INFORMATION PROCESSING AND RETRIEVAL

TRIPADVISOR EUROPEAN RESTAURANT'S INFORMATION

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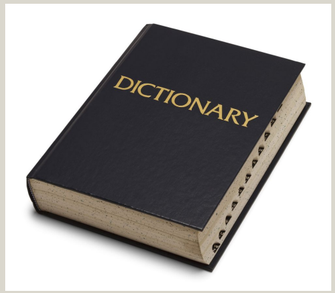
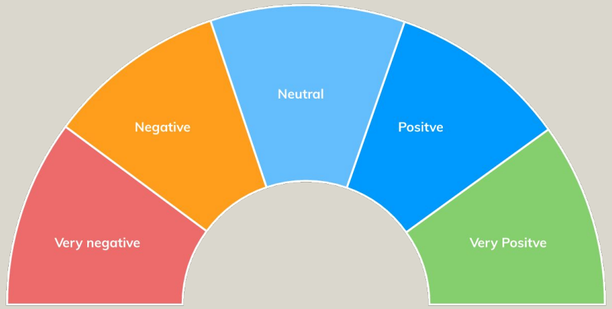
Search System Improvements

Synonym Table





Sentiment Analysis

Solr Improvements

Solr

Dataset

kaggle

New Dataset

Synonym Table

.csv file

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correct, objurgate, redress, make_up, slump, compensate, even_up, even_out, decline, chastise, counterbalance, set, right, rectify, sort_out, adjust, chasten,
stairwell
auntie, aunt, aunty
mincing, prissy, niminy-piminy, victorian, straightlaced, prim, prudish, priggish, square-toed, straitlaced, straight-laced, tight-laced, prim_up, twee, purita
lithe, svelte, slim, slender, lissome, supple, lithesome, sylphlike, lissom, slight, thin
strobile, cone_shape, strobilus, retinal_cone, cone_cell, cone, conoid
deservedly
foretell, call, prognosticate, predict, promise, anticipate, assure, forebode
nosh, snack, collation, bite
lie_in, lie, dwell, comprise, consist
orangeade
renovate, freshen_up, refurbish
overcritical, hypercritical
crenel, escallop, scallop, scollop, crenelle, crenation, cutlet, crenature
threshold, door, doorway, room_access
demand, involve, postulate, require, necessitate, call_for, need, ask, take
arrogate, prehend, sequester, get_hold_of, usurp, capture, clutch, conquer, attach, impound, assume, grab, confiscate, appropriate, take_over, seize
quay
facade, frontage, frontal
consumerism
tall_mallow, cheeseflower, cheese, Malva_sylvestris, high_mallow
let_down, turn_down, depleted, lowly, crushed, lower_berth, downcast, low-pitched, downhearted, low-toned, abject, depressed, depress, grim, lower, down_in_the
slack, loose, unlax, decompress, loosen, unbend, slacken, slow_down, unstrain, slack_up, unwind, loosen_up, make_relaxed, relax
rationalize, apologize, excuse, rationalise, apologise, justify
constantly, invariably, always
trash, cooking_pan, genus_Pan, pan_out, pan_off, Pan, goat_god, tear_apart, pan
seizure, beguile, fascinate, charm, trance, seize, get, capture, conquer, becharm, enamor, enamour, entrance, enchant, gaining_control, captivate, appropriate,
musical_instrument_digital_interface, Midi, MIDI, midi
intragroup, inner, national, internal, interior, intimate, home
daft, nutty, loco, whacky, kooky, loopy, crackers, haywire, fruity, batty, cracked, buggy, barmy, dotty, bonkers, loony, nuts, around_the_bend, balmy, wacky,
ki, qi, khi, chi, ch'i
lager, lager_beer, laager
vinyl_radical, vinyl, vinyl_group
affiliated, connected, affiliate, consort, attached, associate, assort
sublime, kick_upstairs, exalted, high-minded, advance, raise, upgrade, grand, el, rarefied, elevated_railroad, elevated_railway, elevated, raised, high-flown,
aquamarine, greenish_blue, aqua, cobalt_blue, turquoise, peacock_blue
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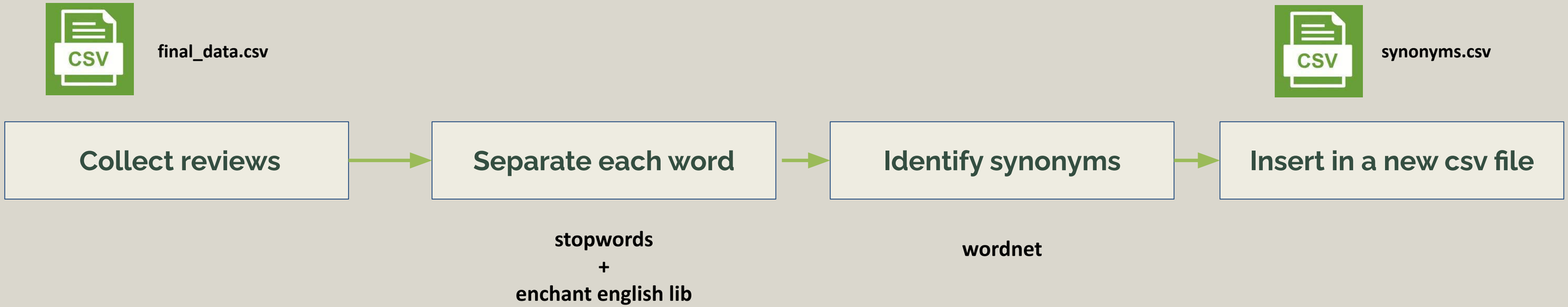
Synonym Table

