

University of Jeddah

Computer Science and Artificial Intelligence Department

College of Computer Science and Engineering



ACTIVITY RECOMMENDER EXPERT SYSTEM

Mini Project 1



Supervised by:

Dr. Amatulrahman Alharbi

Student Name	Student ID
Rimas Alshehri	2110240
Asmaa Mahdi	2111900

An Activity recommender expert system

Background:

Sometimes, we think of activities to do and places to visit and nothing pops up to our minds even though there are plenty of it, which we can specify to our own city, mood, activity type, etc, and visit.

(Happy & Enthusiastic)→When we engage in pleasurable activities that make us feel connected to other people and places we feel better about ourselves and our relationships.

(Sad & Stressed)→ Turning to family, friends, and other trusted sources of social support is a common way for people to deal with feelings of sadness. Research has shown that strong social support networks correlate with better psychological and even physical health. For those who lack these avenues of support in their lives, one study found that online friends and connections may be able to play a similar role.

Based on this background information we designed our expert system's facts and rules.

Idea:

This expert system recommends activities to users based on their preferred **city**(Jeddah, Riyadh), **activity type, quantity, gender, mood, and activity state**. Based on the inputs the system receives the outputs are given. The output will be as **links** to the places of activities we recommend for the user.

Variables description:

City:

- Jeddah
- Riyadh

Activity Type:

- Educational
- Entertaining
- Athletic

- Arts
- Self-care
- Food

Quantity:

- Solo
- Group

Mood:

- Happy
- Sad
- Stressed
- Enthusiastic

Gender:

- Female
- Male

Activity State:

- In-door
- Out-door

Approach:

The "Think Rationally" approach, sometimes referred to as the laws of thought approach, is a technique for creating a framework that is capable of making sense-based decisions. This strategy is frequently used in recommendation systems, where the system first trains on a dataset before using the user's answers to certain questions to offer courses or other content that is most pertinent to them. Instead of depending on gut instinct or human bias, the objective is to develop a system that can make rational, data-driven decisions based on the user's input. First, we feed the system with data and train it using that data in our recommendation system. The course recommendations that are then shown to the user when specific inquiries about courses are asked.

Factor table:

City	Activity type	Quantity	Mood	Gender	Activity state	Activity Place
Jeddah	Educational	Solo,Group	Sad, Stressed	Female, Male	In-door	https://www.studytogether.co
Jeddah	Educational	Solo,Group	Happy, Enthusiastic	Female, Male	In-door	https://t.co/NTFWwyzRmn
Jeddah	Educational	Solo,Group	Sad, Stressed	Female, Male	Out-door	https://www.instagram.com/v
Jeddah	Educational	Solo,Group	Happy, Enthusiastic	Female, Male	Out-door	https://www.visitsaudi.com/ar
Jeddah	Entertaining	Solo,Group	Happy, Enthusiastic	Female, Male	In-door	https://www.instagram.com/a
Jeddah	Entertaining	Solo,Group	Sad, Stressed	Female, Male	In-door	https://www.instagram.com/n
Jeddah	Entertaining	Solo,Group	Happy, Enthusiastic	Female, Male	Out-door	https://www.instagram.com/ie
Jeddah	Entertaining	Group	Sad, Stressed	Female, Male	Out-door	https://www.instagram.com/d
Jeddah	Athletic	Solo,Group	Happy, Enthusiastic	Female, Male	In-door	https://www.fitnessime.com.
Jeddah	Athletic	Solo,Group	Happy, Enthusiastic	Female, Male	Out-door	https://b-padel.sa/
Jeddah	Athletic	Solo,Group	Sad, Stressed	Female, Male	In-door	https://www.instagram.com/k
Jeddah	Athletic	Solo,Group	Sad, Stressed	Female, Male	Out-door	https://saudisafari.com/2018/C
Jeddah	Arts	Solo,Group	Happy, Enthusiastic	Female, Male	In-door	https://daratsb.com/
Jeddah	Arts	Solo,Group	Happy, Enthusiastic	Female, Male	Out-door	https://www.visitsaudi.com/ar
Jeddah	Arts	Solo,Group	Sad, Stressed	Female, Male	In-door	https://www.youtube.com/@i
Jeddah	Arts	Solo,Group	Sad, Stressed	Female, Male	Out-door	https://www.visitsaudi.com/er
Jeddah	Self Care	Solo,Group	Happy, Enthusiastic	Female	In/Out-door	https://www.instagram.com/o
Jeddah	Self Care	Solo,Group	Sad, Stressed	Female	In-door	https://www.instagram.com/s
Jeddah	Self Care	Solo,Group	Sad, Stressed	Female,Male	Out-door	https://www.visitsaudi.com/ar
Jeddah	Self Care	Solo,Group	Happy, Enthusiastic	Male	In/Out-door	https://www.instagram.com/e
Jeddah	Self Care	Solo,Group	Sad, Stressed	Male	In/Out-door	https://www.youtube.com/@i
Jeddah	Food	Solo,Group	Happy, Enthusiastic	Female, Male	In-door	https://hungerstation.com/sa-
Jeddah	Food	Solo,Group	Happy, Enthusiastic	Female, Male	Out-door	https://www.movenpick.com/
Jeddah	Food	Solo,Group	Sad, Stressed	Female, Male	In-door	https://www.youtube.com/@i
Jeddah	Food	Solo,Group	Sad, Stressed	Female, Male	Out-door	https://jeddahnight.com/venu

