

The background of the slide features a photograph of a campsite at night. A yellow dome tent is set up on a sandy beach, with its interior lights glowing. To the left of the tent, a small campfire is burning brightly, casting a warm glow. A guitar and a picnic basket are resting on a checkered blanket nearby. In the foreground, there are some low-lying plants and rocks. The ocean is visible in the background under a dark, star-filled sky.

Travel at ease with

iRecommend

Richelle-Joy Chia

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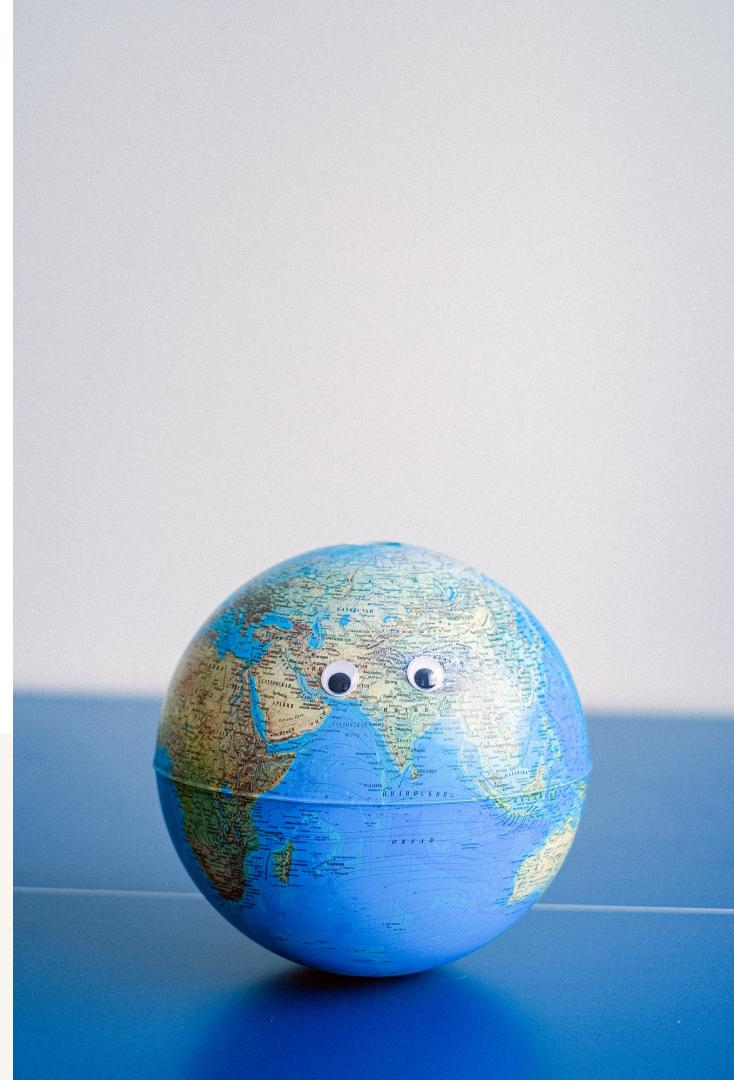
WEB APPLICATION -
STREAMLIT

05

LIMITATIONS AND
FUTURE WORK

01

BACKGROUND AND PROBLEM STATEMENT



PERSONAS



**ADVENTUROUS
ANNIE, 30**

“I’m planning for my vacay in a few weeks, but there is just so much out there. Where should I begin..?”



**BRILLIANT
BILLY, 33**

“I’ve been so busy, didn’t have time to plan, now that I’m in Bangkok, what should I do?”



50 Things To Do In Bangkok Sorted By Category Like New Attractions, Night Markets & Street Food

THE SMART LOCAL TRAVEL THINGS TO DO LOCAL ADULTING REVIEWS Alerts Basket

Hotels TRAVEL THINGS TO DO LOCAL ADULTING REVIEWS Alerts Basket

Thailand | The PERFECT 3 Days in Bangkok Itinerary (2022 Guide) dated on September 2, 2022 by Amanda Tran

Whether you're a history lover, culture enthusiast, foodie or party-goer, you're going to love this article on how to spend 3 days in Bangkok itinerary!

3d2n itinerary in bangkok

Over the next 150 years temples, complexes and as the city became a power. After World War II, the city became a power. By the 1980s, the city had become a power for its nightlife, clubs and Bangkok has since been one of the debaucherous. Despite this reputation, tourist, financial, and co.