Libraries: nltk(wordnet and stopwords), enchant
Structures: sets and lists



Sentiment Analysis

Two sentiment analysis were made:

1. Classify Restaurants according to the reviews and the rating
2. Classify the Reviews as good and bad

reviews	restaurant_url	restaurant_id	good_reviews	bad_reviews	count_good_reviews	count_bad_reviews	count_total_reviews	restaurant_sentiment_analysis
[good nandos in heart of london, Not the best ...	https://www.tripadvisor.com/Restaurant_Review-...	d2001508	[good nandos in heart of london, Not the best ...	None	2.0	0.0	2.0	9.0
[Deal or no deal?!, good pizza good service gr...	https://www.tripadvisor.com/Restaurant_Review-...	d11892962	[Deal or no deal?!, good pizza good service gr...	None	2.0	0.0	2.0	7.0
[Open Air cafe, At the lake]	https://www.tripadvisor.com/Restaurant_Review-...	d1136084	None	[Open Air cafe, At the lake]	0.0	2.0	2.0	3.0
[Great Italian Restaurant, Too slow for lunch]	https://www.tripadvisor.com/Restaurant_Review-...	d2463890	[Great Italian Restaurant]	[Too slow for lunch]	1.0	1.0	2.0	6.5

Search Systems

System 1	System 2
Schema described previously with default weights	Schema described previously with weighted weights

Queries

1. Which are the best restaurants in Europe?
2. Where can I find a restaurant according to my diet (Vegetarian)?
3. Which restaurant has the best reviews?
4. Which restaurant has the best “sentiment analysis”?

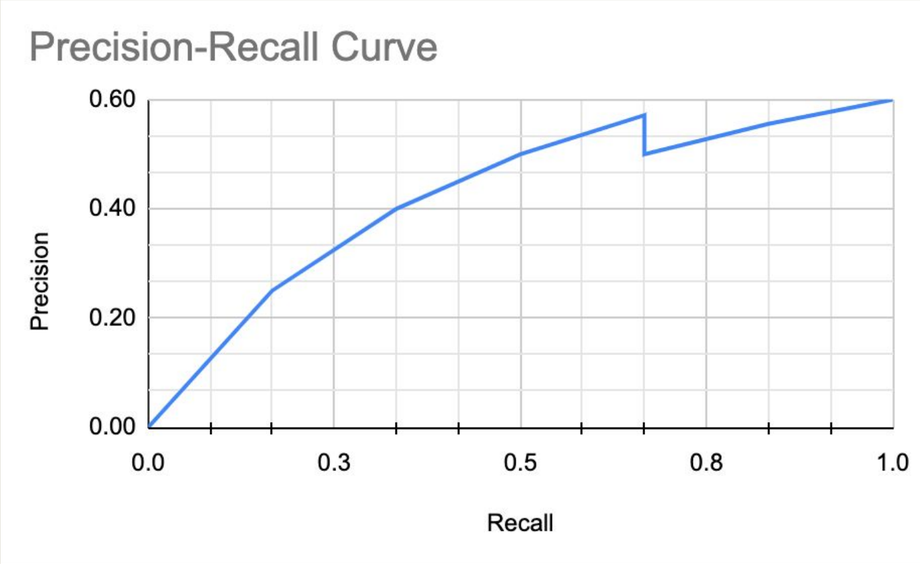
Evaluation - Query 1

Which are the best restaurants in Europe?

