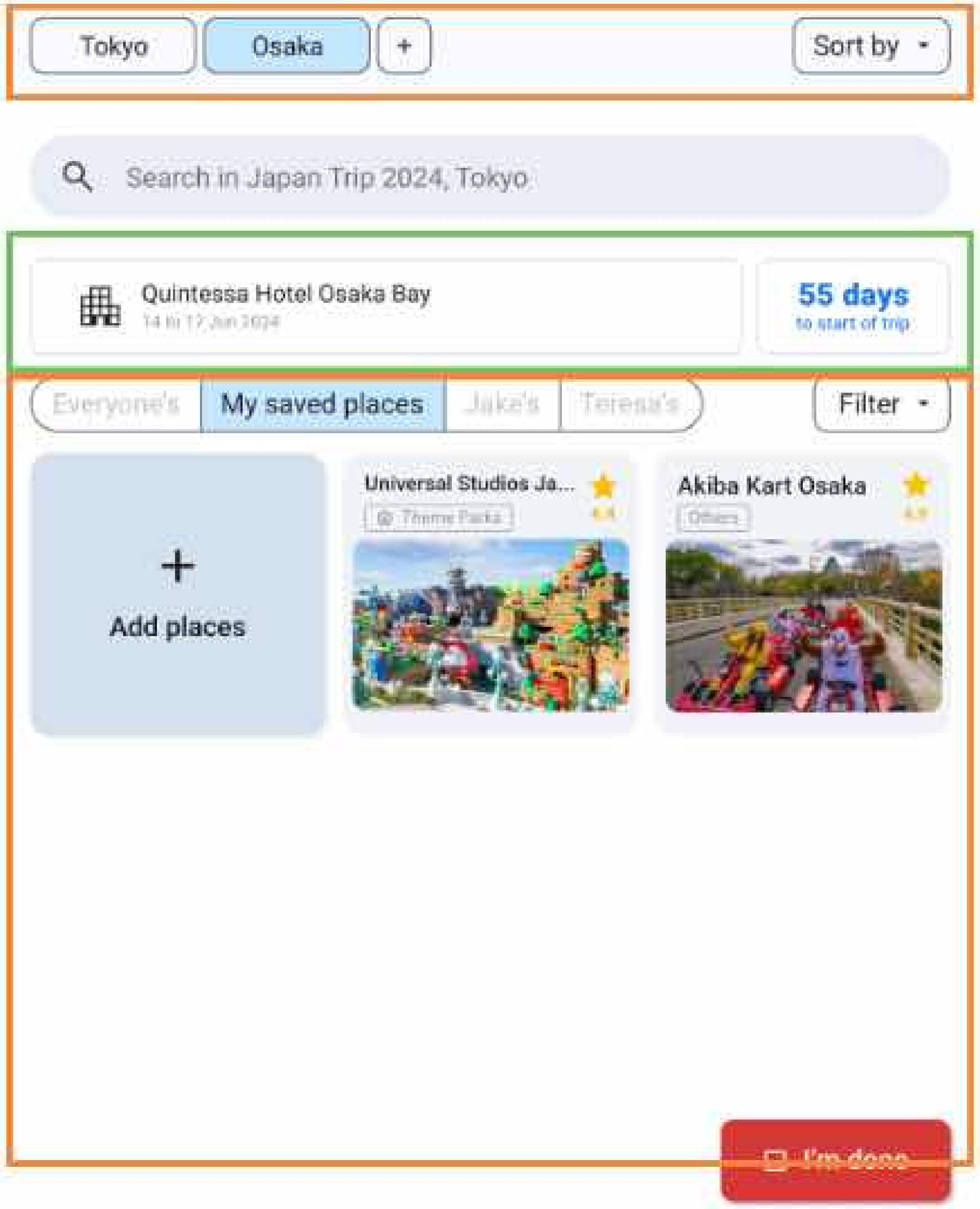


Scoot • 11 Jun 2024
A1234 | SIN • 06:05

Grand Hyatt Hotel
11 to 14 Jun 2024

52 days
to start of trip

Tokyo
Osaka
+
Sort by
Search in Japan Trip 2024, Tokyo
Everyone's
My saved places
Jake's
Teresa's
Filter
+
Add places



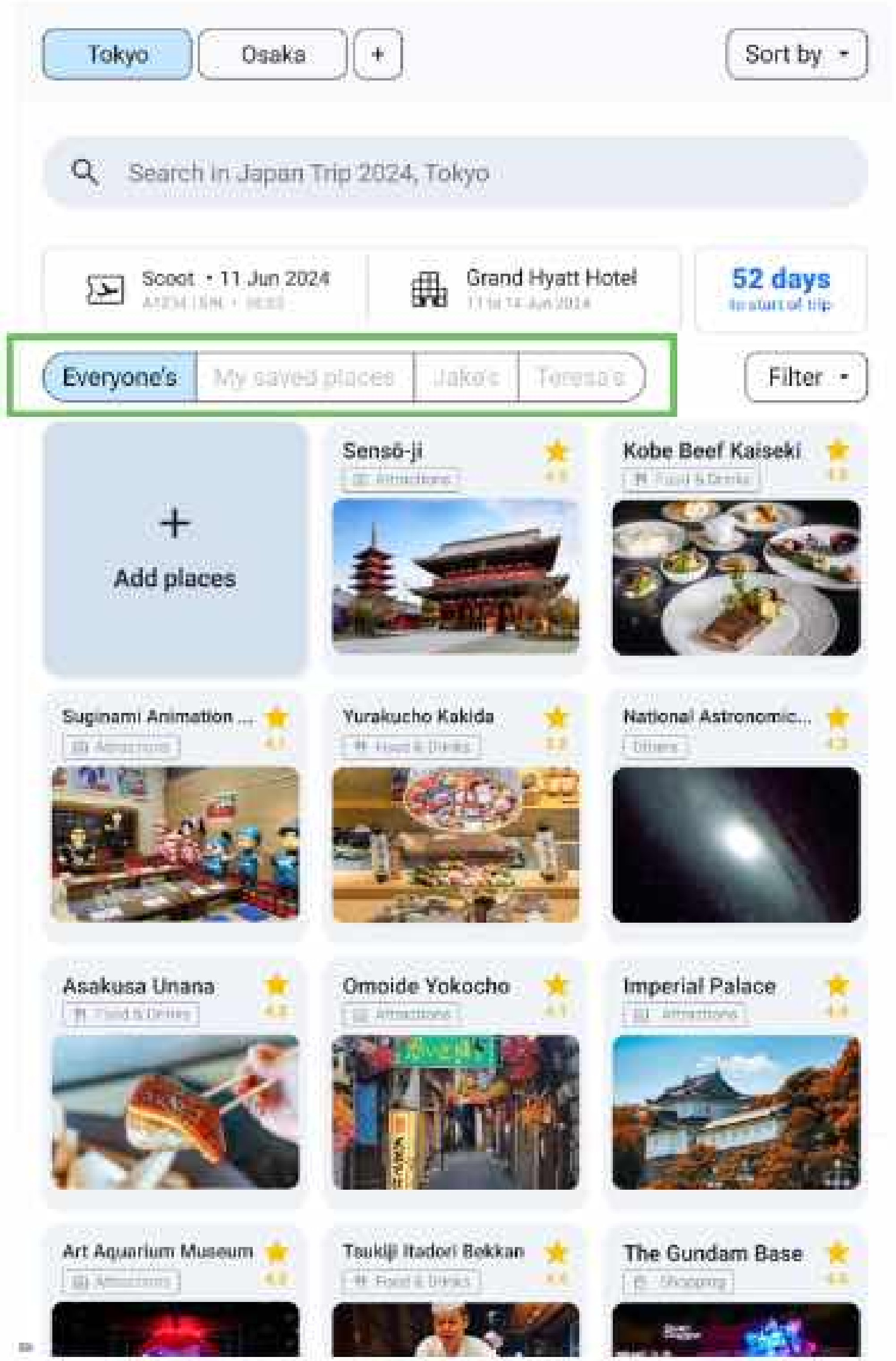
Quintessa Hotel Osaka Bay
14 to 17 Jun 2024