city	activity type	Quantity	Mood	Gender	Activity state	Activity
Riyadh	Educational	Group,Solo	sad,Stressed	male,female	in-Door	https://instagram.com/dearvous
Riyadh	Educational	Group,Solo	happy,Enthusiastic	male,female	in-Door	https://instagram.com/focus_sa
Riyadh	Educational	Group,Solo	happy,Enthusiastic	male,female	out-door	https://instagram.com/strangers
Riyadh	Educational	Group,Solo	sad,Stressed	male,female	out-door	https://instagram.com/capricafe
Riyadh	Entertaining	Group,Solo	happy	male,female	out-door	https://instagram.com/theboulev
Riyadh	Entertaining	Group,Solo	sad,Stressed	female	in-Door	https://www.instagram.com/p/Ch
Riyadh	Entertaining	group,solo	Enthusiastic	male,female	out-door	https://book.visitsaudi.com/sa-e
Riyadh	Entertaining	Group,Solo	sad,Stressed	male	in-Door	https://www.instagram.com/p/Cn
Riyadh	Entertaining	Group,Solo	happy,Enthusiastic	male,female	in-Door	https://www.instagram.com/p/Ck
Riyadh	Entertaining	Group,Solo	sad,Stressed	male,female	out-door	https://www.instagram.com/p/Ck
Riyadh	Athletic	Group,Solo	sad,Stressed	male,female	out-door	https://www.instagram.com/p/Cn
Riyadh	Athletic	Group,Solo	Enthusiastic	male,female	out-door	https://www.instagram.com/p/Cn
Riyadh	athletic	Group,Solo	happy	male,female	out-door	https://www.instagram.com/p/Cf
Riyadh	athletic	Group,Solo	happy,Enthusiastic	female	in-Door	https://www.instagram.com/p/Ci
Riyadh	athletic	Group,Solo	sad,Stressed	female	in-Door	https://instagram.com/exhalevog
Riyadh	athletic	Group,Solo	happy,Enthusiastic	male	in-Door	https://instagram.com/intervalpl
Riyadh	Athletic	Group,Solo	sad,Stressed	male	in-Door	https://instagram.com/oz_yoga_s
Riyadh	Art	Group,Solo	sad,Stressed	male,famale	in-Door	https://instagram.com/focus_sa
Riyadh	Art	Group,Solo	happy,Enthusiastic	male,famale	in-Door	@naila_art_gallery
Riyadh	Art	Group,Solo	happy,Enthusiastic	male,female	out-door	National Museum of Saudi Arabia
Riyadh	Art	Group,Solo	sad,Stressed	male,female	out-door	
Riyadh	Self Care	Group,Solo	happy,Enthusiastic,sad,stressed	male,female	in-Door	Sparadise Home Spa Riyadh (@s
Riyadh	Self Care	Group,Solo	happy,Enthusiastic,sad,stressed	female	out-door	Maison De Belle (@maisondebell
Riyadh	Self Care	Group,Solo	happy,Enthusiastic,sad,stressed	male	out-door	https://www.instagram.com/four
Riyadh	Food	Group,Solo	happy	male,female	out-door,in-door	https://www.mandarinoriental.co
Riyadh	Food	Group,Solo	Enthusiastic	male,female	in-Door	https://instagram.com/mnkyhsek
Riyadh	Food	Group,Solo	sad,stressed	male,female	in-Door,out-door	https://instagram.com/okto.sa?ig
Riyadh	Food	Group,Solo	enthusiastic	male,female	out-door	https://instagram.com/legreniera

Our recommendation system is based on asking the user questions which are:

- What city do you want(Jeddah or Riyadh)?
- What type of activity are you looking for?
- Solo or group activity?
- What is your mood or feeling?
- What is your gender?
- Would you like it to be In or Out door?

