

OBJECTIVE:

The objective of the project is to analyse user activity and engagement on Instagram using SQL queries. This means that the project will focus on understanding how users interact with the platform, and how engagement can be optimized to improve user experience and satisfaction. It is to help the marketing team launch effective campaigns on Instagram by analysing user behaviour and engagement. This involves finding the oldest users of Instagram, identifying inactive users who have never posted a photo, declaring contest winners, suggesting the most commonly used hashtags on the platform, and providing insights on the best day to launch ad campaigns based on user registration patterns. Additionally, the project aims to assess the performance of Instagram on user engagement and identify any potential issues with bots and fake accounts on the platform. By achieving these objectives, the project will provide valuable insights to the marketing team and investors on how to optimize user engagement and ensure the long-term success of the platform.

QUESTIONS ANSWERED:

- 1. Rewarding Most Loyal Users: People who have been using the platform for the longest time.**

Finding the 5 oldest users of Instagram:

```
select id, username, created_at, datediff(current_date(), created_at) as days_on_insta
from users
order by days_on_insta desc limit 5;
```

	id	username	created_at	days_on_insta
	80	Darby_Herzog	2016-05-06 00:14:21	2481
	67	Emilio_Bernier52	2016-05-06 13:04:30	2481
▶	63	Elenor88	2016-05-08 01:30:41	2479
	95	Nicole71	2016-05-09 17:30:22	2478
	71	Nia_Haag	2016-05-14 15:38:50	2473

- 2. Remind Inactive Users to Start Posting: Send them promotional emails to post their 1st photo.**

Finding the users who have never posted a single photo on Instagram:

```
select u.id, u.username
from users u
left join photos p
```

on u.id = p.user_id
where p.id is null;

	id	username
5	5	Aniya_Hackett
7	7	Kasandra_Homenick
14	14	Jaclyn81
21	21	Rocio33
24	24	Maxwell.Halvorson
25	25	Tierra.Trantow
34	34	Pearl7
36	36	Ollie_Ledner37
41	41	Mckenna17
45	45	David.Osinski47
49	49	Morgan.Kassulke
53	53	Linnea59
54	54	Duane60
57	57	Julien_Schmidt
66	66	Mike.Auer39
68	68	Franco_Keebler64
71	71	Nia_Haag
74	74	Hulda.Macejkovic
75	75	Leslie67
76	76	Janelle.Nikolaus81
80	80	Darby_Herzog
81	81	Esther.Zulauf61
83	83	Bartholome.Bernhard
89	89	Jessyca_West
90	90	Esmeralda.Mraz57
91	91	Bethany20

3. 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.

Identifying the winner of the contest and provide their details to the team:

```
select p.user_id, u.username, l.photo_id, count(l.user_id) as no_of_likes
from likes l
inner join photos p
on p.id = l.photo_id
inner join users u
on u.id = p.user_id
group by l.photo_id
order by no_of_likes desc limit 1;
```

	user_id	username	photo_id	no_of_likes
▶	52	Zack_Kemmer93	145	48

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

Identifying and suggesting the top 5 most commonly used hashtags on the platform:

```
select t.tag_name, pt.tag_id, count(pt.tag_id) as no_of_times_used
from photo_tags pt
inner join tags t
on t.id=pt.tag_id
group by pt.tag_id
order by no_of_times_used desc limit 5;
```

Result Grid	Filter Rows:	Search	Export:	Fetch rows:
tag_name	tag_id	no_of_times_used		
▶ smile	21	59		
beach	20	42		
party	17	39		
fun	13	38		
concert	18	24		

5. Launch AD Campaign: The team wants to know, which day would be the best day to launch ADs.

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

```
with days as(
select dayname(created_at) as day_n
from users)
select day_n, count(day_n) as day_count
from days
group by day_n
order by day_count desc;
```

THE CAMPAIGN SHOULD BE SCHEDULED ON A THURSDAY OR A SUNDAY

Result Grid Filter Rows: Search Export: Fetch rows:

tag_name	tag_id	no_oftimes_used
▶ smile	21	59
beach	20	42
party	17	39
fun	13	38
concert	18	24

6. User Engagement: Are users still as active and post on Instagram or are they making fewer posts

How many times does average user posts on Instagram. Also, provide the total number of photos on Instagram/the total number of users

```
WITH avg_posts as (Select u.id as users, count(p.user_id) as no_of_posts
from users u
left join photos p
on u.id = p.user_id
group by u.id)
select count(users) as total_users, sum(no_of_posts) as total_posts,
sum(no_of_posts)/count(users) as avg_posts_per
from avg_posts;
```

Result Grid Filter Rows: Search Exp

day_n	day_count
▶ Thursday	16
Sunday	16
Friday	15
Tuesday	14
Monday	14
Wednesday	13
Saturday	12

7. Bots & Fake Accounts: The investors want to know if the platform is crowded with fake and dummy accounts

Finding users (bots) who have liked every single photo on the site (since any normal user would not be able to do this).

```
select u.id as bot_users, count(l.user_id) as total_liked_by
from users u
left join
likes l
on u.id = l.user_id
group by u.id
having total_liked_by = (SELECT count(*) FROM photos);
```

Result Grid Filter Rows: Search Export:

bot_users	total_liked_by
5	257
14	257
21	257
24	257
36	257
41	257
54	257
57	257
66	257
71	257
75	257
76	257
91	257