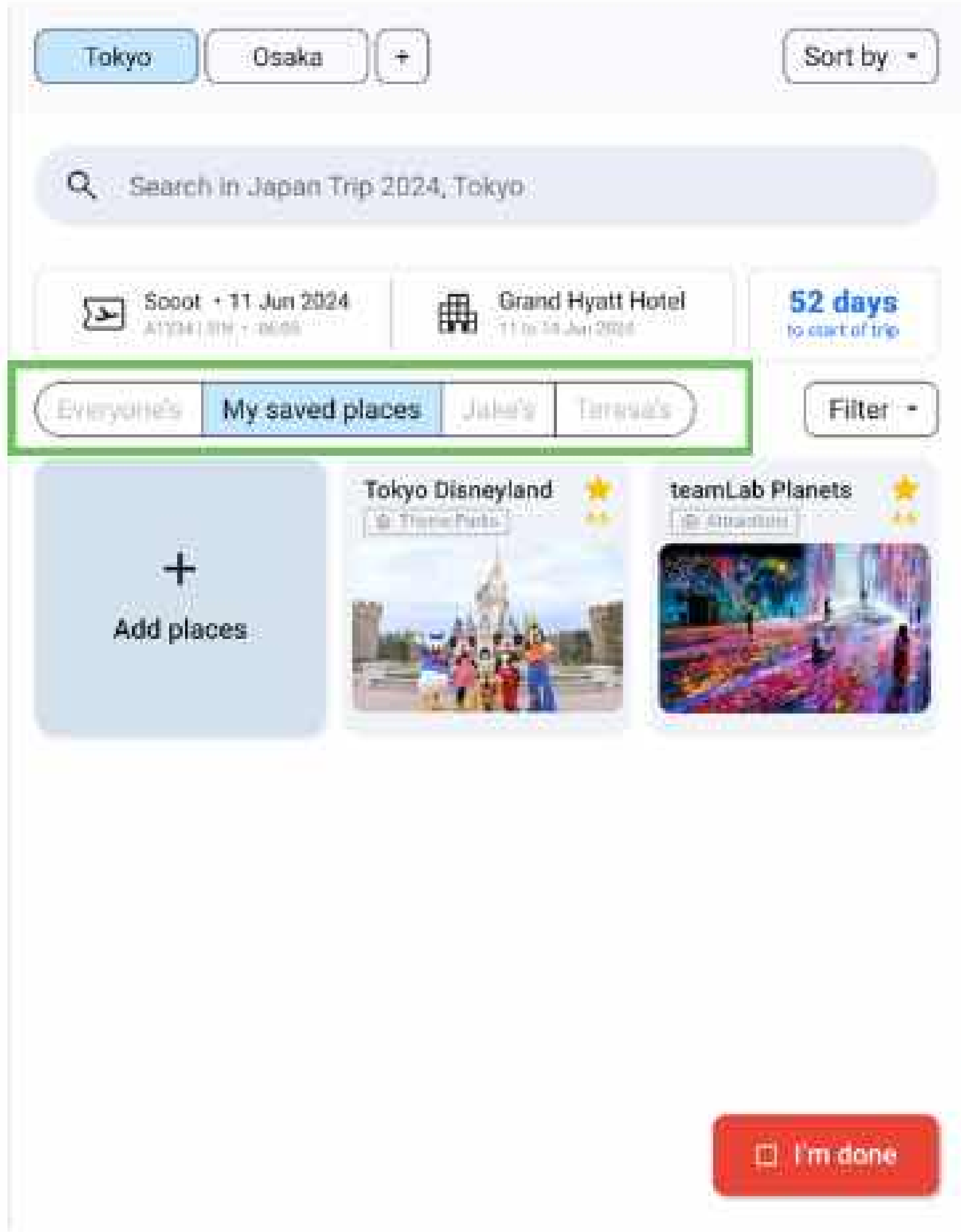
55 days
to start of trip

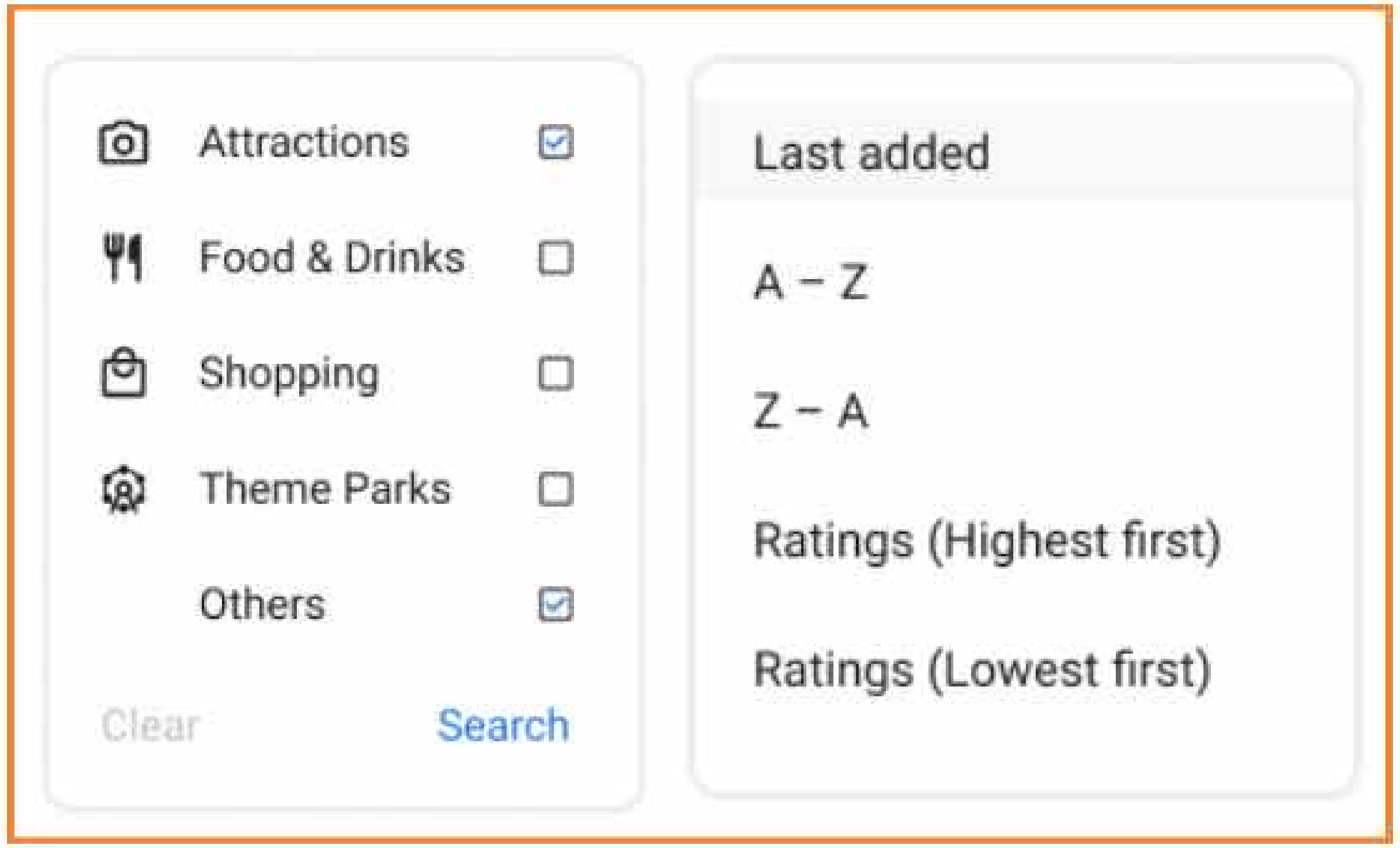
Tokyo
Osaka
+
Sort by
Search in Japan Trip 2024, Tokyo
Everyone's
My saved places
Jake's
Teresa's
Filter
+
Add places
Universal Studios Ja...
Theme Parks
Akiba Kart Osaka
Others
I'm done

Visual preference aggregation (Pre- Final list)

Allows users to see **individual and group-based** saved places, **sort** and/or **filter** them


Tokyo
Osaka
+
Sort by
Search in Japan Trip 2024, Tokyo
Scoot • 11 Jun 2024
Grand Hyatt Hotel
52 days
to start of trip
Everyone's
My saved places
Jake's
Teresa's
Filter
Add places
Sensō-ji
Kobe Beef Kaiseki
Suginami Animation ...
Yurakucho Kakida
National Astronomic...
Asakusa Unana
Omoide Yokocho
Imperial Palace
Art Aquarium Museum
Tsukiji Itadori Bekkan
The Gundam Base