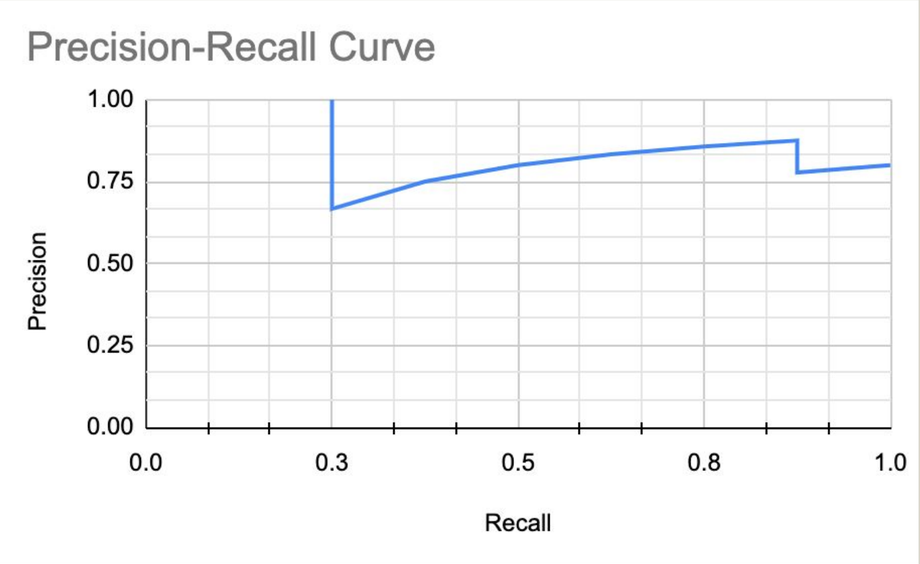
Rank	System 1	System 2
1	0	1
2	0	1
3	0	0
4	1	1
5	1	1
6	1	1
7	1	1
8	0	1
9	1	0
10	1	1

Field	Weight
rating	0.5
good_reviews	2

Evaluation - Query 1



System 1



System 2

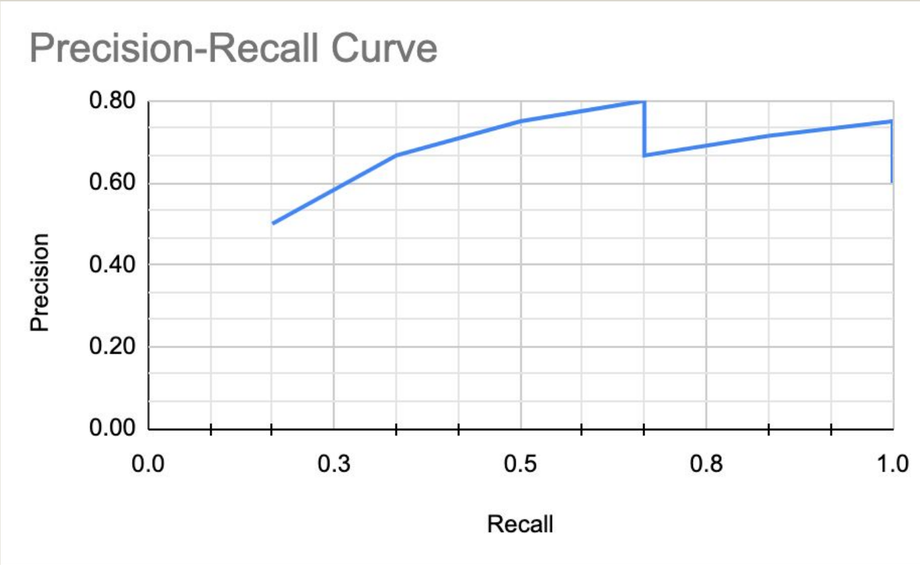
Evaluation - Query 2

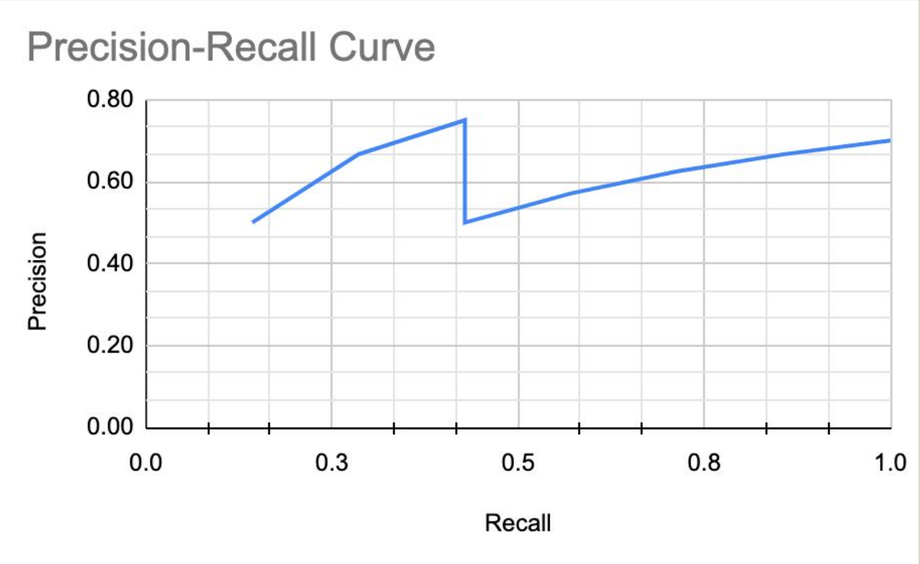
Where can I find a restaurant according to my diet (Vegetarian)?

