

## Project Description:

- This project is about providing a detailed report for the marketing team and also for the investors.
- Instagram user dataset is provided, in which the details needed for the project are given.
- I am going to use some SQL commands on the given dataset to get the information I needed.

## Things I'm going to find out in this project:

- 5 Most loyal users
- Inactive users
- Contest winners
- Top 5 commonly used hashtags
- Insights on when to schedule an Ad campaign
- User Engagement
- Bots & Fake Accounts

## Approach & Insights:

### A) Marketing:

#### 1. Rewarding most loyal users:

- In order to find the most loyal user, I must find the oldest user.
- According to your task, I must find 5 oldest users of Instagram.

#### Code:

```
select username, created_at from users order by created_at LIMIT 5;
```

#### Result:

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

- With the result the marketing team can reward the most loyal users.

#### 2. To remind inactive users to start posting:

- In order to remind inactive users to start posting, I must find users who never posted a single photo on Instagram.

#### Code:

```
select id, username from users where id NOT IN (select user_id from photos);
```

**Result:**

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

- The users who haven't posted any photos were found out.
- This result can help the marketing team to remind inactive users to post photos.

### **3. Declaring contest winner:**

- To declare the contest winner, I must find the user who has more likes in one photo.

**Code:**

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

**Result:**

username	image_url	total_likes
Zack_Kemmer93	https://jarret.name	48

- The user who got most likes on a single photo is found and the marketing team can now announce the winner of the contest.

#### 4. Hashtag Researching:

- To identify and suggest the top 5 commonly used hashtags on the platform.

**Code:**

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

**Result:**

hashtags	times_used
smile	59
beach	42
party	39
fun	38
lol	24

- By the above code I found the most used hashtags on the platform.

- The marketing team can show these results to the partner brand, so they can know the best way to reach most of the people on the platform.

## 5. Launch AD Campaign:

To find a day of the week do most user register on the platform to launch AD Campaign.

**Code:**

```
select dayname(created_at) as day, count(dayname(created_at)) as user_count from users
group by day order by user_count desc;
```

**Result:**

day	user_count
Thursday	16
Sunday	16
Friday	15
Monday	14
Tuesday	14
Wednesday	13
Saturday	12

- **Thursday & Sunday** would be the best day to launch ads, Since most of the users register on these days.

## B) Investor Metrics:

### 1. User Engagement:

- My task is to provide how many times does average user posts on Instagram, also I must provide the total number of photos on Instagram/total number of users.

**Code:**

```
select round((select count(*)from photos)/(select count(*) from users),1) as avg_post;
```

**Result:**

avg_post
2.6

- The average post made by the user is 3.

**Code:**

```
select count(distinct username) as total_users, count(image_url) as total_photos from users u
      left join photos p on u.id = p.user_id;
```

**Result:**

total_users	total_photos
100	257

- Total number of users and total photos on Instagram were found using this code.
- With the result user engagement could be assessed by the investors.

## 2. Bots & Fake Accounts:

- My task is to provide the info about the user who have liked all the photos on the site

**Code:**

```
select u.id, username, count(user_id) as users_total_likes from users u
      join likes l on u.id = l.user_id
      group by u.id
      having users_total_likes = (select count(*) from photos);
```

**Result:**

id	username	user_total_likes
5	Aniya_Hackett	257
14	Jaclyn81	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

- I found the bots in the site, so with this data the investors would know the total bots/fake accounts.
- With this data the investor gets a clear idea about the product, so that they can take a decision based on the results.

#### **Tech Stack Used:**

- I'm here using **MYSQL Workbench 8.0** for this project.
- It is a useful database tool that comes as a desktop tool specifically designed for MySQL.
- It also has a community version which is free and open source.

#### **Result:**

**I have gained more knowledge on SQL queries, I'm now very confident in this area. This project gave me a clarity on the sub queries, where and join queries. Thanks for the trainity team for giving this project.**