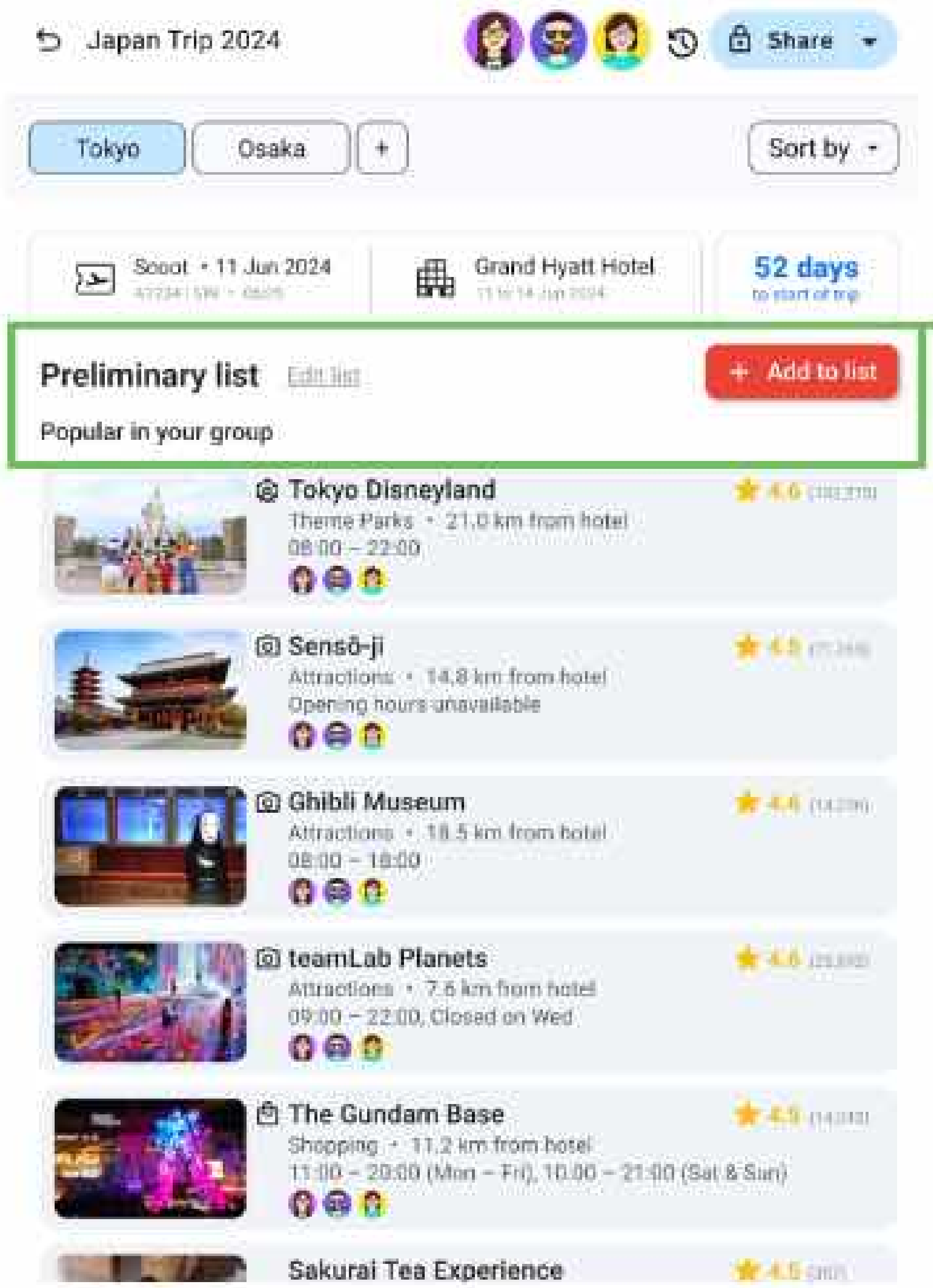

Tokyo
Osaka
+
Sort by
Search in Japan Trip 2024, Tokyo
Scoot • 11 Jun 2024
Grand Hyatt Hotel
52 days
to start of trip
Everyone's
My saved places
Jake's
Teresa's
Filter
Add places
Tokyo Disneyland
teamLab Planets
I'm done


Attractions ☑
Food & Drinks ☐
Shopping ☐
Theme Parks ☐
Others ☑
Clear
Search
Last added
A – Z
Z – A
Ratings (Highest first)
Ratings (Lowest first)

Visual preference aggregation (Finalisation of list)

Automated preliminary list based on how many % of the group saved a place to their board

- 75% of group added SAME place to board = automatically in 'Preliminary list'



Japan Trip 2024

Share

Tokyo | Osaka | +

Sort by

Scoot • 11 Jun 2024

Grand Hyatt Hotel

52 days
to start of trip

Preliminary list Edit list

+ Add to list

Popular in your group

Tokyo Disneyland ★ 4.6
Theme Parks • 21.0 km from hotel
08:00 – 22:00

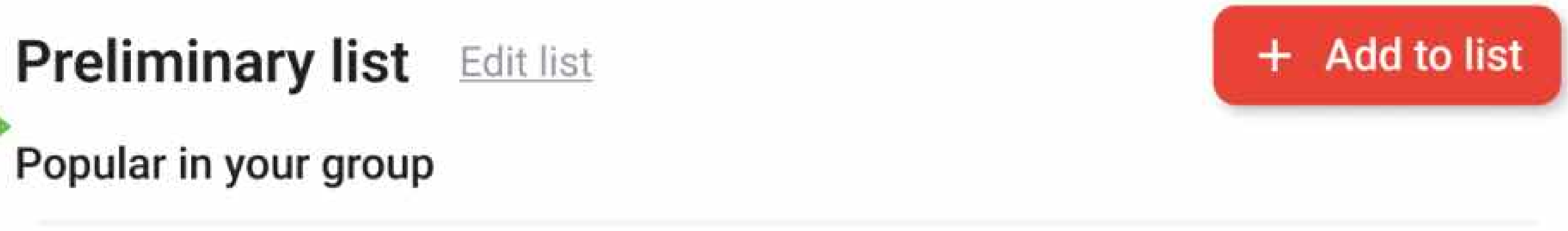
Sensō-ji ★ 4.5
Attractions • 14.8 km from hotel
Opening hours unavailable

Ghibli Museum ★ 4.6
Attractions • 18.5 km from hotel
08:00 – 18:00

teamLab Planets ★ 4.6
Attractions • 7.6 km from hotel
09:00 – 22:00, Closed on Wed

The Gundam Base ★ 4.5
Shopping • 11.2 km from hotel
11:00 – 20:00 (Mon – Fri), 10:00 – 21:00 (Sat & Sun)

Sakurai Tea Experience ★ 4.5

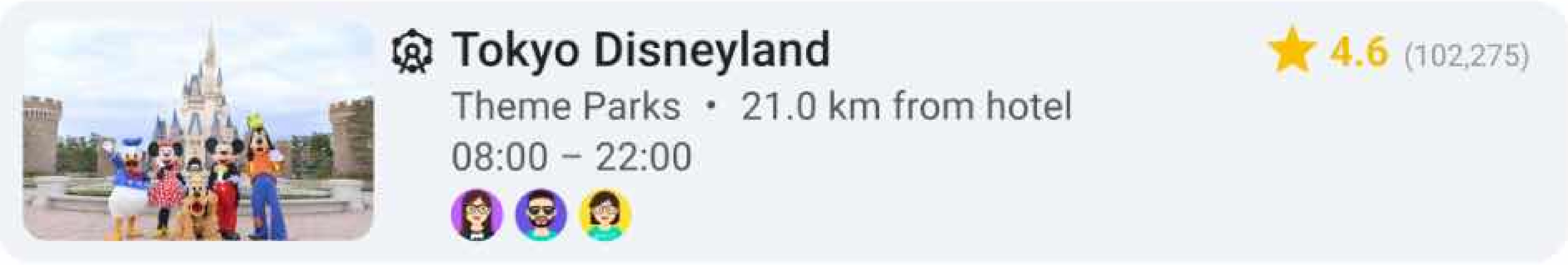


Preliminary list Edit list

+ Add to list

Popular in your group

Information shown for each saved place:

