

# Trainity Project 2 : Instagram User Analytics

## ➤ Project Description :

- According to the initial project report, I was tasked with gathering information and giving the Instagram product team insights based on the questions they had asked. In order to help Instagram implement the right marketing campaigns, we must work with the data from the database that has been provided and gather insightful information. The inquiries for which they need to gain understanding are:

### A) **Marketing Analysis:** The marketing team needs your assistance with the following in order to start various campaigns.

**Loyal User Reward :** Those who have been using the platform for the longest are the ones that the marketing team wants to reward the most.

Your Task : From the given database, find the five oldest Instagram users.

**Inactive User Engagement :** Encourage inactive users to resume posting by reminding them in an email to upload their first image.

Your Task : is to locate Instagram users who have never uploaded a single picture.

**Contest Winner Declaration :** The team has organized a contest where the user with the most likes on a single photo wins.

Your Task : is to determine the contest winner and give the team their information.

**Hashtag Research :** A partner brand wants to know the most popular hashtags to use in their posts to reach the most people.

Your Task : Determine and recommend the top five hashtags that users on the platform most frequently use.

**Ad Campaign Launch :** The team wants to determine which day of the week works best for ad launches.

Your Task : Find out which day of the week the majority of Instagram users sign up. Give advice on when to plan an advertising campaign.

### B) **Investor Metrics:** Our investors are interested in knowing whether Instagram is growing in popularity and staying relevant, unlike Facebook. They want to evaluate the app based on the following criteria.

**User Engagement :** Investors are curious in if consumers are still using Instagram and posting, or whether they are using it less frequently.

**Your Task :** Determine how many posts a person on Instagram typically makes. Additionally, give the ratio of the total number of Instagram photographs to the total number of users.

**Bots & Fake Accounts :** Investors want to know if the platform is overcrowded with false and phony accounts.

**Your Task :** is to identify users (possibly bots) that have liked every single photo on the site, which is not normally achievable for a normal user.

## ➤ APPROACH

In order to finish the project and fulfill the necessary tasks, I used MySQL Command line client to conduct SQL queries. I fed the data into MySQL and ran the relevant queries to obtain the necessary insights, following the directions to build the database and the associated tables.

## ➤ The following technologies were used on this project:

- MySQL Workbench 8.0 CE (Command Line Client): This application was used to effectively manage MySQL databases, run SQL queries, and perform database administration duties.
- The platform for recording project details, such as project reports, directions, conclusions, and any other pertinent information in an orderly and presentable fashion, was Microsoft Word (Office 365).

## ➤ INSIGHTS:

Since my bachelor's degree program only required me to work with basic ideas, I had some prior limited hands-on experience with SQL. Through this Instagram user analytics project, I was able to learn more about SQL, how to create sophisticated queries, and how to extract useful business insights from the data that is available to me. It made it possible for me to focus on the difficulties at hand and ask the pertinent questions.

## ➤ RESULTS:

These are the query expressions that I ran and the accompanying outcomes.

### A. Marketing Analysis

**Loyal User Reward :** Those who have been using the platform for the longest are the ones that the marketing team wants to reward the most.

**Your Task :** From the given database, find the five oldest Instagram users.

## TRAINITY PROJECT 2 : INSTAGRAM USER ANALYTICS BY HARSHI SINGHANIA

The screenshot shows the MySQL Workbench interface. The SQL Editor contains the following queries:

```
1 show databases;
2 use ig_clone;
3 select * from users;
4 #Rewarding Most Loyal Users: People who have been using the platform for the longest time.
5 #Task 1 : Find the 5 oldest users of the Instagram from the database provided
6 select * from users order by created_at asc limit 5;
```

The Result Grid shows the output of the last query:

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

The Output tab shows the execution log:

#	Time	Action	Message	Duration / Fetch
3	12:38:48	use ig_clone	0 row(s) affected	0.000 sec
4	12:39:23	show databases	5 row(s) returned	0.000 sec / 0.000 sec
5	12:39:23	use ig_clone	0 row(s) affected	0.000 sec
6	12:39:23	select * from users LIMIT 0, 1000	100 row(s) returned	0.047 sec / 0.000 sec
7	12:44:33	select * from users order by created_at asc limit 5	5 row(s) returned	0.000 sec / 0.000 sec

**Inactive User Engagement :** Encourage inactive users to resume posting by reminding them in an email to upload their first image.

Your Task : is to locate Instagram users who have never uploaded a single picture.

