

Instagram¹ User Analytics



A) Marketing Analysis:

B) Investor Metrics:



01

REWARDING MOST LOYAL USERS

Find the 5 oldest users of the Instagram from the database provided

02

REMIND INACTIVE USERS TO START POSTING

Find the users who have never posted a single photo on Instagram

03

DECLARING CONTEST WINNER

Identify the winner of the contest and provide their details to the team

04


HASHTAG RESEARCHING

Identify and suggest the top 5 most commonly used hashtags on the platform

05

LAUNCH AD CAMPAIGN

What day of the week do most users register on? Provide insights on when to schedule an ad campaign



INSIGHT

The image depicts a hand interacting with a futuristic digital interface. At the center, the word "INSIGHT" is displayed in a large, bold, white sans-serif font within a circular frame. This central element is surrounded by a network of smaller circular icons, each containing a different symbol: a magnifying glass, a brain, gears, a target with an arrow, a lightbulb, a bar chart with an upward arrow, a padlock with a dollar sign, a person icon, a laptop, a shield, a globe, a microchip, and a group of people. Dotted lines connect these icons, suggesting a complex system or data flow. The background is dark and slightly blurred, showing a person's face and glasses on the right side, emphasizing the human element in this technological context.

✧ I created the database first by writing queries as given by the team.

The screenshot displays the MySQL Workbench interface for a local instance of MySQL 8.0. The main window shows a SQL editor with the following queries:

```
1 • CREATE DATABASE ig_clone;
2 • USE ig_clone;
3 • /*Users*/
4 • CREATE TABLE users(
5     id INT AUTO_INCREMENT UNIQUE PRIMARY KEY,
6     username VARCHAR(255) NOT NULL,
7     created_at TIMESTAMP DEFAULT NOW()
8 );
9 • /*Photos*/
10 • CREATE TABLE photos(
11     id INT AUTO_INCREMENT PRIMARY KEY,
12     image_url VARCHAR(355) NOT NULL,
13     user_id INT NOT NULL,
14     created_at TIMESTAMP DEFAULT NOW(),
15     FOREIGN KEY(user_id) REFERENCES users(id)
16 );
```

The left sidebar shows the 'SCHEMAS' panel with a tree view of the database structure. The 'ig_clone' database is selected, showing tables like 'comments', 'follows', 'likes', 'photo_tags', 'photos', 'tags', and 'users'. The 'likes' table is highlighted, and its structure is shown in the 'Table: likes' section:

Table: likes

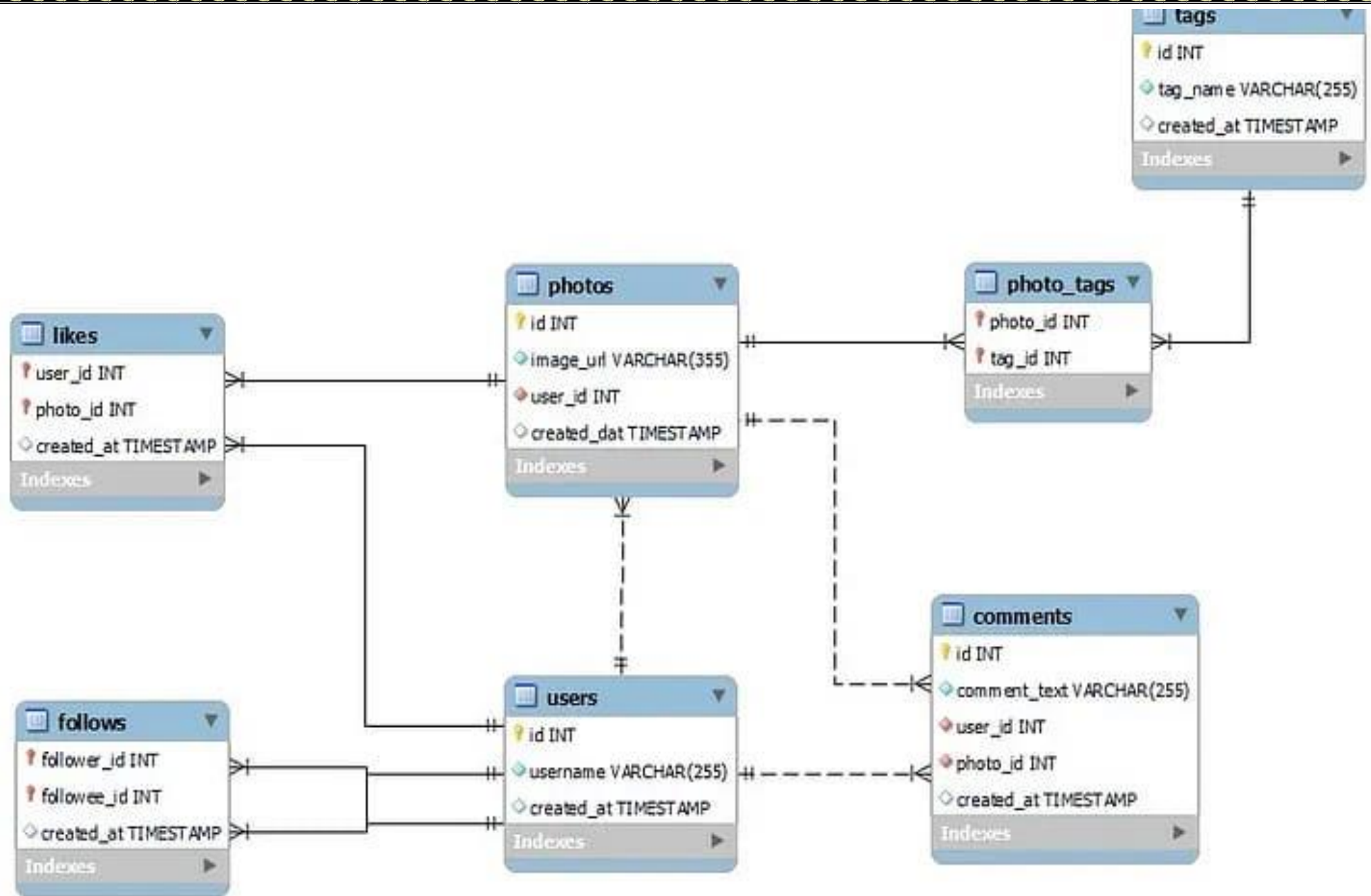
Columns:

- user_id int PK
- photo_id int PK
- created_at timestamp

The bottom panel shows the 'Output' section with a table structure for the 'likes' table:

#	Time	Action	Message	Duration / Fetch
---	------	--------	---------	------------------

The right sidebar contains a 'SQLAdditions' panel with a message: 'Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.'



A) Marketing Analysis:

1. **Loyal User Reward:-** Identify the five oldest users on Instagram from the provided database.

```
select * from users  
order by created_at  
limit 5;
```

USED QUERY

result Grid			Filter Rows:	Edit:
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		
NULL	NULL	NULL		



2. Inactive User Engagement:- Identify users who have never posted a single photo on Instagram.

```
select * from users as a  
left join photos as b on  
a.id = b.user_id and  
b.user_id is null
```




USED QUERY

result Grid Filter Rows: Export: Wrap Cell Content:						
id	username	created_at	id	image_url	user_id	created_at
1	Kenton_Kirlin	2017-02-16 18:22:11	NULL	NULL	NULL	NULL
2	Andre_Purdy85	2017-04-02 17:11:21	NULL	NULL	NULL	NULL
3	Harley_Lind18	2017-02-21 11:12:33	NULL	NULL	NULL	NULL
4	Arely_Bogan63	2016-08-13 01:28:43	NULL	NULL	NULL	NULL
5	Aniya_Hackett	2016-12-07 01:04:39	NULL	NULL	NULL	NULL
6	Travon.Waters	2017-04-30 13:26:14	NULL	NULL	NULL	NULL
7	Kassandra_Homenick	2016-12-12 06:50:08	NULL	NULL	NULL	NULL
8	Tabitha_Schamberger11	2016-08-20 02:19:46	NULL	NULL	NULL	NULL
9	Gus93	2016-06-24 19:36:31	NULL	NULL	NULL	NULL
10	Presley_McClure	2016-08-07 16:25:49	NULL	NULL	NULL	NULL
11	Justina_Gaylord27	2017-05-04 16:32:16	NULL	NULL	NULL	NULL
12	Dereck65	2017-01-19 01:34:14	NULL	NULL	NULL	NULL
13	Alexandro35	2017-03-29 17:09:02	NULL	NULL	NULL	NULL
14	Jadyn81	2017-02-06 23:29:16	NULL	NULL	NULL	NULL
15	Billy52	2016-10-05 14:10:20	NULL	NULL	NULL	NULL
16	Annalise.McKenzie16	2016-08-02 21:32:46	NULL	NULL	NULL	NULL
17	Norbert_Carroll35	Norbert_Carroll35 43	NULL	NULL	NULL	NULL