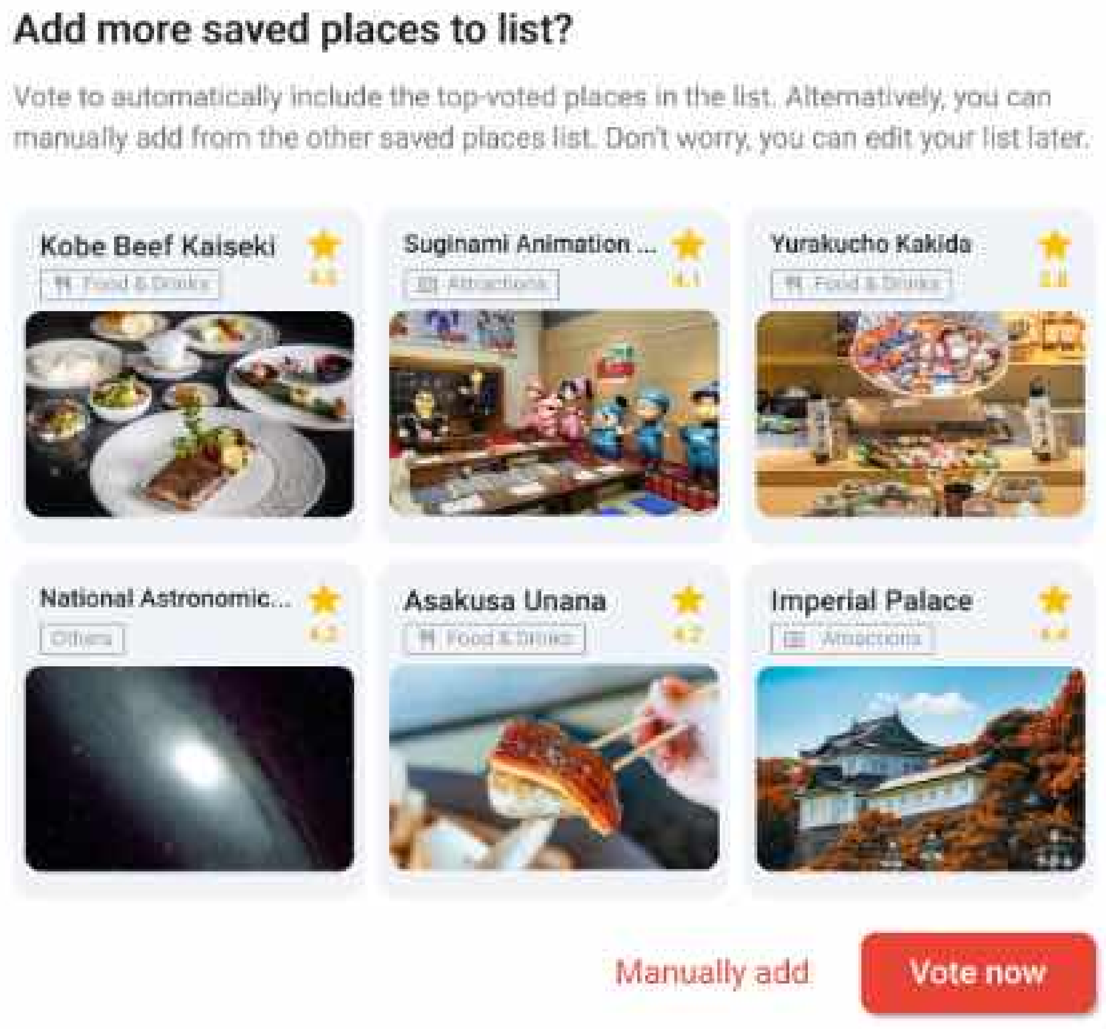


Tokyo Disneyland ★ 4.6 (102,275)
Theme Parks • 21.0 km from hotel
08:00 – 22:00

Visual preference aggregation (Finalisation of list)

Automated preliminary list based on how many % of the group saved a place to their board

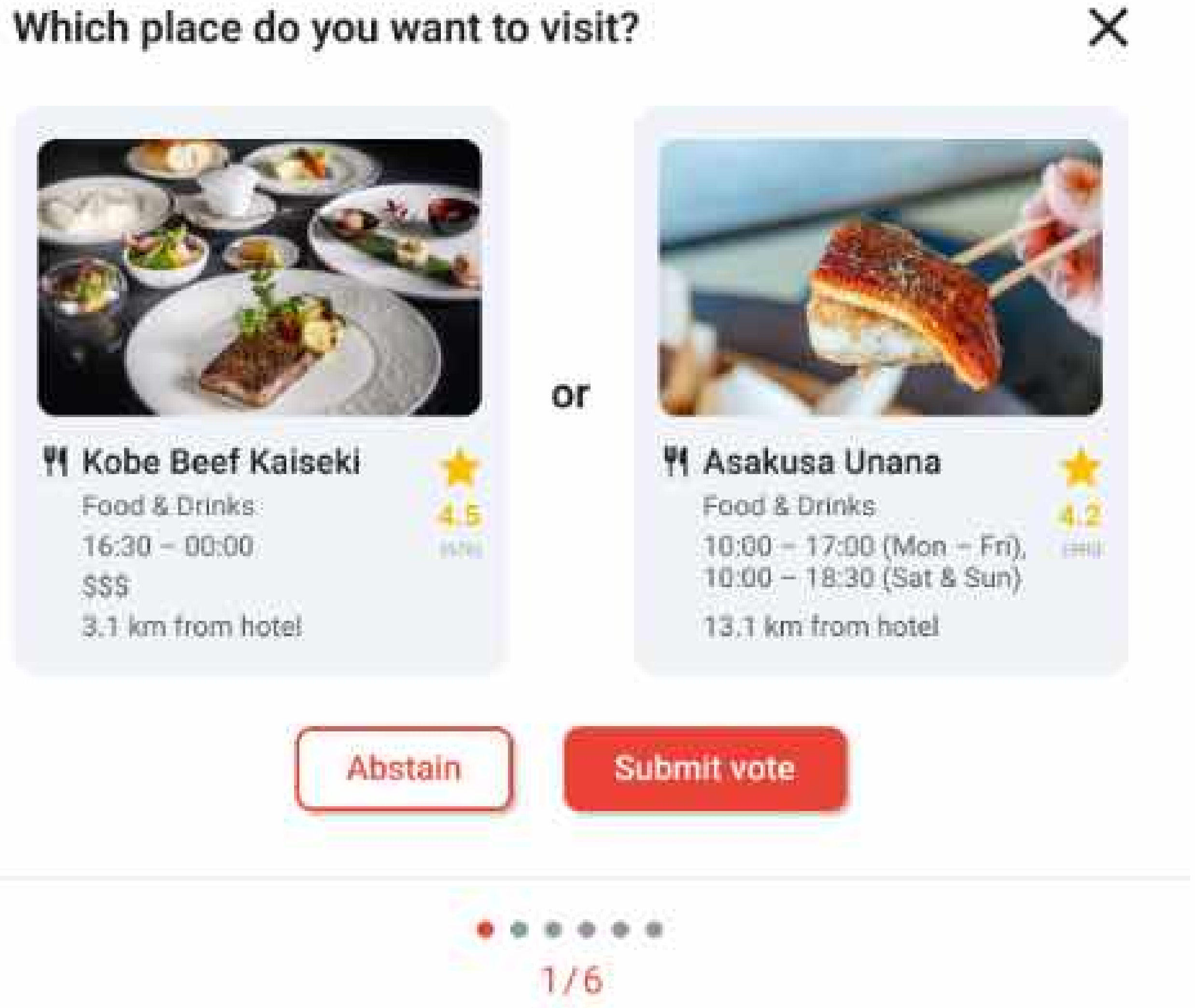
- < 75% of group = collated in another list 'Other saved places'
    - **Places can be voted on using pairwise system for an automated final list** OR users can manually add places from 'Other saved places' to 'Finalized list'



Add more saved places to list?