Rank	System 1	System 2
1	0	0
2	1	1
3	1	1
4	1	1
5	1	0
6	0	0
7	1	1
8	1	1
9	0	1
10	0	1

Field	Weight
rating	2

Evaluation - Query 2





System 1

System 2

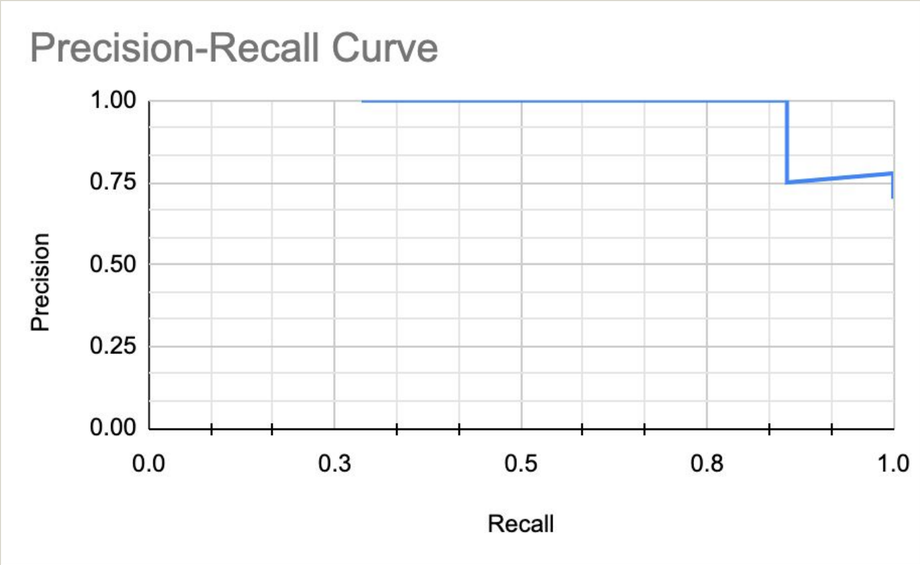
Evaluation - Query 3

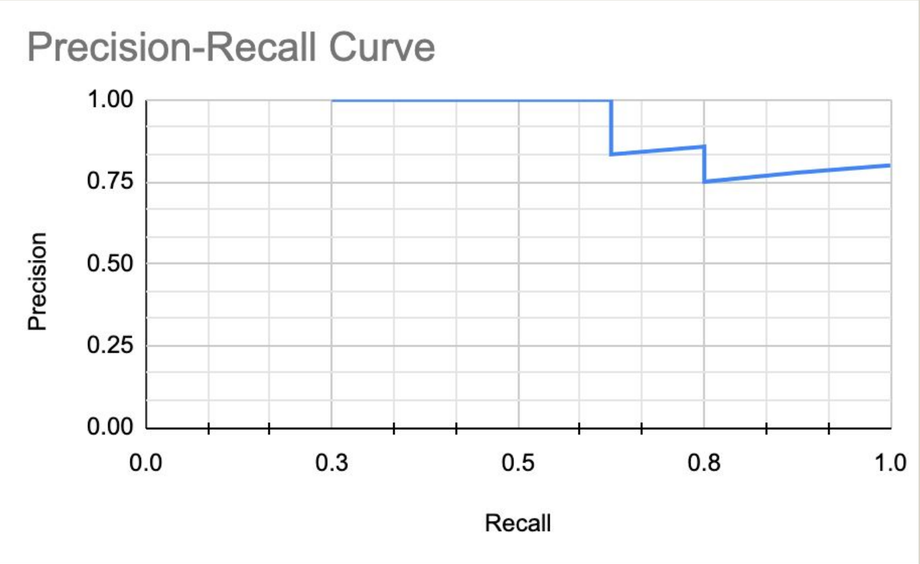
Which restaurant has the best reviews?

