PROJECT-2
Instagram User Analytics

Project Description

This project involves analysing user interactions and engagement with the Instagram app to provide valuable business insights that can help the organisation grow.
The insights derived will help the marketing team to launch a new campaign, the product team to decide on new features to build, and the development team to improve the overall experience of the user.

It will also help in making informed decisions about the future direction of the Instagram app.

We, as a Data Analyst ,will perform this analysis using certain techs producing certain results that will potentially influence the organisation in the coming time.

Approach

Our approach can be categorised in two(2) steps-

1. *Creation of Database*

   In 'MY SQL Workbench', creation of database and values insertion is done using DDL & DML commands according to the instructions in the project.

2. *Extraction of Data*

   In 'My SQL Workbench', the queries are run to get the results.

Tech-Stack Used

In this project, we used MySQL Workbench 8.0 CE as our tool to analyse Instagram user data and answer questions posed by the management team.

Also, Ms-Word was used to prepare the report.

Insights

A. *Marketing Analysis*

1. **Loyal User Reward:** 5 oldest users on Instagram from the provided database.

Query-

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

Output-

Result Grid | Filter Rows: | Edit:

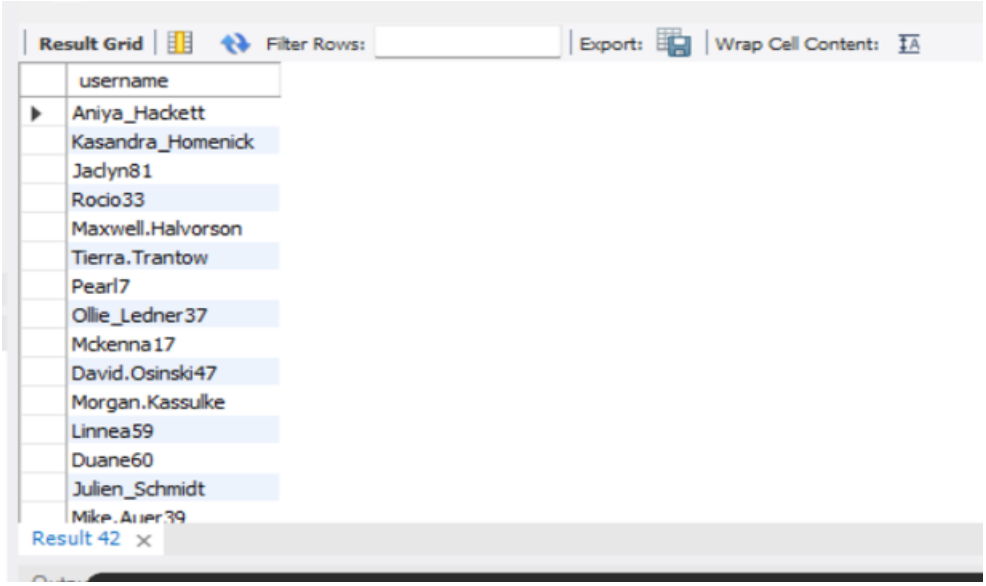
id	username	created_at
80	Darby_Herzog	2016-05-06 00:14:21
67	Emilio_Bernier52	2016-05-06 13:04:30
63	Elenor88	2016-05-08 01:30:41
95	Nicole71	2016-05-09 17:30:22
38	Jordyn.Jacobson2	2016-05-14 07:56:26
NULL	NULL	NULL

2 Inactive User Engagement: Users who have never posted a single photo on Insta.

Query-

```
select username from users left join photos on users.id = photos.user_id
where photos.id  is null;
```

Output-

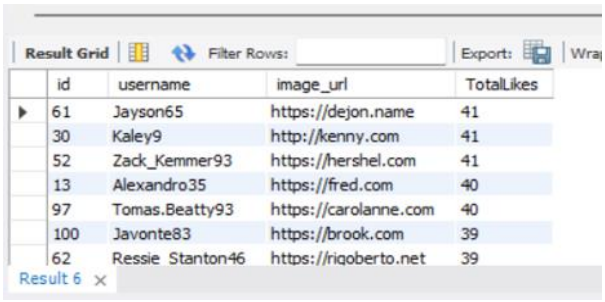


3. Contest Winner Declaration: Details of the winner of the contest - user with the most likes on single photo wins.

Query-

```
select users.id,users.username,photos.image_url, count(*) as TotalLikes
from likes
 join photos
 on photos.id = likes.photo_id
join users
 on  users.id = likes.photo_id
 group by photos.id
 order by TotalLikes desc
;
```

Output-

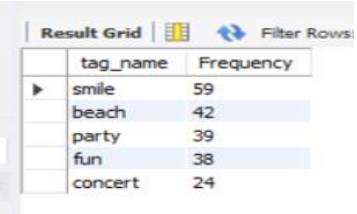


4. **Hashtag Research:** Top five most commonly used hashtags on the platform.

Query-

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

Output-



Result Grid | Filter Rows:

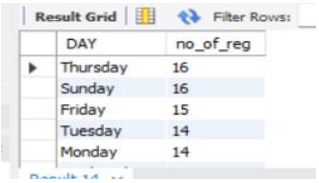
tag_name	Frequency
smile	59
beach	42
party	39
fun	38
concert	24

5. Ad Campaign Launch: That day of the week when most users register on Insta.

Query-

```
select Dayname(created_at) as DAY , count(created_at) as no_of_reg from users
group by DAY
order by no_of_reg desc;
```

Output-



Result Grid | Filter Rows:

DAY	no_of_reg
Thursday	16
Sunday	16
Friday	15
Tuesday	14
Monday	14

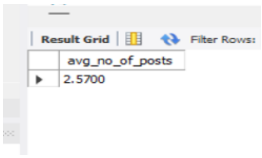
B. Investor Metrics

1 User Engagement: Calculating the total number of photos on Instagram divided by the total number of users.

Query-

```
select (select count(image_url) from photos)/ (select count(id) from users) as avg_no_of_posts;
as avg_posts;
);
```

Output-



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.

Query-

```
--
select  id,
        username
from users
where id in  ( select user_id
               from likes
               group by user_id
               having count(user_id) = (select count(image_url) from photos)
             );

```

Output-

Result

By the end of this project i.e.; after extraction using SQL queries we obtain various insights regarding the usage, inactivity, search, trends, loyal users, bots and fake account and also the best time for ad campaign.

- ✓ By gaining the insights of the user engagement one can track the growth of the company
- ✓ Fake accounts and bots can be removed and banned.
- ✓ Better targeting of the audience can be done.
- ✓ Enhanced promotion and discriminated offers can be provided.

Submitted by -

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