HI, WE'RE ALESHA AND JARRYD!

More ...

More ...

Tools

All Images Videos Maps News More

About 124,000 results (0.70 seconds)

<https://www.klook.com/blog/3d2n-bangkok-itinerary> Plan An Amazing 3 Day Weekend Getaway In Bangkok ...

14 Jul 2022 — Plan An Amazing 3 Day Weekend Getaway In Bangkok With This 3D2N Itinerary · 1. Lunch at Wattana Panich · 2. Shopping at Siam Area · 3. Dinner at ...

[https://en.blog.kkday.com/asia-thailand-the-ultimate-3... Day 1: Temple Hopping · Day 2: Day Tours \(Downtown Sites or Floating ...](https://en.blog.kkday.com/asia-thailand-the-ultimate-3-day-itinerary)

18 May 2022 — The Ultimate 3D2N Bangkok Itinerary: Best Things to Do, See and Eat · Day 1: Temple Hopping · Day 2: Day Tours (Downtown Sites or Floating ...

<https://www.nomadasaurus.com/thailand/the-perfect-3-days-in-bangkok-itinerary-2022-guide> Day 1. Morning: Grand Palace and Wat Phra Kaew; Wat Pho – Reclining Buddha Day 2. Afternoon: Jim Thompson House; Midday – Chatuchak Weekend Market ...

<https://www.chatuchak.com/bangkok-travel-guide-when-to-visit-bangkok>

READ MORE: City Guide

The TRAVEL INTERN DESTINATIONS SINGAPORE TRAVEL TIPS JOIN US ABOUT #HHWT Search HHWT...

X Halal Food Destinations Itinerary Tribes

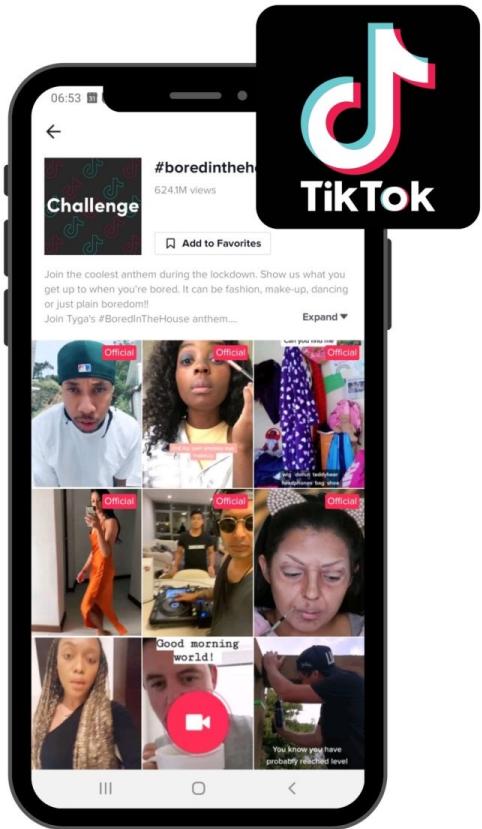
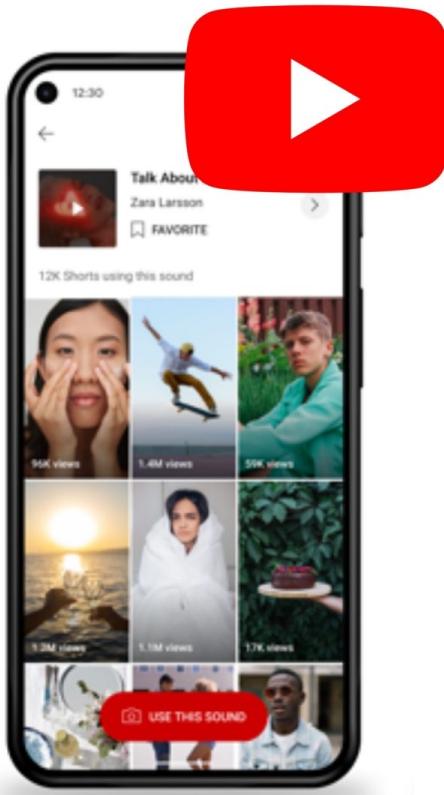
An Unexpected Adventure

ACTIVITIES/ASIA/BANGKOK/GUIDE/ITINERARY/THAILAND/TRAVEL The Ultimate 3D2N Bangkok Itinerary: Best Things to Do, See, and Eat May 18, 2022 / by Celia Nachura

Bangkok is the largest city in Thailand, a buzzing metropolis featuring sprawling bazaars, mouthwatering cuisine, glittering shrines, and vibrant nightlife spots. This captivating city is packed with things to do, but don't worry – three days are definitely enough to get the best of what Bangkok has to offer. Read on for KKday's three-days-and-two-nights Bangkok itinerary to ensure you make the most of your time in the city.

