



# **TASK 2**

# **INSTAGRAM USER**

# **ANALYTICS**

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# SOFTWARES USED



in the following task, the data sets used were from Trainity for the analysis of the given case study



It is an Open-source database system for storing, managing, and retrieving data using SQL. Ideal for web apps, with security, scalability, and high performance.



# ANALYSIS BREAKDOWN

## PART A : MARKETING

- 01** REWARDING MOST LOYAL USERS
- 02** REMIND INACTIVE USERS TO START POSTING
- 03** DECLARING CONTEST WINNER
- 04** HASHTAG RESEARCHING
- 05** LAUNCH AD CAMPAIGN

# ANALYSIS BREAKDOWN

## PART B : INVESTOR METRICS

01

USER ENGAGEMENT

02

BOTS AND FAKE ACCOUNTS

# MARKETING

Rewarding the most Loyal users

People who have been using the platform for the longest time.

# MARKETING

REWARDING MOST LOYAL USERS

To find the top 5 trendiest hashtags we need to use tag\_name from "tag" table and use the count() function to find the number of tags that are used. Then join the tables using photos\_tags.photo\_id and tags.id and then we can use GROUP BY on tags.tags\_name and then we can sort in the descending order and limit by 5

## QUERY

```
USE ig_clone;
SELECT tags.tag_name, count(*) AS total_number_of_times_tag_used_individually
FROM tags
JOIN photo_tags
ON tags.id = photo_tags.tag_id
GROUP BY tags.tag_name
ORDER BY total_number_of_times_tag_used_individually DESC
LIMIT 5;
```

# RESULT

- By using the query on the previous slide we were able to fetch the top 5 best hashtags for the best engagement

	username	created_at
▶	Darby_Herzog	2016-05-06 00:14:21
	Emilio_Bernier52	2016-05-06 13:04:30
	Elenor88	2016-05-08 01:30:41
	Nicole71	2016-05-09 17:30:22
	Jordyn.Jacobson2	2016-05-14 07:56:26

**TOP 5**



# M A R K E T I N G

Remind Inactive Users to Start Posting

By sending them promotional emails to post their 1st photo.

# MARKETING

REMIND INACTIVE USERS TO START  
POSTING

To find the inactive members we will use the usernames for the "users" table and then join the "photos" table to it using the user\_id as it is the same for the tables, then we can check for the null values indicating that they have not posted yet

## QUERY

```
USE ig_clone;  
SELECT username, users.id AS user_id  
FROM users  
LEFT JOIN photos  
ON users.id = photos.user_id  
WHERE photos.id IS NULL  
ORDER BY users.id;
```

# RESULT

- By using the query on the previous slide we were able to fetch the inactive members on Instagram who have not posted there first photo. We can proceed with reminders for them stating to post their first photo

username	user_id
Aniya_Hackett	5
Kassandra_Homenick	7
Jadyn81	14
Rocio33	21
Maxwell.Halvorson	24
Tierra.Trantow	25
Pearl7	34
Ollie_Ledner37	36
Mckenna17	41
David.Osinski47	45
Morgan.Kassulke	49
Linnea59	53
Duane60	54
Julien_Schmidt	57
Mike.Auer39	66
Franco_Keebler64	68
Nia_Haag	71
Hulda.Macejkovic	74
Leslie67	75
Janelle.Nikolaus81	76
Darby_Herzog	80
Esther.Zulauf61	81
Bartholome.Bernhard	83
Jessyca_West	89
Esmeralda.Mraz57	90
Bethany20	91

INACTIVE  
MEMBERS

# M A R K E T I N G

## Declaring Contest Winner

The team started a contest and the user who gets the most likes on a single photo will win the contest now they wish to declare the winner.

# MARKETING

DECLARING CONTEST WINNER

To find the winner with the most likes on a picture we can use username from "users", id, and image\_url from "photos", and then make a column showing total using the count() function. By arranging the table in descending order according to the total we'll find out the winner

## QUERY

```
SELECT users.id AS user_id, users.username, photos.id AS photo_id,  
photos.image_url, COUNT(*) AS total  
FROM photos  
INNER JOIN likes  
ON likes.photo_id = photos.id  
INNER JOIN users  
ON photos.user_id = users.id  
GROUP BY photos.id  
ORDER BY total DESC  
LIMIT 1;
```

# RESULT

- By using the query on the previous slide we were able to fetch the winner of the contest.

