INSTAGRAM USER ANALYTICS

PROJECT DESCRIPTION-

Instagram, as we all must know, is one of the most used social sites in today's world. It's really addicting right? You can share your favorite photo or video. It allows users to upload media that can be edited with various inbuilt filters and hashtags and geographical tagging. You also get options to share with your preapproved followers or publicly. It is interesting to think where all the data gets stored when we like or comment on someone's picture. To understand all these, I created a small project that replicates some of the features of Instagram.

The database consists of 7 tables.

- Users Table
- Photos Table
- Comments Table
- Hashtags Table
- Likes Table
- Follows Table
- Photos Tag Table

Tech stack used was **SQL (Ver 8.0.32)-**downloaded it from link provided in the document then after that downloaded the **SQL WORKBENCH (Ver 8.0.32)-** it provides a visual console to easily administer the MySQL environments and gain better visibility into the database.

Detailed Report

A) Marketing Analysis:

1. **Loyal User Reward:** The marketing team wants to reward the most loyal users, i.e., those who have been using the platform for the longest time.

Query: -

```
Select id, username, created_at from users order by created_at limit 5;
```

Select tell data base to select id, user name and created time from user table, order by helps in arranging the data in ascending order with limiting the results till 5th row.

Result: -

id	username	created_at
80	Darby_Herzog	2016-5-6 0:14

67	Emilio_Bernier52	2016-5-6 13:04
63	Elenor88	2016-5-8 1:30
95	Nicole71	2016-5-9 17:30
38	Jordyn.Jacobson2	2016-5-14 7:56

2. **Inactive User Engagement:** The team wants to encourage inactive users to start posting by sending them promotional emails.
   Your Task: Identify users who have never posted a single photo on Instagram.

Query:-

```
Select username,user_id
from users
left join photos
on photos.user_id=users.id
where image_url is null
order by username;
```

Result:-

Aniya_Hackett
Kasandra_Homenick
Jaclyn81
Rocio33
Maxwell.Halvorson
Tierra.Trantow
Pearl7
Ollie_Ledner37
Mckenna17
David.Osinski47
Morgan.Kassulke
Linnea59
Duane60
Julien_Schmidt
Mike.Auer39
Franco_Keebler64
Nia_Haag
Hulda.Macejkovic
Leslie67
Janelle.Nikolaus81
Darby_Herzog

Esther.Zulauf61

Bartholome.Bernhard

Jessyca_West

Esmeralda.Mraz57

Bethany20

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

   Your Task: Determine the winner of the contest and provide their details to the team.

Query: -

```
Select likes.photo_id,users.username, count(likes.photo_id) as total_likes
from likes inner join photos on likes.photo_id=photos.id
inner join users on photos.user_id=users.id group by
likes.photo_id,users.username order by total_likes desc;
```

Result:-

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

4. **Hashtag Research:** A partner brand wants to know the most popular hashtags to use in their posts to reach the most people.
   Your Task: Identify and suggest the top five most used hashtags on the platform.

Query:-

```
Select tag_name,count(tag_name) as Total_tags
from tags
join photo_tags on tags.id=photo_tags.tag_id
group by tags.id
order by total_tags desc
limit 5;
```

Result:-

tag_name	Total_tags
smile	59
beach	42
party	39
fun	38
concert	24

5. **Ad Campaign Launch:** The team wants to know the best day of the week to launch ads.
   Your Task: Determine the day of the week when most users register on Instagram. Provide insights on when to schedule an ad campaign.

Query:-

```
Select date_format(created_at,'%W') as week_day,count(*) as number_of_users

from users

group by 1;
```

Result:-

week_day	number_of_users
Thursday	16
Sunday	16
Tuesday	14
Saturday	12
Wednesday	13
Monday	14
Friday	15

B) Investor Metrics:

1. **User Engagement:** Investors want to know if users are still active and posting on Instagram or if they are making fewer posts.
   Your Task: 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.

Query:-

```
Select round((select count(*) from photos)/(select count(*) from users),2) as avg;
```

Result:-

avg
2.57

2. **Bots & Fake Accounts:** Investors want to know if the platform is crowded with fake and dummy accounts.
   Your Task: Identify users (potential bots) who have liked every single photo on the site, as this is not typically possible for a normal user.

```
Select username,Count(*)As number_of_likes

from users

Inner join likes

On users.id=likes.user_id

group by likes.user_id

Having number_of_likes=(Select count(*) from photos);
```

Result:-

username	number_of_likes
Aniya_Hackett	257
Jaclyn81	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

Summary: - While doing this project I have found out some important terms of My Sql which have helped me to solve the complex problems. I have tries to provide the best possible solutions for the projects.