Day 1: Temple Hopping

Exploring Buddhist temples is a good way to experience the spiritual side of Bangkok. Each day, we'll visit several temples, starting with the Grand Palace and Wat Phra Kaew in the morning, followed by Wat Pho and the Reclining Buddha in the afternoon. We'll also have time to explore the surrounding areas, including the Jim Thompson House and the Chatuchak Weekend Market.







PROBLEM

Endless amount of information
available online

No clearly defined catalog of
recommendable items in tourism



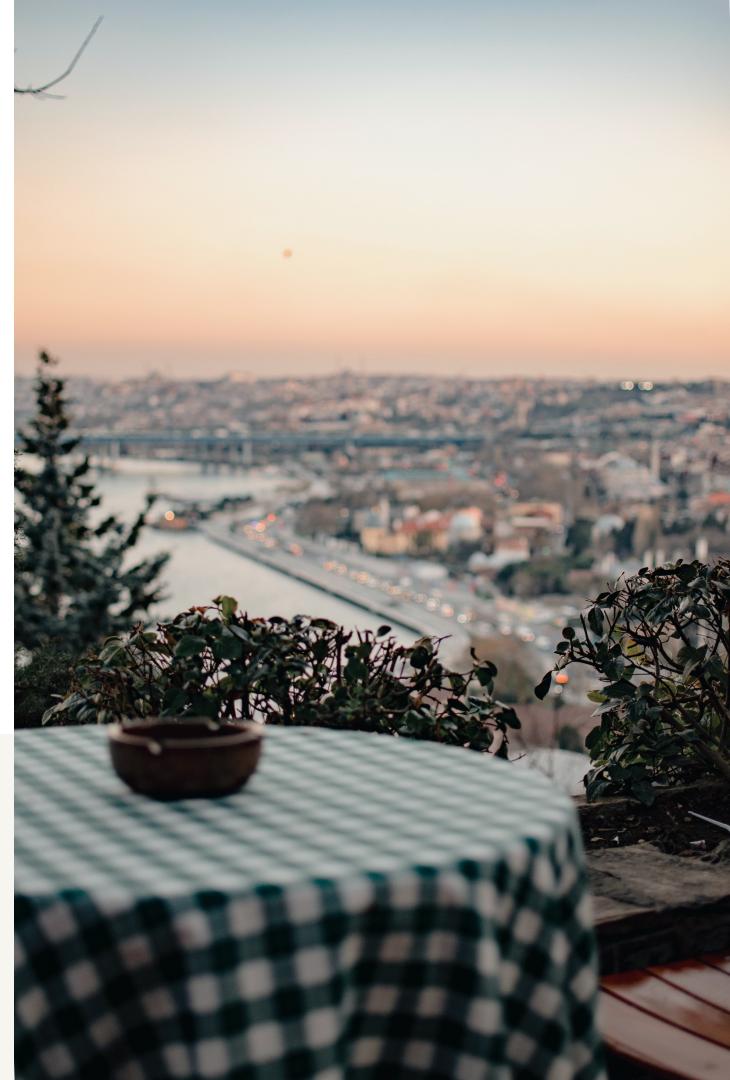
SOLUTION

To develop an efficient
recommender system based on
activity preferences

To deploy on a Web Application for
testing

02

DATA ACQUISITION, CLEANING, AND EDA



DATA ACQUISITION



Tripadvisor®

SELENIUM

ONLINE SOURCE

- Name of attraction
- Reviews and Ratings
- Country, city, province
- Location latitude and longitude
- Categories
- Description
- Duration
- Images