The screenshot shows the MySQL Workbench interface. The SQL Editor contains the following queries:

```
8 #Remind Inactive Users to Start Posting: By sending them promotional emails to post their 1st photo.
9 #Task 2 : Find the users who have never posted a single photo on Instagram
10 SELECT users.id, username
11 FROM users
12 LEFT JOIN photos ON users.id = photos.user_id
13 WHERE photos.id IS NULL
14 ORDER BY username ASC;
```

The Result Grid shows the output of the last query:

id	username
5	Aniya_Hackett
83	Bartholome.Bernhard
91	Bethany20
80	Darby_Herzog
45	David.Osinski47
54	Duane50
90	Esmeralda.Mraz57
81	Esther.Zulauf61

The Output tab shows the execution log:

#	Time	Action	Message	Duration / Fetch
4	12:39:23	show databases	5 row(s) returned	0.000 sec / 0.000 sec
5	12:39:23	use ig_clone	0 row(s) affected	0.000 sec
6	12:39:23	select * from users LIMIT 0, 1000	100 row(s) returned	0.047 sec / 0.000 sec
7	12:44:33	select * from users order by created_at asc limit 5	5 row(s) returned	0.000 sec / 0.000 sec
8	12:50:16	SELECT users.id, username FROM users LEFT JOIN photos ON users.id = photos...	26 row(s) returned	0.015 sec / 0.000 sec

**Contest Winner Declaration :** The team has organized a contest where the user with the most likes on a single photo wins.

Your Task : is to determine the contest winner and give the team their information.

The screenshot shows the MySQL Workbench interface. The SQL Editor contains the following query:

```

16 #Declaring Contest Winner: The team started a contest and the user who gets the most likes on a singl
17 # Task_3 : Identify the winner of the contest and provide their details to the team
18 • select users.id,users.username ,photos.image_url,count(*) as 'Total Likes' from likes
19 inner join photos on photos.id = likes.photo_id
20 inner join users on users.id = likes.photo_id
21 group by photos.id
22 order by 'Total Likes' desc limit 1;
    
```

The Result Grid shows the following data:

id	username	image_url	Total Likes
30	Kaley9	http://kenny.com	41

The Output tab shows the action output:

#	Time	Action	Message	Duration / Fetch
1	12:56:10	select users.id,users.username ,photos.image_url,count(*) as 'Total Likes' from likes i...	1 row(s) returned	0.016 sec / 0.000 sec

**Hashtag Research :** A partner brand wants to know the most popular hashtags to use in their posts to reach the most people.

Your Task : Determine and recommend the top five hashtags that users on the platform most frequently use.

The screenshot shows the MySQL Workbench interface. The SQL Editor contains the following query:

```

24 #Hashtag Researching: A partner brand wants to know, which hashtags to use in the post to reach the
25 #Task 4 : Identify and suggest the top 5 most commonly used hashtags on the platform
26 • select tag_name , count(*) as 'Total occurrences' from tags
27 inner join photo_tags on tags.id = photo_tags.tag_id
28 group by tags.id
29 order by 'Total occurrences' desc limit 5;
30
    
```

The Result Grid shows the following data:

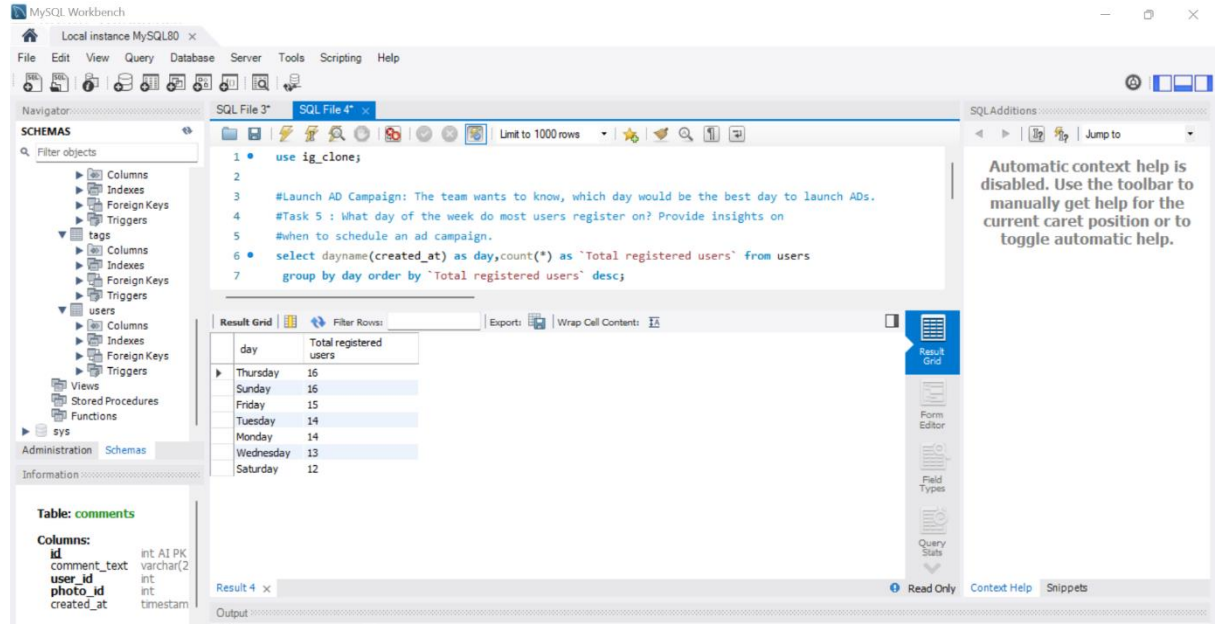
id	username	image_url	Total Likes
30	Kaley9	http://kenny.com	41

The Output tab shows the action output:

#	Time	Action	Message	Duration / Fetch
1	13:06:38	select users.id,users.username ,photos.image_url,count(*) as 'Total Likes' from likes i...	1 row(s) returned	0.016 sec / 0.000 sec

**Ad Campaign Launch :** The team wants to determine which day of the week works best for ad launches.

**Your Task :** Find out which day of the week the majority of Instagram users sign up. Give advice on when to plan an advertising campaign.



The screenshot shows the MySQL Workbench interface. The SQL Editor contains the following query:

```
1 use ig_clone;
2
3 #Launch AD Campaign: The team wants to know, which day would be the best day to launch ADs.
4 #Task 5 : What day of the week do most users register on? Provide insights on
5 #when to schedule an ad campaign.
6 select dayname(created_at) as day, count(*) as 'Total registered users' from users
7 group by day order by 'Total registered users' desc;
```

The Results window displays the following data:

day	Total registered users
Thursday	16
Sunday	16
Friday	15
Tuesday	14
Monday	14
Wednesday	13
Saturday	12

The left sidebar shows the Schemas pane with a tree view of the database structure. The bottom left pane shows the structure of the 'comments' table:

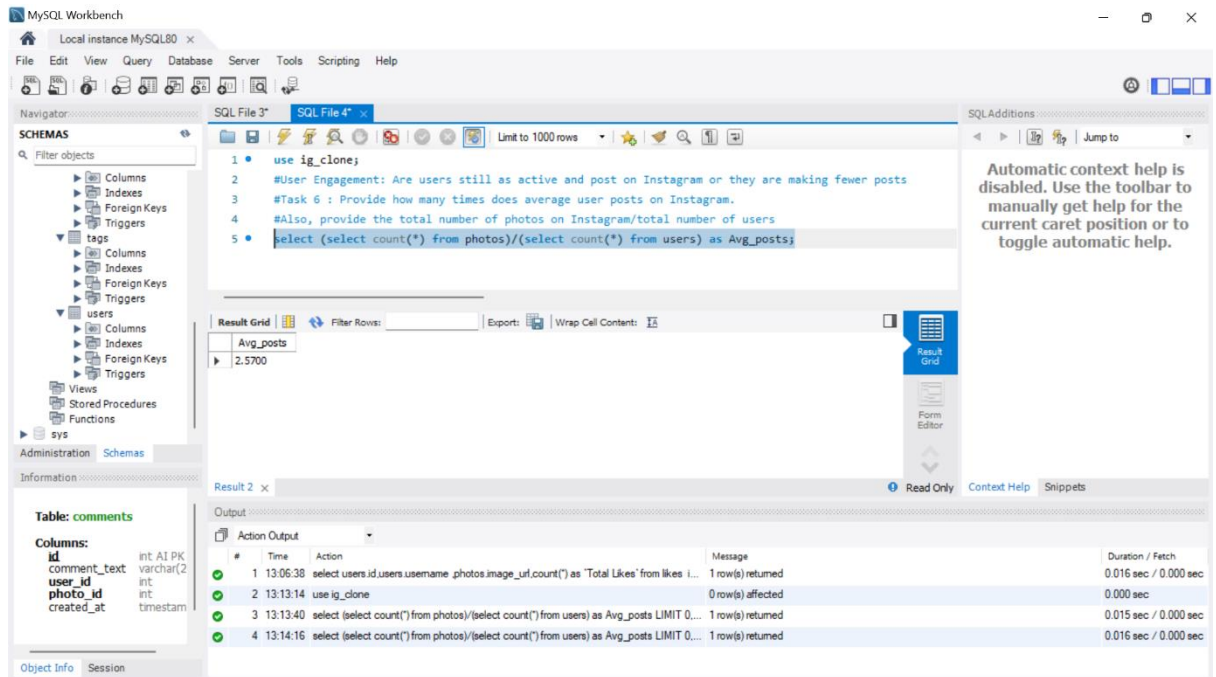
```
Table: comments
Columns:
id          int AI PK
comment_text varchar(2)
user_id     int
photo_id   int
created_at  timestamp
```