**Zack\_Kemmer93** won the contest with **48** likes on his photo with an id of **145**

**WINNER**

<a href="#">user_id</a>	<a href="#">username</a>	<a href="#">photo_id</a>	<a href="#">image_url</a>	<a href="#">total</a>
52	<a href="#">Zack_Kemmer93</a>	145	<a href="https://jarret.name">https://jarret.name</a>	48

# M A R K E T I N G

## Hashtag Researching

A partner brand wants to know, which hashtags to use in the post to reach the most people on the platform.

# MARKETING

## HASHTAG RESEARCHING

To find the winner with the most likes on a picture we can use username from "users", id, and image\_url from "photos", and then make a column showing total using the count() function. By arranging the table in descending order according to the total we'll find out the winner

## QUERY

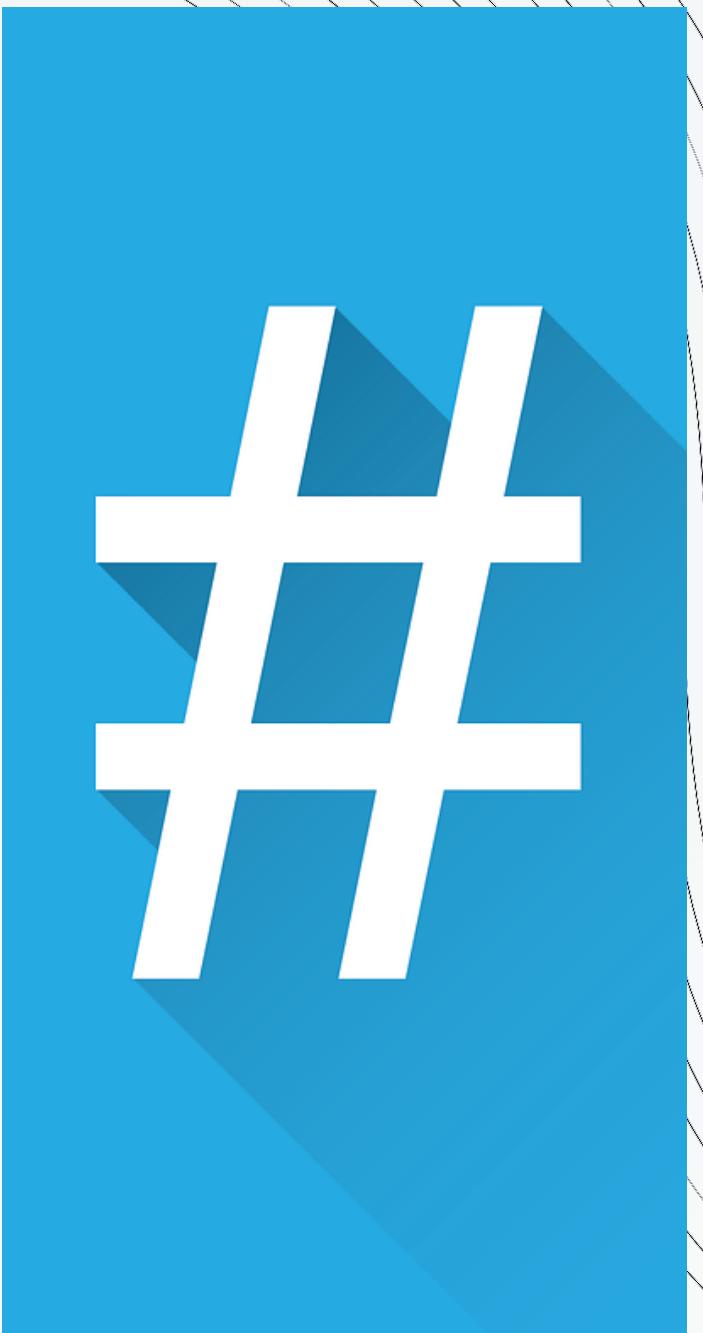
```
SELECT users.id AS user_id, users.username, photos.id AS photo_id,  
photos.image_url, COUNT(*) AS total  
FROM photos  
INNER JOIN likes  
ON likes.photo_id = photos.id  
INNER JOIN users  
ON photos.user_id = users.id  
GROUP BY photos.id  
ORDER BY total DESC  
LIMIT 1;
```

# RESULT

- By using the query on the previous slide we were able to fetch the top 5 best hashtags for the best engagement

	username	created_at
▶	Darby_Herzog	2016-05-06 00:14:21
	Emilio_Bernier52	2016-05-06 13:04:30
	Elenor88	2016-05-08 01:30:41
	Nicole71	2016-05-09 17:30:22
	Jordyn.Jacobson2	2016-05-14 07:56:26

**TOP 5 BEST HASHTAGS**



# M A R K E T I N G

## Launch AD Campaign

The team wants to know, which day would be the best day to launch ADs.