SETTING THE CONTEXT

**Activities in
Canada or
Canada as an
end destination**



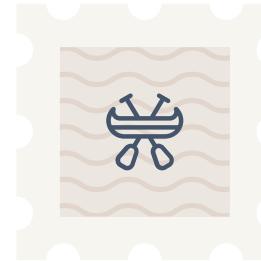
DATA CLEANING & EDA

Plotly

**Identified
activities in the
wrong location**



DATA CLEANING & EDA



DUPLICATES

Attractions

MISSING DATA

Reviews
Ratings
Price

RE-LABELLING

Categories from
TripAdvisor

ORIGINAL CATEGORIES



Local experiences	Cultural and theme tours	Day trips and excursions	Water sports	Luxury and special occasions	Tours and sightseeing
Featured tours and tickets	Air, helicopter, and balloon tours	Cruises, sailing, and water tours	Family friendly	Private and custom tours	Transfers and ground transport
Food, wine, and nightlife	Sightseeing tickets and passes	Outdoor activities	Shore excursions	Multi day and extended tours	Walking and biking tours

SAMPLE WALKTHROUGH OF LABELLING



About

The spectacular Niagara Falls lie just south of Toronto and can be easily visited on a day trip. This tour includes one of the most popular Niagara experiences—a Hornblower cruise or the Journey Behind the Falls, depending on the season—as well as exploring the Niagara Peninsula, including Niagara-on-the-Lake, the Whirlpool Rapids, and a wine tasting at a local winery.

What to expect

Your tour begins with pickup from your Toronto hotel. Traveling aboard an air-conditioned coach, set out on the scenic journey to Niagara Falls.

After catching your first glimpse of the mighty falls, stop to enjoy a buffet lunch at a local restaurant before continuing to the first of the day's attractions. Depending on the season, either hop aboard for a thrilling Hornblower cruise (mid-April to mid-October) and enjoy spectacular views as you glide right beneath Horseshoe Falls. Alternatively, visit the Journey Behind the Falls (mid-October to mid-April), which includes access to the tunnels behind Horseshoe Falls and dramatic views from the Upper and Lower Observation Decks, or watch a dramatic presentation about the falls at the IMAX Theater. Then, enjoy a midday buffet lunch.

As you journey back along the Niagara Peninsula, make a stop to admire the Whirlpool Rapids and take photos from the observation deck, looking out along the Niagara River. Continue to the town of Niagara-on-the-Lake and see the famous Floral Clock and then pay a visit to a local winery, where you have the option to enjoy a wine tasting (own expense).

On return to Toronto, your tour ends with drop-off back at your hotel.

Highlights

- Iconic Niagara Falls experiences: Hornblower cruise or Journey Behind the Falls (seasonal)
- Spectacular views of Horseshoe Falls, Niagara River, and Whirlpool Rapids
- Optional wine tasting at a Niagara Peninsula winery
- Hassle-free: includes round-trip transport from Toronto and lunch

What's included

- Hornblower Niagara Cruises - when not operating substitute with IMAX or Journey Behind the Falls
- Buffet lunch
- Professional guide
- Local taxes
- Hotel pickup and drop off from most Downtown hotels. Please contact supplier for pickup times
- Air-conditioned vehicle
- Entry/Admission - Niagara Falls

What's not included

- Gratuities

Sightseeing

Winery

Food

Cruise

Sea Tour

Land Tour

Landsea Tour

SAMPLE WALKTHROUGH OF LABELLING

	CITY	LANDSEA TOUR	...	PARK	SIGHTSEEING
VANCOUVER CITY SIGHTSEEING TOUR	1	0		1	1
VANCOUVER TO VICTORIA BUTCART GARDENS TOUR BY BUS	0	1		1	1
BEST OF NIAGARA FALLS TOUR FROM NIAGARA FALLS, ONTARIO	0	1		0	1
NIAGARA FALLS DAY TRIP FROM TORONTO	0	1		0	1

HAND-LABELLED CATEGORIES

[Google sheets](#)



Equipment Rentals	Live Entertainment	Boat Tours and Cruises	Classes & Workshops
City	Spotting Wildlife	Sightseeing	Photoshoot
Mountain Views	Island	Park	Nature
Hiking	Brewery	Winery	Distillery
Camping	Sea Tour	Air Tour	Land Tour
Transport	Activities	Alcohol	Food
Beach	Experience	Accommodation	Airlandsea Tour
Adventure	Airland Tour	Airsea Tour	Landsea Tour

