

# **INSTAGRAM USER ANALYTICS**

## **Project Description:**

The main aim of this project is to gain detailed insights for the Marketing Team and Investors. These insights are then used by teams across the business to launch a new marketing campaign, decide on features to build for an app, track the success of the app by measuring user engagement and improve the experience altogether while helping the business grow.

The insights required for marketing team include finding most loyal users, reminding inactive users to start posting, finding the most liked photo, to find top 5 hashtags used most commonly, to find what day of week most users register and when can the Ads be launched.

The insights required for investors are to find fake accounts and also check whether users are still as active as before.

## **Approach:**

I've approached this problem statements one by one and wrote queries that can help me find the solution required for particular problem statement.

## **Tech-Stack Used:**

In this project, MySQL version 8.0CE was used for accessing the datasets and writing queries.

## Insights:

### A) Marketing:

1. 5 oldest users of Instagram from the data are:

```
1 • USE IG_CLONE;  
2 • SELECT * FROM USERS;  
3  
4 /* ANS 1 */  
5 • SELECT * FROM USERS ORDER BY CREATED_AT DESC LIMIT 5;  
6
```

Result Grid

	id	username	created_at
▶	11	Justina.Gaylord27	2017-05-04 16:32:16
	6	Travon.Waters	2017-04-30 13:26:14
	85	Milford_Gleichner42	2017-04-30 07:50:51
	19	Hailee26	2017-04-29 18:53:40
	24	Maxwell.Halvorson	2017-04-18 02:32:44
*	NULL	NULL	NULL

2. Users who have never posted a single photo:

```
9  
10 -- ANS 2  
11 • SELECT A.USERNAME, COUNT(B.IMAGE_URL) AS POSTS  
12 FROM USERS AS A  
13 LEFT JOIN PHOTOS AS B  
14 ON A.ID = B.USER_ID  
15 GROUP BY A.USERNAME HAVING COUNT(B.IMAGE_URL) = 0;
```

Result Grid

	USERNAME	POSTS
▶	Aniya_Hackett	0
	Kassandra_Homenick	0
	Jacyln81	0
	Rocio33	0
	Maxwell.Halvorson	0
	Tierra.Trantow	0
	Pearl7	0
	Ollie_Ledner37	0
	Mckenna17	0
	David.Osinski47	0
	Morgan.Kassulke	0
	Linnea59	0
	Duane60	0
	Julien_Schmidt	0
	Mike.Auer39	0
	Franco_Keebler64	0
	Nia_Haag	0
	Hulda.Macejkovic	0
	Leslie67	0
	Janelle.Nikolaus81	0
	Darby_Herzog	0

3. Winner of the contest with most likes on a post is:

The screenshot shows a SQL query editor with the following code:

```
-- ANS 3
SELECT * FROM PHOTOS;
SELECT * FROM LIKES;
SELECT A.USER_ID, B.USERNAME, C.PHOTO_ID, COUNT(C.USER_ID) AS NumberOfLikes
FROM LIKES AS C JOIN PHOTOS AS A JOIN USERS AS B
ON B.ID = A.USER_ID AND A.ID = C.PHOTO_ID
WHERE C.USER_ID GROUP BY C.PHOTO_ID ORDER BY NumberOfLikes DESC LIMIT 1;
```

Below the query editor, the 'Result Grid' is displayed with the following data:

USER_ID	USERNAME	PHOTO_ID	NumberOfLikes
52	Zack_Kemmer93	145	48

4. Following are top 5 most used hashtags

The screenshot shows a SQL query editor with the following code:

```
-- ANS 4
select * from tags;
SELECT * FROM PHOTO_TAGS;
SELECT A.TAG_NAME, COUNT(B.TAG_ID) AS TimesUsed
FROM TAGS AS A JOIN PHOTO_TAGS AS B
ON A.ID = B.TAG_ID
GROUP BY B.TAG_ID ORDER BY TimesUsed DESC LIMIT 5;
```

Below the query editor, the 'Result Grid' is displayed with the following data:

TAG_NAME	TimesUsed
smile	59
beach	42
party	39
fun	38
concert	24

5. Following are the days of the week when most of the users register.

```

34  -- ANS 5
35  • SELECT * FROM USERS;
36  • SELECT DAYOFWEEK(CREATED_AT) AS DayOfWeek, COUNT(ID) AS Accounts FROM USERS
37  GROUP BY DayOfWeek ORDER BY Accounts DESC;

```

DayOfWeek	Accounts
5	16
1	16
6	15
3	14
2	14
4	13
7	12

B) Investor Metrics:

1. Number of posts per user

```

39  -- ANS 6
40  • SELECT * FROM PHOTOS;
41  • SELECT USER_ID AS Users, COUNT(ID) AS NumberOfPosts FROM PHOTOS GROUP BY USER_ID;

```

Users	NumberOfPosts
1	5
2	4
3	4
4	3
6	5
8	4
9	4
10	3
11	5
12	4

Total number of users = 100.

Total number of photos = 257

2. Following are the fake accounts that liked all the posts in Instagram

```

43  -- ANS 7
44  • SELECT A.USERNAME, B.USER_ID, COUNT(B.CREATED_AT) AS NumberOfPhotosLiked
45  FROM USERS AS A JOIN LIKES AS B
46  ON A.ID = B.USER_ID
47  GROUP BY B.USER_ID HAVING NumberOfPhotosLiked = 257;

```

USERNAME	USER_ID	NumberOfPhotosLiked
Aniya_Hackett	5	257
Jadyn81	14	257
Rocio33	21	257
Maxwell.Halvorson	24	257
Ollie_Ledner37	36	257
Mckenna17	41	257
Duane60	54	257
Julien_Schmidt	57	257
Mike_Auer39	66	257
Nia_Haag	71	257
Leslie67	75	257
Janelle.Nikolaus81	76	257
Bethany20	91	257

## Results:

This project helped me to increase my skills in MySQL commands and also now I am able to write queries more efficiently and solve problems more quickly than before.