Rank	System 1	System 2
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	0
7	0	1
8	0	0
9	1	1
10	0	1

Field	Weight
reviews	2

Evaluation - Query 3





System 1

System 2

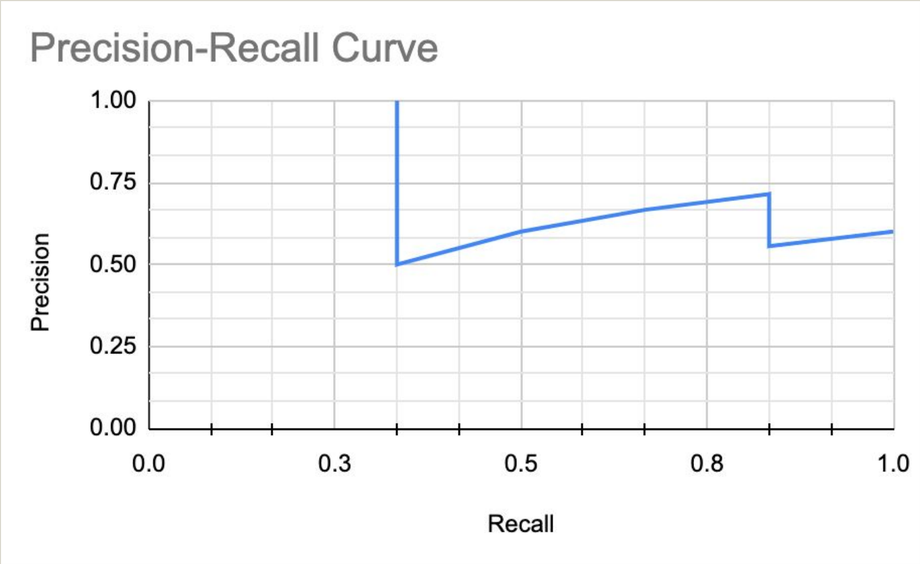
Evaluation - Query 4

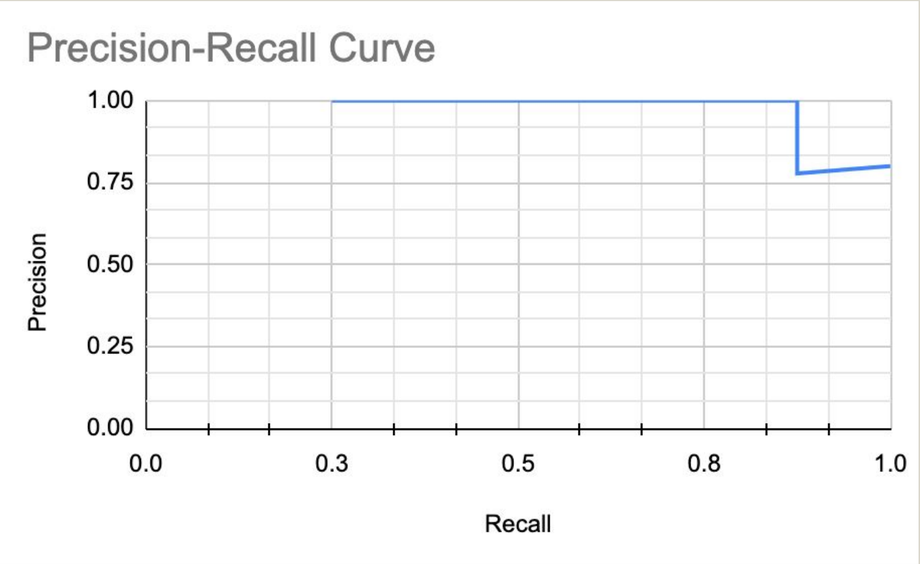
Which restaurant has the best “sentiment analysis”?

Rank	System 1	System 2
1	1	1
2	1	1
3	0	1
4	0	1
5	1	1
6	1	1
7	1	1
8	0	0
9	0	0
10	1	1

Field	Weight
restaurant_sentiment_analysis	3

Evaluation - Query 4





System 1

System 2

Conclusions

Our results improved with the implementation of the Synonim Table and the Sentiment Analysis, since Solr could find more accurate results to our queries.

The randomization of the dataset also helped to get more accurate and diverse results.

Overall, we are proud of this project and the work developed, as well as the knowledge we gained.

Future Work

What's next?

- Implement user friendly interface to search restaurants
- Recommendation according to user preferences
- Refine the synonym list

THANK YOU

FOR LISTENING

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