03

FEATURE ENGINEERING, RECOMMENDER, AND NLP



FEATURE ENGINEERING



COMBINED COLUMNS

Merged columns that are related to each other

PRESENCE/ABSENCE: RATINGS/REVIEWS

Boils down to motivation and interest in activities

WEIGHTED RATINGS

Inputted mean and scaled ratings

HAND-LABELLED CATEGORIES

[Google sheets](#)



Equipment Rentals	Live Entertainment	Boat Tours and Cruises	Classes & Workshops
City	Spotting Wildlife	Sightseeing	Photoshoot
Nature			
Outdoor Activities	Brewery/Distillery/Winery		

HAND-LABELLED CATEGORIES

[Google sheets](#)



Alcohol	Air Tour
Transport	Land Tour
Accommodation	Sea Tour
Food	

DROPPED

Activities	Experience
Beach	Airland Tour
Airsea Tour	Airlandsea Tour
Landsea Tour	





RECOMMENDER STRATEGY

MODELS

Base model

Main model – after feature
engineering

**content based modelling*

METRICS

Cosine similarity

A/B testing

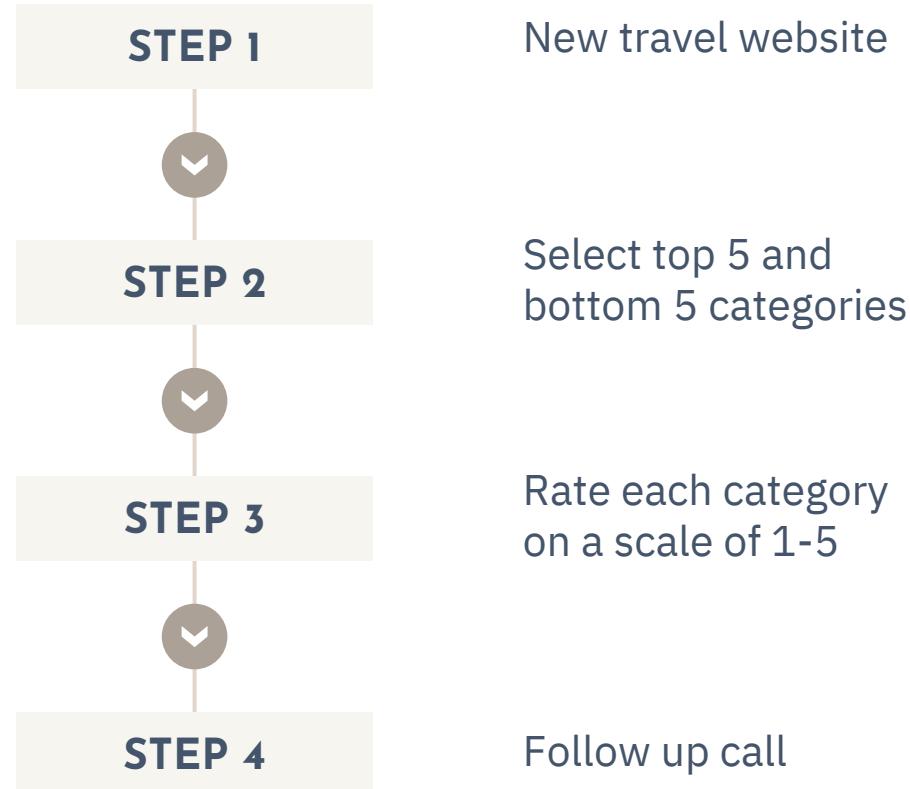
User acceptance testing (UAT)



UAT A/B Testing

Qualtrics

[\[Survey link\]](#)





RESULTS

FINDING 1

Approximately 60% accuracy

FINDING 2

Unclear about activities

FINDING 3

Too many categories to choose from

BASE MODEL

	VANCOUVER CITY SIGHTSEEING TOUR	VANCOUVER TO VICTORIA BUTCART GARDENS TOUR BY BUS	BEST OF NIAGARA FALLS TOUR FROM NIAGARA FALLS, ONTARIO	NIAGARA FALLS DAY TRIP FROM TORONTO
VANCOUVER CITY SIGHTSEEING TOUR	-			
VANCOUVER TO VICTORIA BUTCART GARDENS TOUR BY BUS	0.680	-		
BEST OF NIAGARA FALLS TOUR FROM NIAGARA FALLS, ONTARIO	0.288	0.589	-	
NIAGARA FALLS DAY TRIP FROM TORONTO	0.246	0.502	0.746	-