The output of the system will be according to the queries written by the user, outputs such as:

- Lists customized information to user with the help of rules in the system.
- Replies to queries about the facts with true or false.

Queries to run on the code and their explanation:

1- suggest(X).

In this query a user will be asked the following questions with respect to user's answers:

What city do you want ? jeddah

What type of activity are you looking for ? athletic

Solo or group activity ? solo

What is your mood ? happy

What is your gender ? female

In or Out door ? indoor

And then the system will recommend a link suggesting the activity.

2- activity(X,riyadh,entertaining,solo,sad,male,outdoor).

In this query we want the system to give us the link of the specified characteristics which are: city of riyadh, and entertaining activity type, solo, when the mood is sad, for a male, and outdoor activity.

3- activity('https://instagram.com/strangers.coffee?igshid=YmMyMTA2M2Y=' ,X,_,_,_,_,_).

This query gives us the city of the specified link, regardless of (mood,gender,activity type,in Or out door, solo Or group).

4- city(jeddah).

This query checks if jeddah was a city we defined in our system or not.

5- gender(X).

This query lists the gender we have in the system(female/male).

6- activityUrl('https://www.studytogether.com/', educational, indoor, sad, female).

This specified query checks if this rule was defined in the system or not.

7- activity('https://www.fitnessime.com.sa/en-us', C,A,O,M,G,D).

This query lists all the information about the specified activity place to the user(the city, mood, gender, activity type, in or out door, solo or group activity).

8- activity(X,jeddah,food,_,_,_,outdoor).

This query gives a place for a food activity in jeddah that is outdoor.

9- mood(X).

This query lists the moods we defined in our system(Happy-Sad-Enthusiastic-Stressed).

10- suggest(X).

In this query a user will be asked the following questions with respect to user's answers:

What city do you want ? riadh

What type of activity are you looking for ? educational

Solo or group activity ? solo

What is your mood ? stressed

What is your gender ? male

In or Out door ? outdoor

And then the system will recommend a link suggesting the activity.

Run screen of queries listed above that display facts and rules we defined in our system:

suggest(X).

What city do you want ?

jeddah

What type of activity are you looking for ?

athletic

Solo or group activity ?

solo

What is your mood ?

happy

What is your gender ?

female

In or Out door ?

indoor

X = 'https://www.fitnessime.com.sa/en-us'

activity(X,riyadh,entertaining,solo,sad,male,outdoor).

X = 'https://www.instagram.com/p/Ck0sqdhovca/?igshid=NDk5N2NlZjQ='

activity('https://instagram.com/strangers.coffee?igshid=YmMyMTA2M2Y=' ,X,_,_,_,_).

X = riyadh

city(jeddah).

true 1

gender(X).

X = female

X = male

activityUrl('https://www.studytogether.com/' , educational, indoor, sad, female).

true 1

activity('https://www.fitnessime.com.sa/en-us' , C,A,O,M,G,D).

A = athletic,
C = jeddah,
D = indoor,
G = female,
M = happy,
O = solo

activity(X,jeddah,food,_,_,_,outdoor).

X =
'https://www.movenpick.com/ar/middle-east/saudi-arabia/jeddah/resort-jeddah-al-nawras/restaurants/al-wadaa-restau

mood(X).

X = sad

X = stressed

X = happy

X = enthusiastic

suggest(X).

What city do you want ?

riyadh

What type of activity are you looking for ?

educational

Solo or group activity ?

solo

What is your mood ?

stressed

What is your gender ?

male

In or Out door ?

outdoor

X = 'https://instagram.com/capricafe_sa?igshid=YmMyMTA2M2Y='

Links of resources:

[1] <https://www.visitsaudi.com/en>

[2] <https://www.lifehack.org/articles/money/30-absolutely-free-activities-that-can-make-you-happy-today.html>

[3]

https://riyadhseason.sa/index.html?utm_source=Google_search&utm_campaign=riyadh_season&utm_medium=cpc&utm_content=brand_phrase_ar&gclid=CjwKCAiAwomeBhBWEiwAM43YIGo3Q5hx-AqlUgiUQ18oMzknROIC_NmBC-mzhPJwSAGZeBj3Ib1J8hoCdUkQAvD_BwE

[4] <https://halayalla.com/sa-en>

[5] https://www.healthywa.wa.gov.au/Articles/F_I/Fun-activities-to-help-improve-your-mood