PROJECT ON INSTAGRAM ANALYTICS

Project Description

- Business insights are found that can be used by teams in the business to launch a new marketing campaign, discussing the features to build an application and track the application and its success by measuring user engagement

Approach:

Creating Database:

- Values are created and inserted in the database using DDL and DML SQL queries provided as per project in MYSQL database using MY SQL workbench

Insights:

- After the creation and insertion of database insights are generated from the database tables by running SQL Queries in MY SQL workbench

Tech-Stack used:

- MY SQL Community server-GPL Version 8.0.29 and connector version c++8.0.29 for creating my project as we know MY SQL community server is an open-source relational database management system that uses SQL

A) MARKETING ANALYSIS:

1. **Rewarding Most Loyal Users: People who have been using the platform for the longest time (TOP 5)**

```sql
select username, created_at from users order by created_at limit 5;
```

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

2. **Remind inactive users to start posting: By sending them promotional emails to post their First photo. The users who have never posted a single photo on Instagram**

```
61 •   select * from users u left join photos p on p.user_id=u.id where p.image_url is null order by u.username;
62
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

id	username	created_at	id	image_url	user_id	created_dat
5	Aniya_Hackett	2016-12-07 01:04:39	NULL	NULL	NULL	NULL
83	Bartholome.Bernhard	2016-11-06 02:31:23	NULL	NULL	NULL	NULL
91	Bethany20	2016-06-03 23:31:53	NULL	NULL	NULL	NULL
80	Darby_Herzog	2016-05-06 00:14:21	NULL	NULL	NULL	NULL
45	David.Osinski47	2017-02-05 21:23:37	NULL	NULL	NULL	NULL
54	Duane60	2016-12-21 04:43:38	NULL	NULL	NULL	NULL
90	Esmeralda.Mraz57	2017-03-03 11:52:27	NULL	NULL	NULL	NULL
81	Esther.Zulauf61	2017-01-14 17:02:34	NULL	NULL	NULL	NULL
68	Franco_Keebler64	2016-11-13 20:09:27	NULL	NULL	NULL	NULL
74	Hulda.Macejkovic	2017-01-25 17:17:28	NULL	NULL	NULL	NULL
14	Jaclyn81	2017-02-06 23:29:16	NULL	NULL	NULL	NULL
76	Janelle.Nikolaus81	2016-07-21 09:26:09	NULL	NULL	NULL	NULL
89	Jessyca_West	2016-09-14 23:47:05	NULL	NULL	NULL	NULL

id	username	created_at	id	image_url	user_id	created_dat
57	Julien_Schmidt	2017-02-02 23:12:48	NULL	NULL	NULL	NULL
7	Kasandra_Homenick	2016-12-12 06:50:08	NULL	NULL	NULL	NULL
75	Leslie67	2016-09-21 05:14:01	NULL	NULL	NULL	NULL
53	Linnea59	2017-02-07 07:49:34	NULL	NULL	NULL	NULL
24	Maxwell.Halvorson	2017-04-18 02:32:44	NULL	NULL	NULL	NULL
41	Mckenna17	2016-07-17 17:25:45	NULL	NULL	NULL	NULL
66	Mike.Auer39	2016-07-01 17:36:15	NULL	NULL	NULL	NULL
49	Morgan.Kassulke	2016-10-30 12:42:31	NULL	NULL	NULL	NULL
71	Nia_Haag	2016-05-14 15:38:50	NULL	NULL	NULL	NULL
36	Ollie_Ledner37	2016-08-04 15:42:20	NULL	NULL	NULL	NULL
34	Pearl7	2016-07-08 21:42:01	NULL	NULL	NULL	NULL
21	Rocio33	2017-01-23 11:51:15	NULL	NULL	NULL	NULL
25	Tierra.Trantow	2016-10-03 12:49:21	NULL	NULL	NULL	NULL

3. **Declaring Context 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, Now I have to identify the winner of the contest and provide the details to the team

```
select likes.photo_id,users.username,count(likes.user_id) as nooflikes
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 nooflikes desc;
```

photo_id	username	nooflikes
145	Zack_Kemmer93	48

4. **Hashtag Research:** This is to find out which hashtags have to be used to reach the most people on the platform. Now have to identify Top 5 most commonly used hashtags on the platform

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

The top 5 most commonly used hashtags on the platform

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

5. **Launch Ad Campaign:** The team wants to know on which day it will be most suitable to launch the Advertisement campaigns. Now to find which day of the week do most users register on to schedule an AD campaign

```sql
select DATE_FORMAT((created_at), '%w') as dayy,count(username) from users group by 1 order by 2 desc;
```

dayy	count(username)
4	16
0	16
5	15
2	14
1	14
3	13
6	12

INVESTOR METRICS:

1. **User Engagement:** This is to know whether the users are still active and post on Instagram or they are making fewer number of posts

```sql
with base as(select u.id as userid,count(p.id) as photoid
from users u left join photos p on p.user_id=u.id group by u.id)
select sum(photoid) as totalphotos,count(userid) as toal_users,sum(photoid)/count(userid) as photopersuer from base;
```

totalphotos	toal_users	photopersuer
257	100	2.5700

2. Bots and Fake Accounts: The investor wants to know whether the platform is full with fake and dummy accounts

```sql
with base as (select u.username,count(l.photo_id) as likess from likes l inner join users u on
u.id=l.user_id group by u.username)
select username,likess from base where likess=(select count(*) from photos) order by username;
```

username	likess
Aniya_Hackett	257
Bethany20	257
Duane60	257
Jaclyn81	257
Janelle.Nikolaus81	257

username	likess
Julien_Schmidt	257
Leslie67	257
Maxwell.Halvorson	257
Mckenna17	257
Mike.Auer39	257
Nia_Haag	257
Ollie_Ledner37	257
Rocio33	257

RESULTS:

➢ This gives the fundamentals of data analysis using SQL Queries to extract insights from the database to track how user engage and interact with our platform so that we give proper and insights to the Product, Marketing and Development team

CONCLUSIONS FROM THE ANALYSIS:

✓ User engagement can be very useful matrix for growth of the company
✓ Marketing team can reward the most loyal customers, send promotional email to the inactive customers, use popular hashtags and find out the best day to do the ad campaign
✓ Company can remove the fake and dummy accounts from the platform to increase user experience