MAIN MODEL

	VANCOUVER CITY SIGHTSEEING TOUR	VANCOUVER TO VICTORIA BUTCART GARDENS TOUR BY BUS	BEST OF NIAGARA FALLS TOUR FROM NIAGARA FALLS, ONTARIO	NIAGARA FALLS DAY TRIP FROM TORONTO
VANCOUVER CITY SIGHTSEEING TOUR	-			
VANCOUVER TO VICTORIA BUTCART GARDENS TOUR BY BUS	0.752 (main) 0.680 (base)	-		
BEST OF NIAGARA FALLS TOUR FROM NIAGARA FALLS, ONTARIO	0.527 (main) 0.288 (base)	0.707 (main) 0.589 (base)	-	
NIAGARA FALLS DAY TRIP FROM TORONTO	0.449 (main) 0.246 (base)	0.603 (main) 0.502 (base)	0.746 (main) 0.746 (base)	-

—TAKEAWAY—

Feature Engineering
enhanced accuracy

+20%

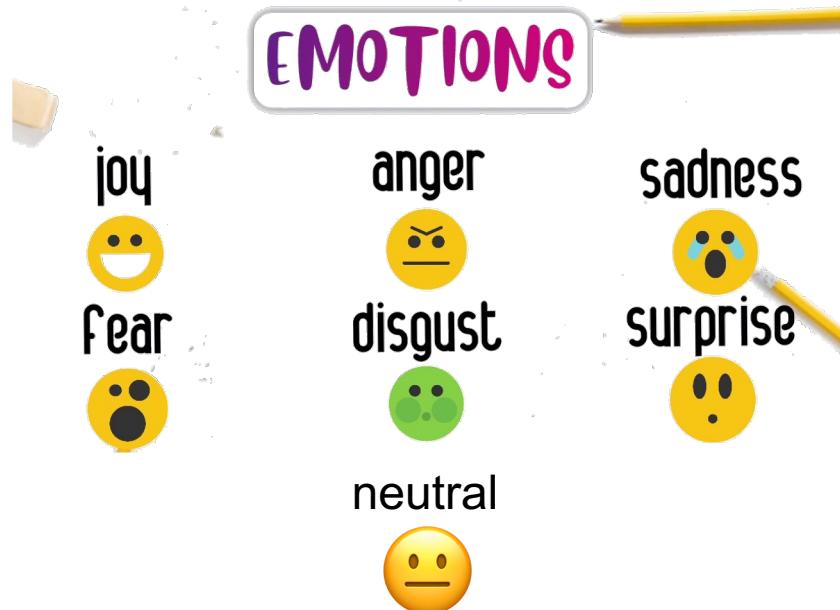
SENTIMENT ANALYSIS

Hugging Face



[\[Source\]](#)