3. Contest Winner Declaration: Determine the winner of the contest and provide their details to the team.

```
94 • SELECT
95     username, photos.id, photos.image_url,
96         COUNT(*) AS total
97 FROM photos
98 INNER JOIN likes
99     ON likes.photo_id = photos.id
100 INNER JOIN users
101     ON photos.user_id = users.id
102 GROUP BY photos.id
103 ORDER BY total DESC
104 LIMIT 1;
105
```

<	Result Grid			Filter Rows: <input type="text"/>	Export: 	Wrap Cell Content: <input type="checkbox"/>
	username	id	image_url	total		
▶	Zack_Kemmer93	145	https://jarret.name	48		

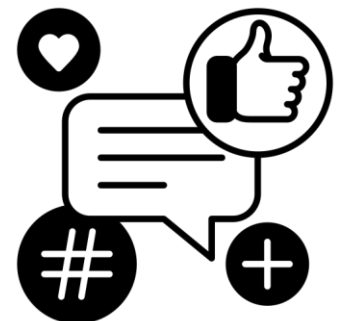


4.Hashtag Research:-Identify and suggest the top five most commonly used hashtags on the platform.

```
select a.tag_name , count(b.tag_id) as cnt from tags as a
left join photo_tags as b
on a.id = b.tag_id
group by a.tag_name
order by cnt desc limit 5
```

USED QUERY

Result Grid			Filter Rows:	Export:	Wrap
	tag_name	cnt			
▶	smile	59			
	beach	42			
	party	39			
	fun	38			
	concert	24			



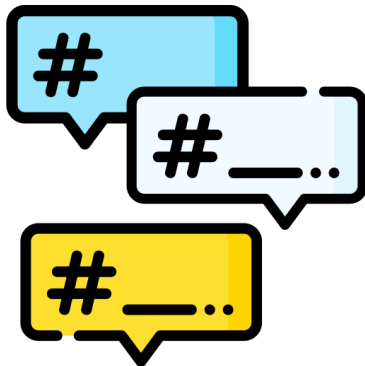
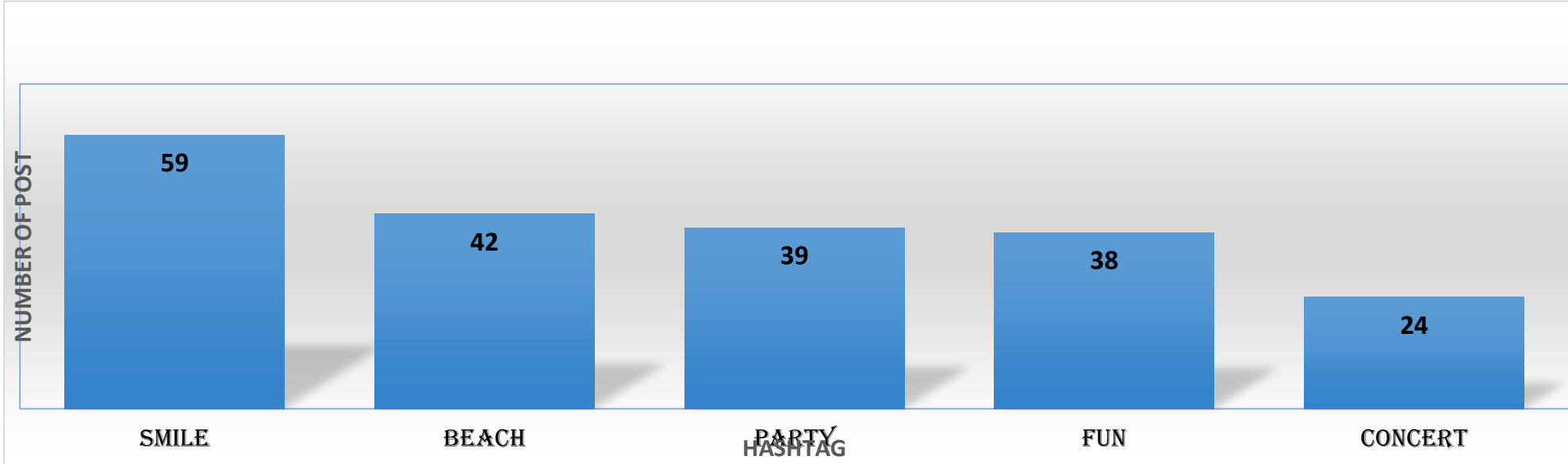
5. Ad Campaign Launch; - Determine the day of the week when most users register on Instagram. Provide insights on when to schedule an ad campaign.

```
81
82 • select dayname(created_at) as days_of_week,
83        count(*) as num_of_users_resisters
84 from users
85 group by dayname(created_at)
86 order by num_of_users_resisters desc;
87
88
```

