Instagram
User Analytics

Trainity Project 2 by Mishree Bagdai

Project Description

The following project is an analysis of Instagram users and multiple insights drawn from the same. Teams from throughout the company utilise these information to develop new marketing campaigns, choose which features to include in apps, gauge the performance of the apps by looking at user interaction, and generally improve the user experience while assisting in business expansion.

Approach & Tech-Stack Used

To complete the following project I have used a very straight forward and to the point approach; I understood the requirements of the project thoroughly and designed a rough mind map for the same as to how will I go about the project. Once I finished learning all the theory component, I decided to try hands-on learning and installed mySQL for the same. I am currently using the community version of mySQL and mySQL workbench for my project. This is the version of mySQL that I am using: macOS 12 (x86, 64-bit), DMG Archive

Result and Insights

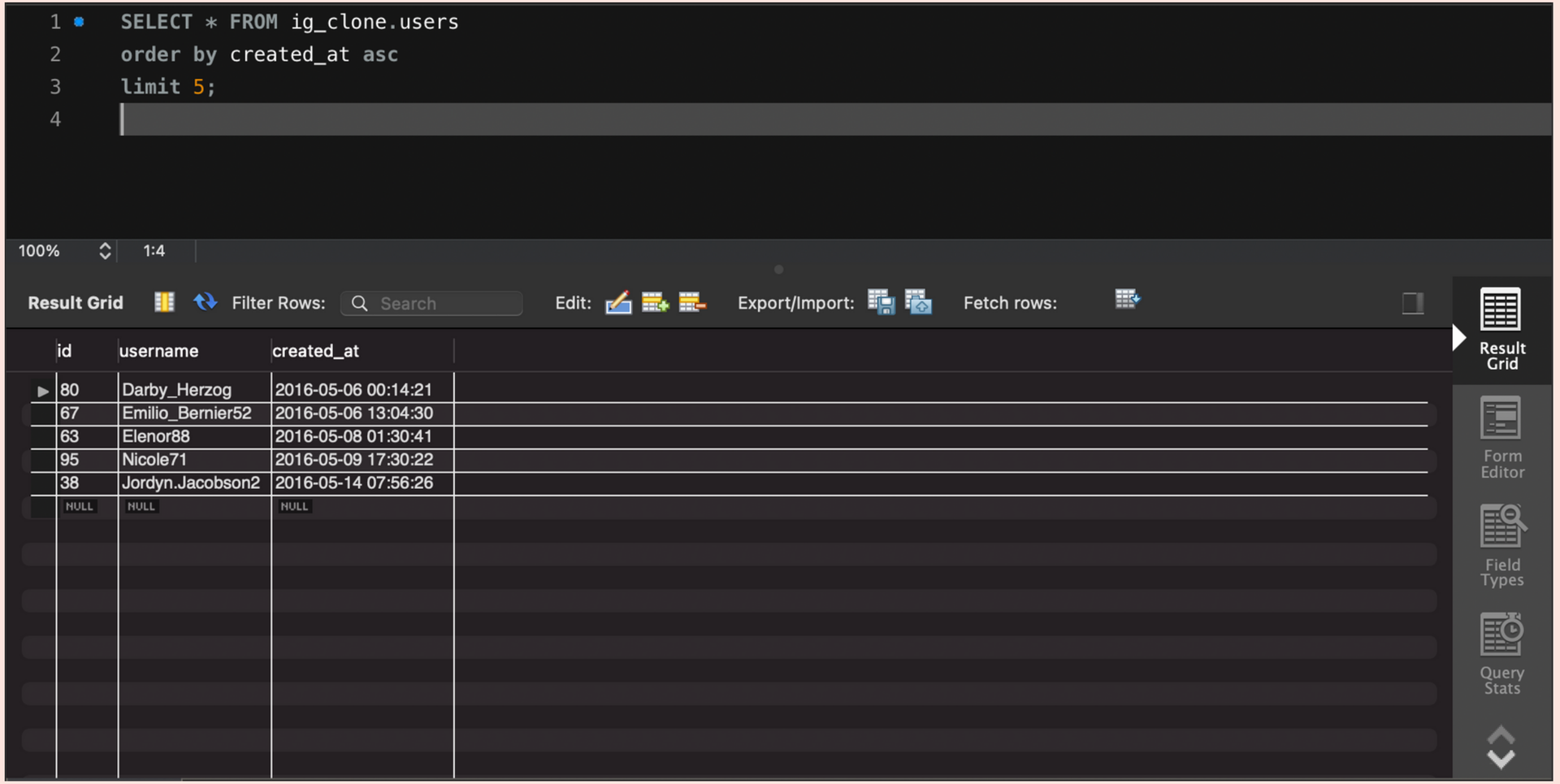
A) Marketing

1. Rewarding most loyal users

Task: Find the 5 oldest users of the Instagram from the database provided

SQL Query:

```
SELECT * FROM ig_clone.users
order by created_at asc
limit 5;
```