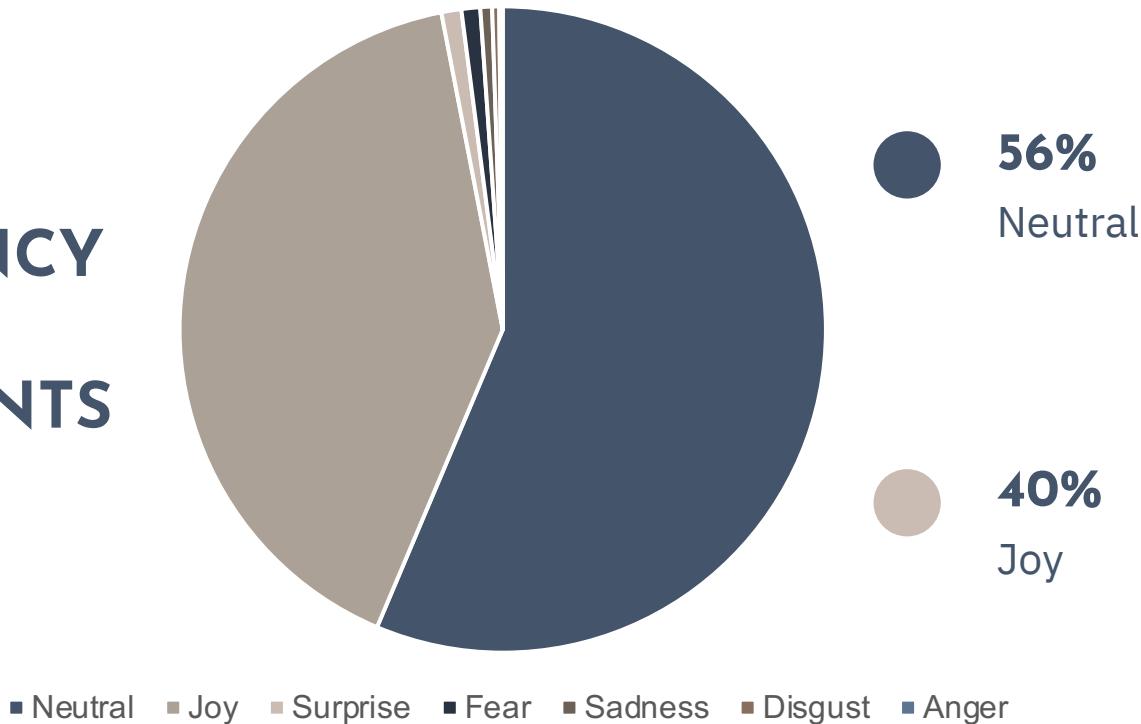
RegEx



FREQUENCY OF SENTIMENTS



% of sentiments



“Get to know Vancouver. This 4 hour tour is great for an introduction to the city on arrival as it puts the geography into perspective –at a price (\$80)...”



Sentiment: Joy

“Nice half day overview of Vancouver. Has the usual limitations of a minibus tour of a big city, but the tour did stop and gave us some time in Granville Island...”



Sentiment: Neutral

04

WEB APPLICATION - STREAMLIT



STREAMLIT WORKFLOW

Process: Attractions recommended based on similar category labels



USER INPUTS

Indicate preferences (11 categories)

6-Hour Eagle Viewing River Float Trip From Vancouver With Lunch



- Like
- Dislike

Show Recommendations

OUTPUTS

View recommendations

Recommendation 3: [Banff National Park Tour With A Small Group](#)



