INSTAGRAM USER ANALYTICS

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PROJECT DESCRIPTION

Finding the best insights that can be used by teams across the business to launch a new marketing campaign, by tracking the user engagement and improve the experience altogether by helping the business growth.

APPROACH

Database Creation : Created and inserted the values in the database using the DDL & DML SQL queries provided by the product manager(as per the project) in the MySQL Workbench.

Extraction Of Insights : After creating the database required insight are generated from the database table by running SQL queries in MySQL.

TECH-STACK USED

Using MySQL Community Server – GPL version 8.0.41 for creating my project as MySQL Community Server – GPL is a free and open-source relational database management system that uses SQL.

INSIGHTS : MARKETING

1. Rewarding most loyal User : People who have been using the platform for the longest time.

The top five oldest user
In this platform :

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

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

INSIGHTS : MARKETING

2. Inactive User Engagement : By sending them promotional emails to post their first photos.

The user who have never posted photos are:

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

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

INSIGHTS : MARKETING

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

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

Winner of the contest is :

	username	id	total_likes
▶	Zack_Kemmer93	145	48

INSIGHTS : MARKETING

4. Hashtag Researching : A partner brand wants to know the most popular hashtags to use in their posts to reach the most people.

The top five commonly used hashtags are :

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

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

INSIGHTS : MARKETING

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

Day of the week when most user register are:

```sql
select dayname(created_at) as day_of_week, count(*) as total_users
from users
group by day_of_week
order by total_users desc;
```

day_of_week	total_users
Thursday	16
Sunday	16
Friday	15
Tuesday	14
Monday	14
Wednesday	13
Saturday	12

INSIGHT : INVESTOR METRICS

1. User Engagement : Are users are still active and posting on instagram or making fewer post.

Average user posts and ratio of total post to total users :

```sql
select
    (select count(id)
     from photos) /
        (select count(distinct user_id)
         from photos) as avg_post_per_user,
    (select count(id)
     from photos) /
        (select count(id) from users) as ratio_of_post_to_user;
```

avg_post_per_user	ratio_of_post_to_user
3.4730	2.5700

INSIGHT : INVESTOR METRICS

2. Bots And Fake accounts : The investors wants to know if the platform is crowded with fake and dummy accounts.

Data of user(bots) who have liked every single photos on the Site as this is not possible for a normal user.

```
select users.id, users.username, count(*) as total_likes
from users
join likes on users.id = likes.user_id
group by users.id ,
        users.username
having
    count(distinct likes.photo_id) =
    (select count(*)
     from photos);
```

id	username	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

RESULTS

Learnt fundamental of Data Analysis using SQL queries to extract the insight from the database by which we track how user engage and interact with our digital products. In attempt to derive business insight for marketing, product and development teams.

CONCLUSION

From the Analysis :

- Marketing team can reward the most loyal customer, send promotional emails to inactive users, use popular hashtag and most active days for promotions of brands.

- User engagement can be very useful growth success metric for the company.

- Company can remove the bots and fake account in the platform to enhance user experience.

THANK YOU