Result Grid	Filter Rows:	Export:	Wrap Cell Con
days_of_week	num_of_users_resisters		
Thursday	16		
Sunday	16		
Friday	15		
Tuesday	14		
Monday	14		
Wednesday	13		
Saturday	12		



Hashtag;-





... | Investor Metrics:

User Engagement:

*Bots & Fake
Accounts:*

1 User Engagement: -Calculate the average number of posts per user on Instagram. Also, provide the total number of photos on Instagram divided by the total number of users.

Total number of photos :- 257

```
47
48 • SELECT COUNT(*) AS total_users_on_insta
49   from photos
50
```

total_users_on_insta
257

Total number of users;- 100

```
47
48 • SELECT COUNT(*) AS total_users_on_insta
49   from users
```

total_users_on_insta
100



Total the total number of photos on Instagram divided by the total number of users;- 2.57

```
42
43 SELECT (SELECT Count(*)
44   FROM   photos) / (SELECT Count(*)
45   FROM   users) as divided ;
46
47
```

divided
2.5700



Calculate the average number of posts per user on Instagram.

```
57 select user_id, count(*) as posts_count from photos
58 group by user_id
59 order by posts_count desc;
60
61 • SELECT avg(posts_count) as avg_posts_per_user
62 FROM (
63 select user_id, count(*) as posts_count from photos
64 group by user_id
65 order by posts_count desc) as user_posts;
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
avg_posts_per_user			
3.4730			



User Engagement



Total Users



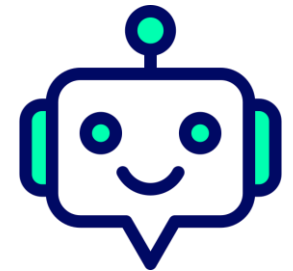
Total Photos



Average Posts Per User



2. **Bots & Fake Accounts:**—Identify users (potential bots) who have liked every single photo on the site, as this is not typically possible for a normal user.



```
73 SELECT username,  
74 Count(*) AS num_likes  
75 FROM users  
76 INNER JOIN likes  
77 ON users.id = likes.user_id  
78 GROUP BY likes.user_id  
79 HAVING num_likes = (SELECT Count(*)  
80 FROM photos);  
81
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
username	num_likes			
Aniya_Hackett	257			
Jadyn81	257			
Rocio33	257			
Maxwell.Halvorson	257			
Ollie_Ledner37	257			
Mckenna17	257			
Duane60	257			
Julien_Schmidt	257			
Mike.Auer39	257			
Nia_Haag	257			
Leslie67	257			
Janelle.Nikolaus81	257			
Bethany20	257			



RESULT

- The Instagram user analytics project provided insights on marketing, User engagements, Bots and Fake accounts. Now these insight can be used by Instagram product team to launch new campaigns, track users engagement and improve user experience.
- Here are the insights I found in these project
 1. Top 5 Oldest users of Instagram
 2. Users who never posted photos on Instagram
 3. Most liked photo on Instagram
 4. Top 5 most commonly used has-tags on Instagram
 5. Total number of users on Instagram
 6. Total number of photos on Instagram
 7. Average number of photos per user
 8. Bots and fake accounts on Instagram



Thank
you