Vote to automatically include the top-voted places in the list. Alternatively, you can manually add from the other saved places list. Don't worry, you can edit your list later.

Kobe Beef Kaiseki
Food & Drinks
4.5
Suginami Animation ...
Attractions
4.1
Yurakucho Kakida
Food & Drinks
3.8
National Astronomic...
Others
4.2
Asakusa Unana
Food & Drinks
4.2
Imperial Palace
Attractions
4.4
Manually add
Vote now



Which place do you want to visit?

Kobe Beef Kaiseki
Food & Drinks
16:30 – 00:00
$$$
3.1 km from hotel

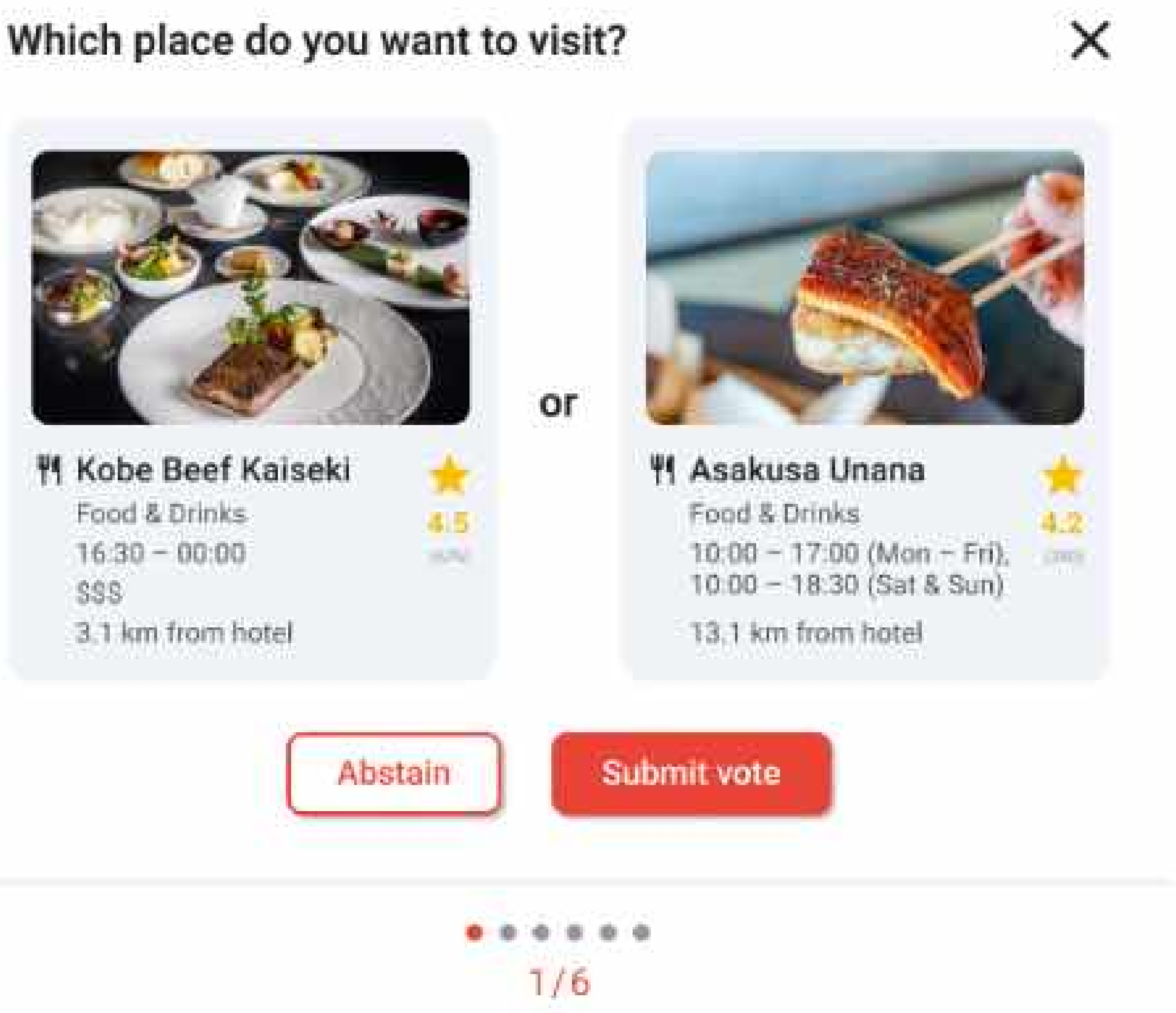
Asakusa Unana
Food & Drinks
10:00 – 17:00 (Mon – Fri),
10:00 – 18:30 (Sat & Sun)
13.1 km from hotel

×
4.5
or
4.2
Abstain
Submit vote
1 / 6

Pairwise voting system + Results

Chosen for a more effective generation of ‘Finalized list’ – Have yet to validate if this is more effective

Pairwise voting UI:



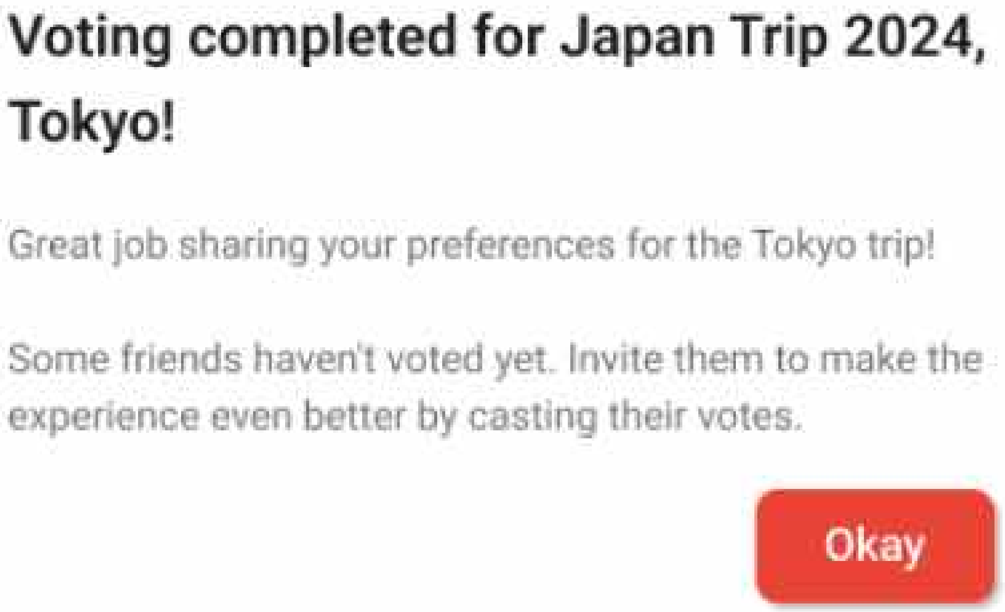
Which place do you want to visit?