## B. Investor Metrics:

**User Engagement :** Investors are curious in if consumers are still using Instagram and posting, or whether they are using it less frequently.

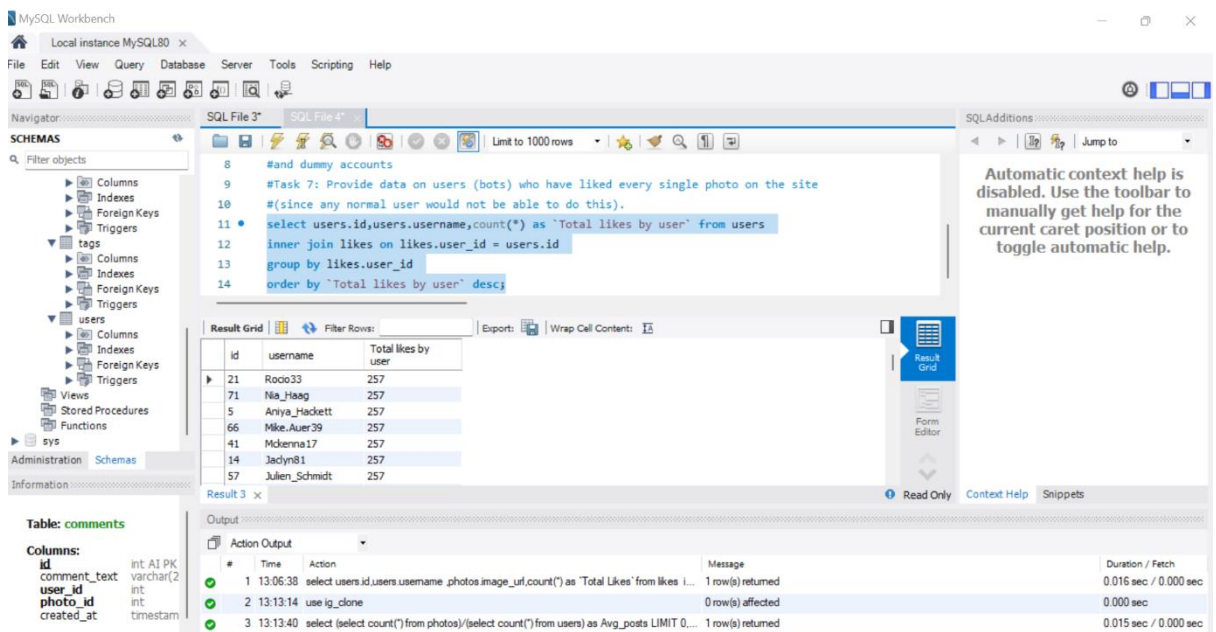
**Your Task :** Determine how many posts a person on Instagram typically makes. Additionally, give the ratio of the total number of Instagram photographs to the total number of users.





**Bots & Fake Accounts :** Investors want to know if the platform is overcrowded with false and phony accounts.

**Your Task :** is to identify users (possibly bots) that have liked every single photo on the site, which is not normally achievable for a normal user.



Here, I was able to effectively answer every issue that was posed to me and needed to be analyzed by running the relevant query statements.

Overall, this Instagram user analytics project has improved my understanding of SQL and how it functions, from the most fundamental to the most complex ideas. Through the project, I have also been able to extract valuable insights from the provided data, which could lead to an increase in business.