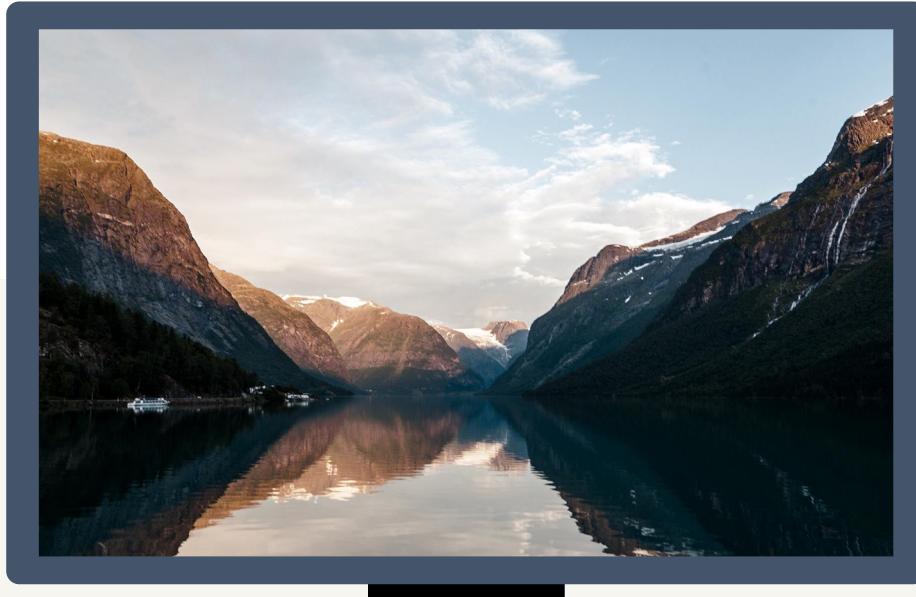
Average rating: 5.0

Location: Calgary, Alberta

Duration: 11h

Approximate cost: \$155.0

Average sentiment: Joy



STREAMLIT DEPLOYMENT



<https://tinyurl.com/richellejoychia>

05

LIMITATIONS AND FUTURE WORK



LIMITATIONS AND FUTURE WORK



CANADA-FOCUSED

Scrap data from other countries to be more holistic

FIXED PICTURE

Incorporate more pictures and videos/reels

COSINE SIMILARITY

Collect implicit feedback for hybrid model

RADIO BUTTON

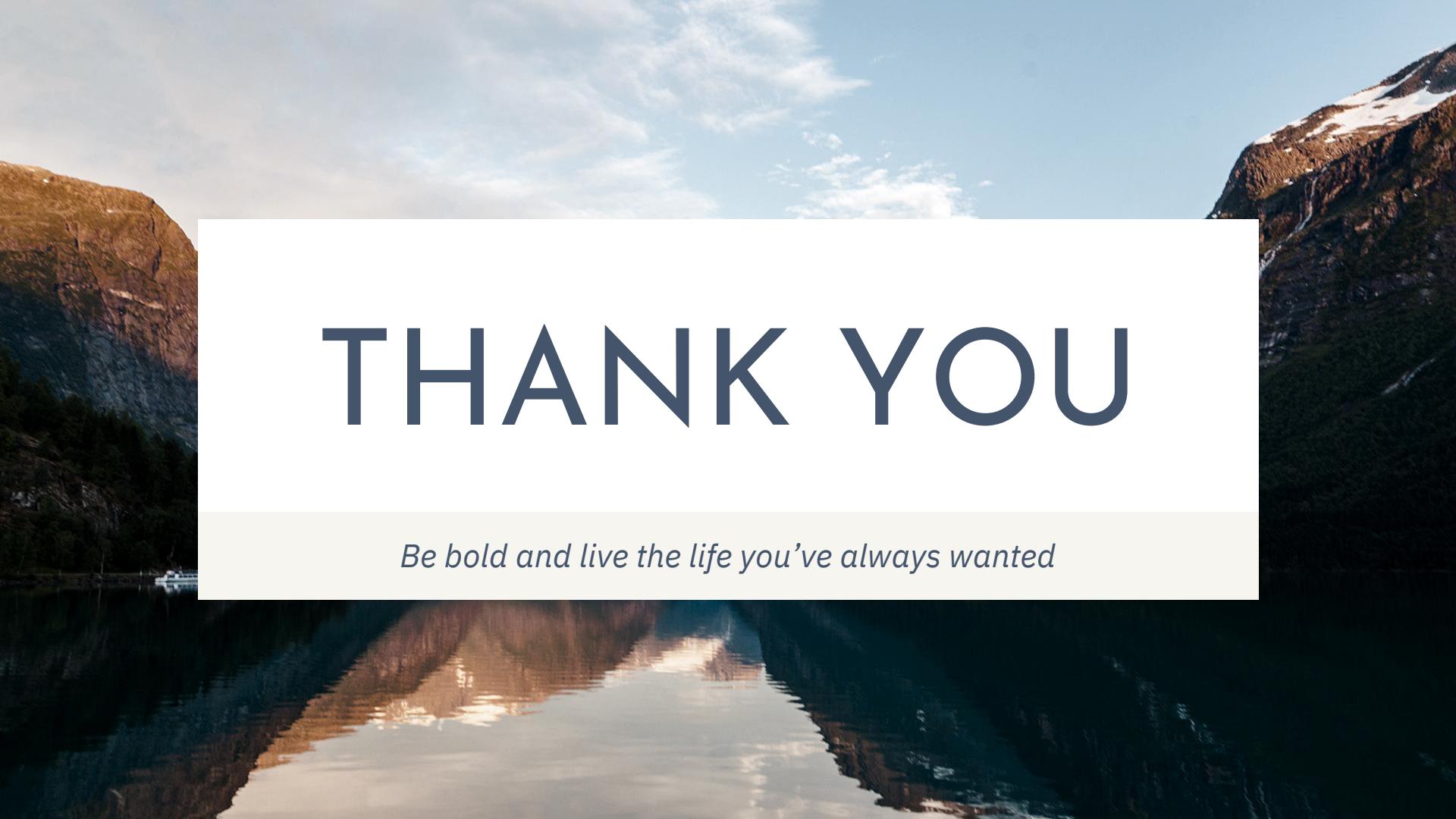
Add swiping function and bigger buttons

LIMITED DATA

Collect more data + user data

RECOMMENDATIONS

Include option to increase the number and rate each of them

The background of the image is a wide-angle photograph of a natural landscape. On the left, a large, rugged mountain peak is partially covered in snow. In the center, a deep blue lake reflects the surrounding mountains and the sky above. A small white boat is visible on the water. The sky is a clear, pale blue with a few wispy clouds.

THANK YOU

Be bold and live the life you've always wanted