# MARKETING

## LAUNCH AD CAMPAIGN

To find the days on which we have maximum registrations we need to make a column from the "users" table using the created\_at column to find the days of registration and then get a count of the users per day which can be found by grouping them according to the new column which we have created

## QUERY

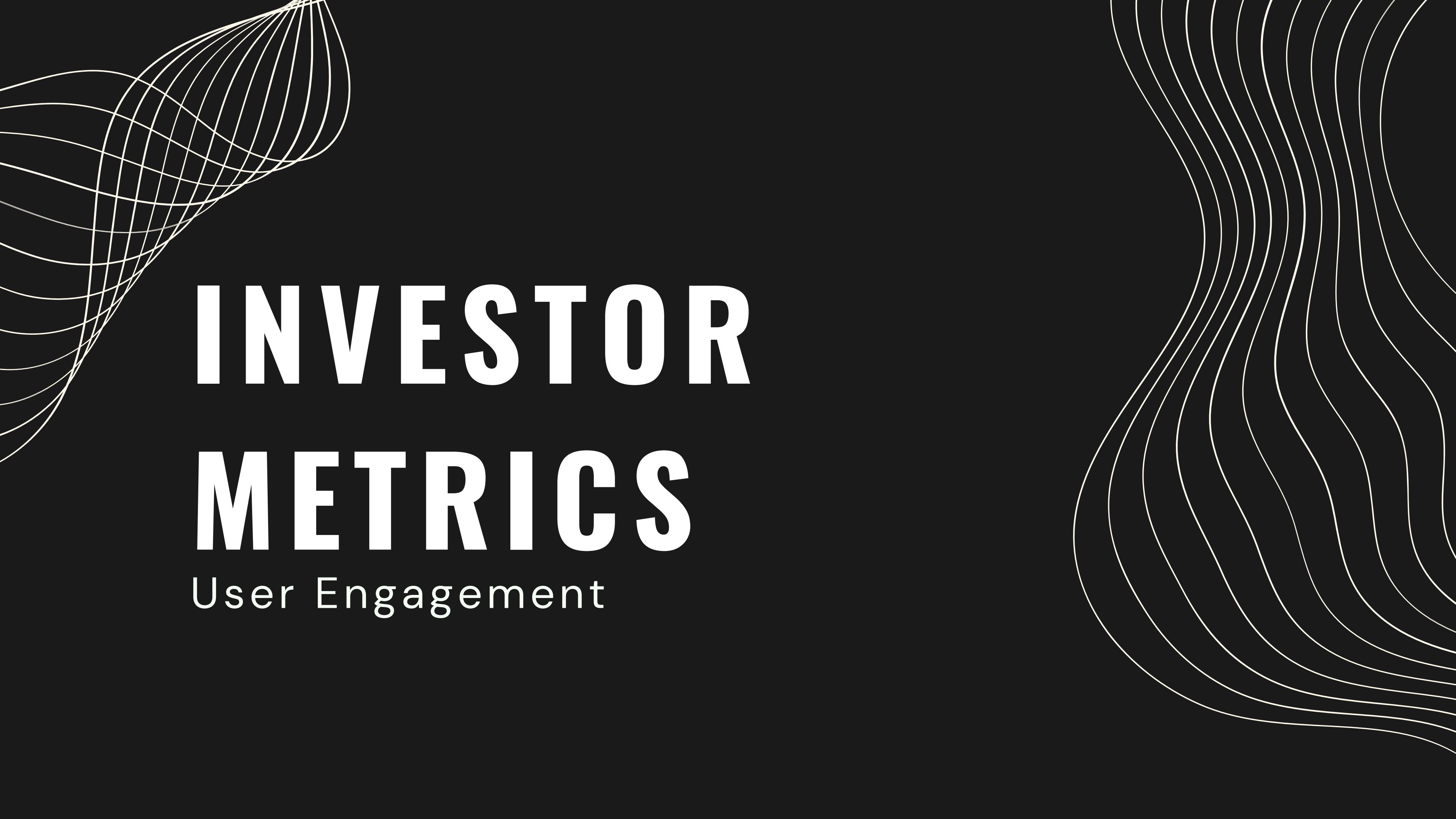
```
SELECT dayname(created_at) AS day_of_week,  
count(*) AS total_number_of_users_registered  
FROM users  
GROUP BY day_of_week  
ORDER BY total_number_of_users_registered DESC;
```