Kobe Beef Kaiseki
Food & Drinks
16:30 – 00:00
$$$
3.1 km from hotel

or

Asakusa Unana
Food & Drinks
10:00 – 17:00 (Mon – Fri),
10:00 – 18:30 (Sat & Sun)
13.1 km from hotel

Pop-up message:

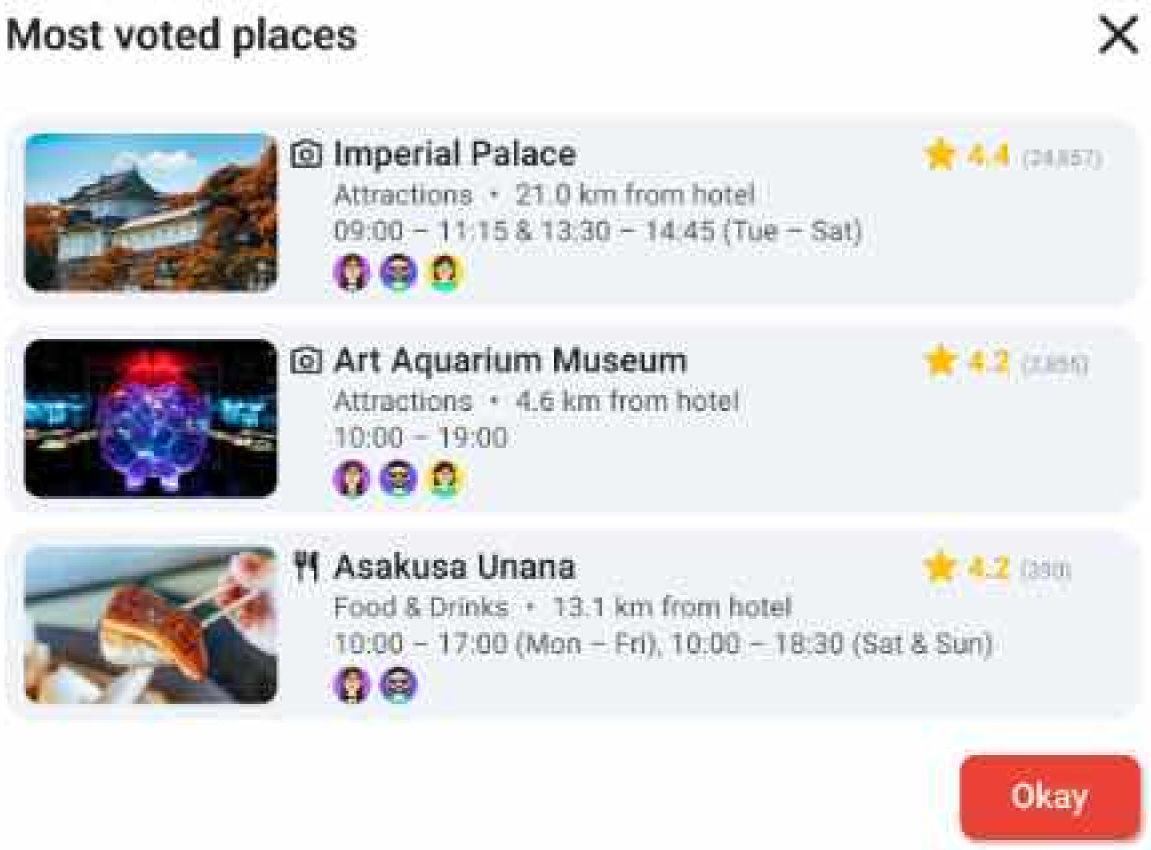


Voting completed for Japan Trip 2024, Tokyo!

Great job sharing your preferences for the Tokyo trip!

Some friends haven't voted yet. Invite them to make the experience even better by casting their votes.

Voting results UI:



Most voted places

Imperial Palace ★ 4.4 (24,857)
Attractions • 21.0 km from hotel
09:00 – 11:15 & 13:30 – 14:45 (Tue – Sat)

Art Aquarium Museum ★ 4.2 (3,856)
Attractions • 4.6 km from hotel
10:00 – 19:00

Asakusa Unana ★ 4.2 (350)
Food & Drinks • 13.1 km from hotel
10:00 – 17:00 (Mon – Fri), 10:00 – 18:30 (Sat & Sun)

Access our prototype here

03

Effectiveness

Comparing Travel Board to Current Solutions

Both level in being a space for collaboration.

Canva

Switching between apps to copy paste links

Travel Board

Your buddy, for buddies overseas

Input saved places in the same board, integrates navigation

Comparing Travel Board to Current Solutions

Both level in being a space for collaboration.

Manually decide which ones to go to

Saves time & relationships - no more bickering over Disneyland & DisneySea!

