



Dissertation - Ionescu Ariana-Georgiana

# *Group Travel Recommendation System*

Optimizing Satisfaction for Every Individual

July 2025



# *Introduction*



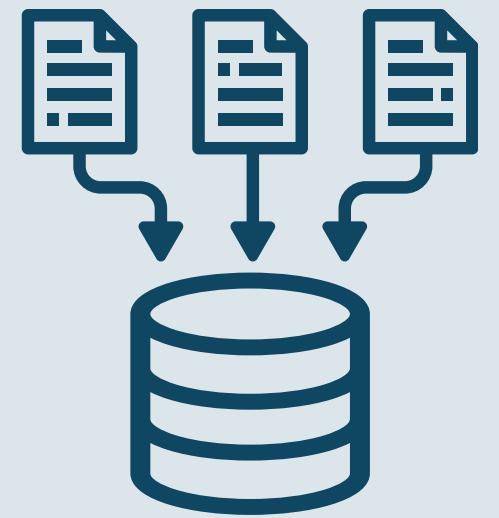
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This dissertation aims to showcase an itinerary-making system that utilizes an interactive interface to gather user preferences, make recommendations for touristic attractions, and arrange them into an optimal itinerary tailored to the user's preferences. The recommendations are made for an individual or a group.

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# Project Structure



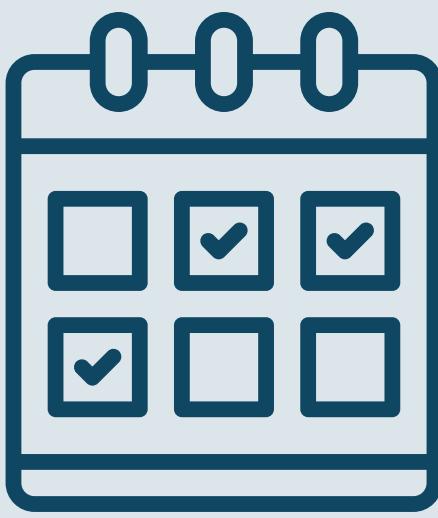
## Assembling the Dataset

- Open Trip Map API
- Google Places API



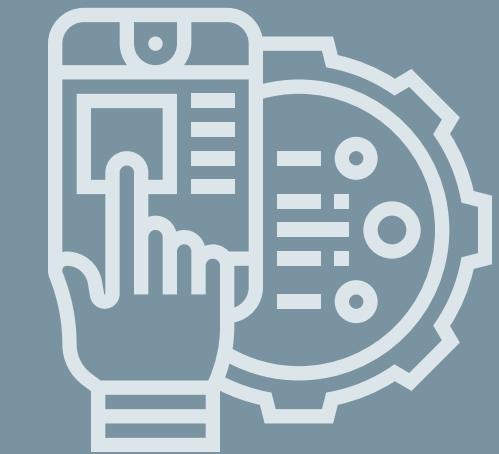
## Recommendations

- RAG System
- Hybrid System



## Creating the Itinerary

- Optimized for distance
- Location schedule and weather



## Interactive Interface

- Collecting Preferences
- Presenting the output

# Making Recommendations

## RAG System:

- Encoded location details, index, retrieval, and score generation
- Understands context better than hybrid system

## Hybrid System:

- RAG Score + Google ratings
- Yields more popular results

## Testing:

- Keeps the preferences
- Has problems when dealing with few locations
- Users prefer the Hybrid model



# *Creating the Itinerary*



## **Is the visit possible?**

- Schedule of the location
- Weather conditions
- Allocated time interval

## **Is the “best next” location?**

- Optimized by distance from the starting point
- Takes into consideration the location’s score

## **Possible improvements:**

- Starting point options
- Reduce the algorithm’s complexity, compilation time
- Comparisons between different algorithms



# *App Demo:*