# RESULT

- By using the query on the previous slide we were able to understand when we have the maximum registrations for the best use of Advertisements.

day_of_week	total_number_of_users_registered
Thursday	16
Sunday	16
Friday	15
Tuesday	14
Monday	14
Wednesday	13
Saturday	12

MOST USERS JOINED ON  
THURSDAY AND SUNDAY



# **INVESTOR METRICS**

User Engagement

# INVESTOR METRICS

## USER ENGAGEMENT

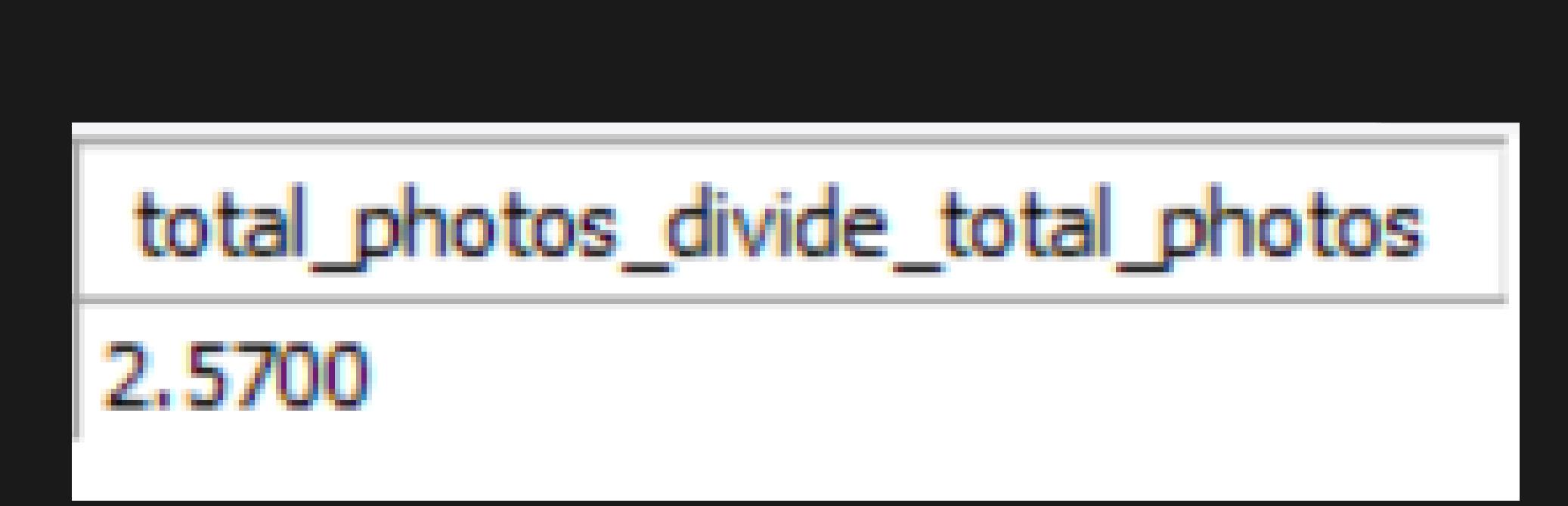
To find whether the users are active or not one parameter could be to see how many times an average user posts on instragram

## QUERY

```
SELECT  
  (SELECT count(*) FROM photos)/(SELECT count(*) FROM users)  
AS total_photos_divide_total_photos;
```

# RESULT

- By using the query on the previous slide we were able to understand the rate of pictures posted on Instagram by users



```
total_photos_divide_total_photos
2.5700
```