Based on User Goals & Market Gap

Easy to collaborate

Familiar and intuitive to use

Better organisation of places of interest

Minimized toggling

Allows for visual preference aggregation

Clear sentiment tracking

Aids in streamlining and improving group decision making for overseas trips

04

Market Sizing

Target Group

Casual travellers travelling in groups of 5 or more

Market Sizing

Total Addressable Market

1B Active Users Per Month

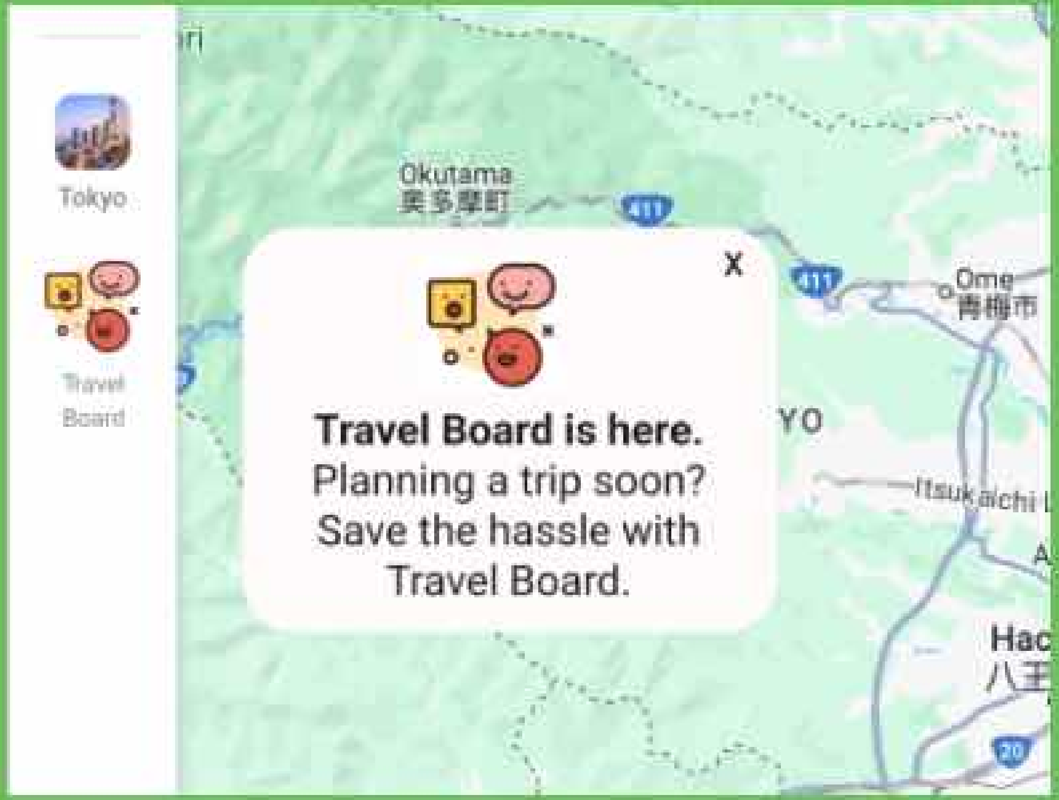
Serviceable Available Market

Assuming only 40% use Google Maps on Web and 60% use it for planning their travels -> 240M Users Per Month

Serviceable Obtainable Market

Assuming 40% travel in groups of 5 or more -> **96M Users Per Month**

Go-to Market


Tokyo
Travel Board
Okutama
奥多摩町
Ome
青梅市
Itsukaichi
Hac
八王
X

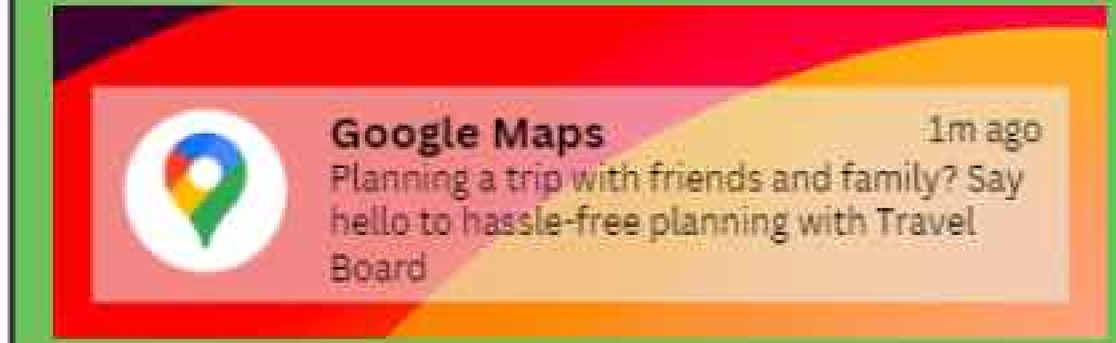
Travel Board is here.
Planning a trip soon?
Save the hassle with
Travel Board.

In App Notifications

When existing users first open the web app after launch, they will be able to see this pop up notification.

Estimated timeline: 1 week

Go-to Market



Google Maps

1m ago

Planning a trip with friends and family? Say hello to hassle-free planning with Travel Board

App Notification

When Google detects a search for an overseas location that likely implies the user is planning for a trip, they will receive a notification about Travel Board.

Estimated timeline: 2 weeks

05

Technical Feasibility

Value Created:

More trip planning, less formatting, no more toggling between apps!

Necessary Cost

Team of developers (~10 developers)

Computational costs (API costs)

1-year initial development cost

Projected Profits

5-10% increase in average time spent

increase in traffic on Google Maps

up to 1% increase in total time spent on Google products

06

Product Monitoring

Future Development

- Live Chat system
- Gen-AI powered itinerary suggestions
- Mobile App compatibility

Thank you!

Any questions?

References

"Types of Map Projections", geographyrealm.com, https://www.geographyrealm.com/types-map-projections/

Why are they ineffective?

Telegram

- Difficult to organise and track places to visit
- Lacks clear sentiment tracking

GDocs

- Issues in document formatting
- Repetitive toggling
- Lacks clear sentiment tracking

Canva

- Difficult to organise
- Limitations in accessibility
- Lacks clear sentiment tracking
- Repetitive toggling

Product Rollout

How will our users get to know about this?

Extended Rollout

Deploy internally first
More than 15 days for feature visibility

Social Network

With a platform like Google Maps, users are bound to give out their thoughts on online discussions through social media and forums.

Product Testing Roadmap

<table>
<tr><th colspan="2">TESTING PHASE</th><th>STAGE 1</th><th>STAGE 2</th><th>STAGE 3</th><th>STAGE 4</th></tr>
<tr><td rowspan="3">PRE-RELEASE PRODUCT TESTING</td><td rowspan="2">WHAT?</td><td>Functional Testing</td><td>A/B Testing</td><td>Functional Testing</td><td>A/B Testing</td></tr>
<tr><td colspan="4">Performance Testing - Technical Aspects</td></tr>
<tr><td>HOW?</td><td colspan="4">User Interviews</td></tr>
<tr><td rowspan="3">POST-RELEASE PRODUCT TESTING</td><td>WHAT?</td><td>Beta Testing</td><td colspan="2">Additional Features Requirements</td><td>Functional Testing</td></tr>
<tr><td rowspan="2">HOW?</td><td colspan="2">App Feedback/Reviews + Surveys</td><td colspan="2">User Interviews</td></tr>
<tr><td colspan="4">Monitoring Success Metrics</td></tr>
</table>

Product Monitoring

What metrics will we use to validate the success of our product?

USER ENGAGEMENT

Measure the level of user interaction with the app

USER RETENTION

How we can get more frequent travellers to make the most of this product?

USER SATISFACTION

Feedback on experience and perceived value.

Success Measures

How will we measure the success of the product?

Retention

- Cohort Analysis
- Product Usage Frequency

Engagement

- Average Product Use time
- Average number of trips created per user
- Average time spent per trip
- Activity metrics: which feature are most/least used

Satisfaction

- User Interviews
- Surveys
- Reviews Through In-App Mechanisms