THERE ARE 2.57 PHOTOS PER USER ON  
INSTAGRAM

# INVESTOR METRICS

## USER ENGAGEMENT

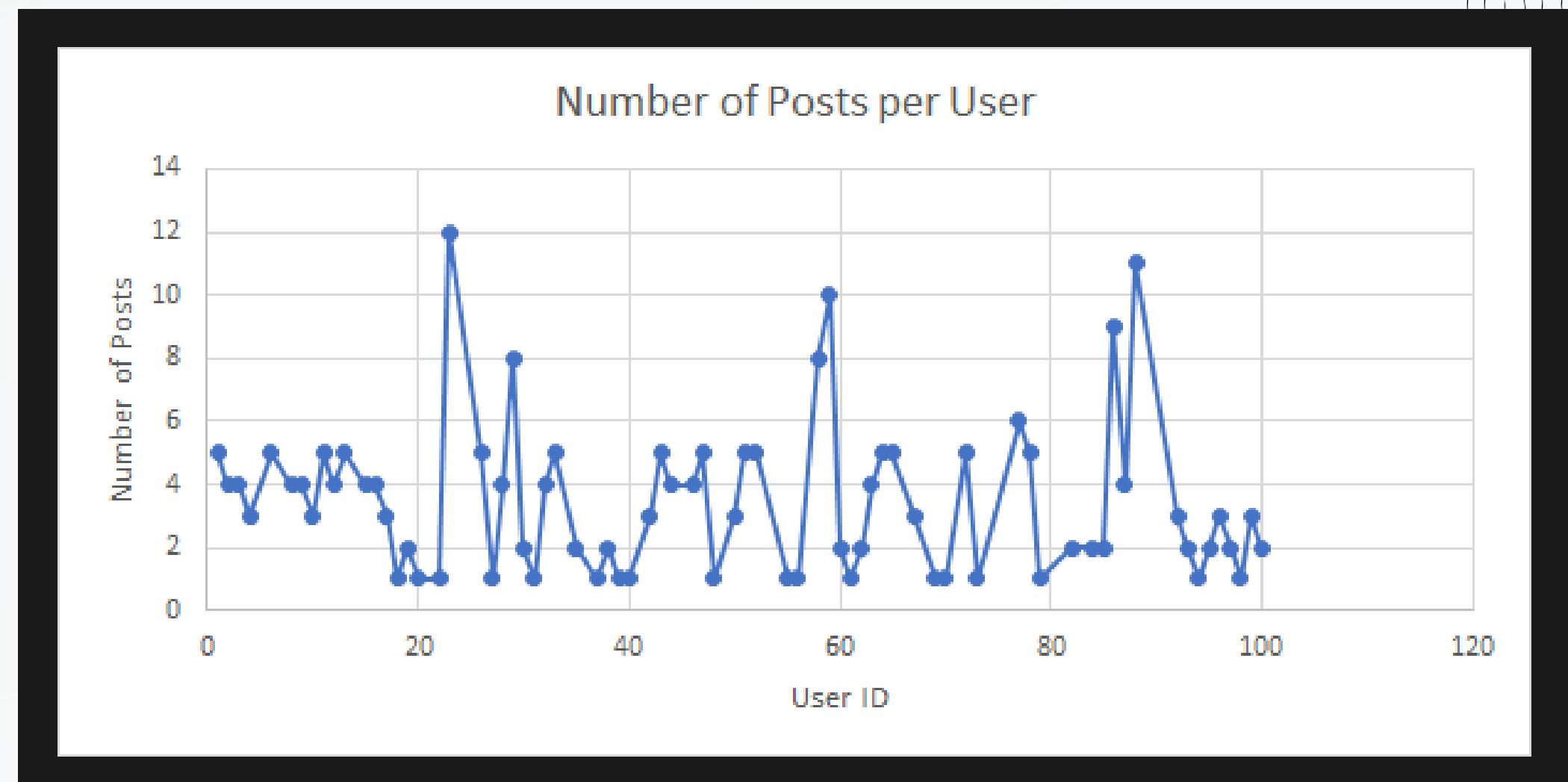
Another parameter to judge could be the number of photos which are posted per user

### QUERY

```
SELECT  
  (SELECT count(*) FROM photos)/(SELECT count(*) FROM users)  
AS total_photos_divide_total_photos;
```

# RESULT

- By using the query on the previous slide we were able to understand the amount of photos posted per user ID





# **INVESTOR METRICS**

Bots and Fake accounts

# INVESTOR METRICS

## USER ENGAGEMENT

The major role of a fake account or a bot is to like pictures. We can use this as a parameter to identify bots and fake accounts as we can select users who have liked all the pictures on instagram

## QUERY

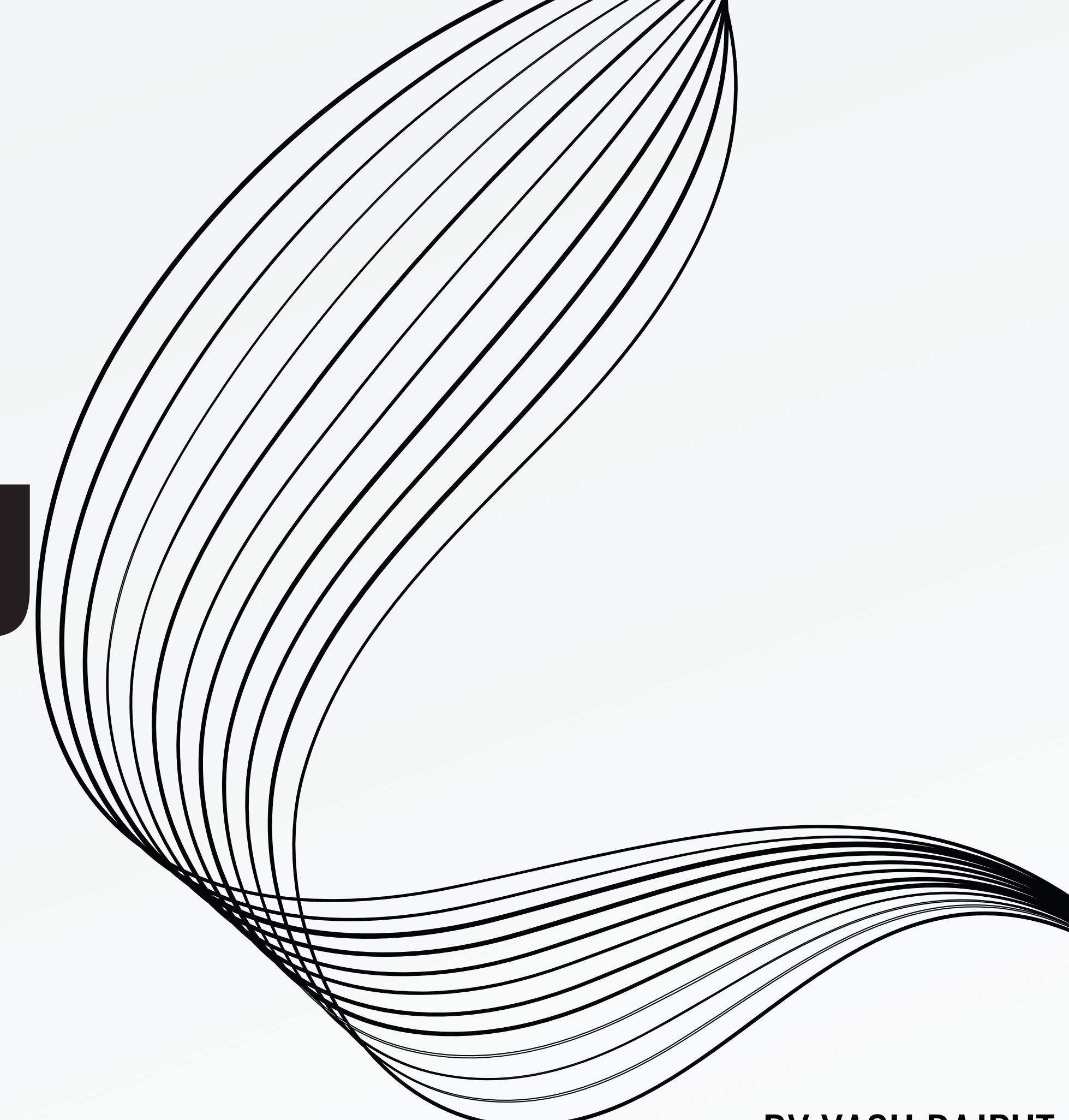
```
SELECT user_id, username, count(*) AS total_likes_per_user  
FROM users  
INNER JOIN likes  
ON users.id = likes.user_id  
GROUP BY likes.user_id  
HAVING total_likes_per_user = (SELECT count(*) FROM photos);
```

# RESULT

- By using the query on the previous slide we were able to find all the bots and fake accounts on which we can take necessary action

user_id	username	total_likes_per_user
5	Aniya_Hackett	257
14	Jadyn81	257
21	Rocio33	257
24	Maxwell.Halvorson	257
36	Ollie_Ledner37	257
41	Mckenna17	257
54	Duane60	257
57	Julien_Schmidt	257
66	Mike.Auer39	257
71	Nia_Haag	257
75	Leslie67	257
76	Janelle.Nikolaus81	257
91	Bethany20	257

# THANK YOU



BY YASH RAJPUT