Conclusion: The following users, 80, 67,63,95 & 38 are the oldest users

Result and Insights

A) Marketing

2. Remind Inactive Users to Start Posting

Task: Find the users who have never posted a single photo on Instagram

SQL Query:

```
SELECT users.id AS UserID, photos.id AS PostID,
users.username
FROM ig_clone.users
LEFT JOIN ig_clone.photos
ON users.id = photos.user_id WHERE photos.id IS NULL
ORDER BY username;
```

```sql
SELECT users.id AS UserID, photos.id AS PostID, users.username
FROM ig_clone.users
LEFT JOIN ig_clone.photos
ON users.id = photos.user_id WHERE photos.id IS NULL ORDER BY username;
```

100% 1:5

Result Grid | Filter Rows: Search | Export:

UserID	PostID	username
5	NULL	Aniya_Hackett
83	NULL	Bartholome.Bernhard
91	NULL	Bethany20
80	NULL	Darby_Herzog
45	NULL	David.Osinski47
54	NULL	Duane60
90	NULL	Esmeralda.Mraz57
81	NULL	Esther.Zulauf61
68	NULL	Franco_Keebler64
74	NULL	Hulda.Macejkovic
14	NULL	Jaclyn81
76	NULL	Janelle.Nikolaus81
89	NULL	Jessyca_West
57	NULL	Julien_Schmidt
7	NULL	Kasandra_Homenick
75	NULL	Leslie67
53	NULL	Linnea59

Result Grid
Form Editor
Field Types
Query Stats

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

Conclusion: The following 25 users are those who have never posted on Instagram, hence, Instagram should send them emails to remind them to post!

Result and Insights

A) Marketing

3. Declaring Contest Winner

Task: Identify the winner of the contest and provide their details to the team (user who gets the most likes on a single photo will win the contest now they wish to declare the winner.)

SQL Query:

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

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

100% 1:11

Result Grid | Filter Rows: Search | Export: | Fetch rows:

user_id	total_likes	username	id
52	48	Zack_Kemmer93	145

Result Grid | Form Editor | Field Types | Query Stats

user_id	total_likes	username	id
52	48	Zack_Kemmer93	145

Conclusion: The following user has received the most number of likes and hence Instagram should reward him/her.

Result and Insights

A) Marketing

4. Hashtag Researching

Task: Identify and suggest the top 5 most commonly used hashtags on the platform

SQL Query:

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

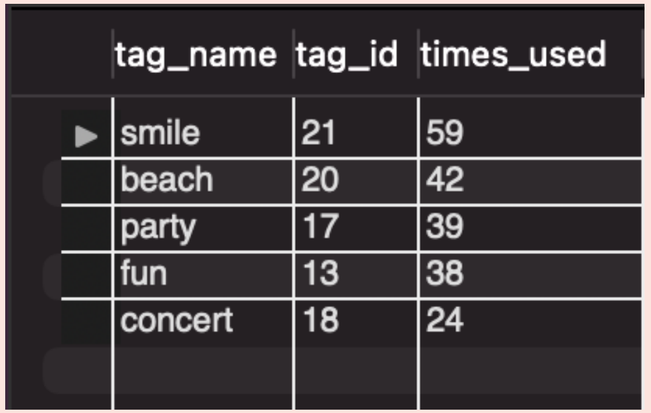
```sql
select tags.tag_name, photo_tags.tag_id, count(tag_id) as times_used
from ig_clone.photo_tags
join ig_clone.tags
on photo_tags.tag_id = tags.id
group by tag_id
order by times_used desc
limit 5;
```

100% 1:8

Result Grid | Filter Rows: Search | Export: | Fetch rows:

tag_name	tag_id	times_used
smile	21	59
beach	20	42
party	17	39
fun	13	38
concert	18	24

Result Grid | Form Editor | Field Types | Query Stats



tag_name	tag_id	times_used
smile	21	59
beach	20	42
party	17	39
fun	13	38
concert	18	24

Conclusion: These are the top 5 hashtags used, hence the partner brand should target the following tags!

Result and Insights

A) Marketing

5. Launch AD Campaign

Task: What day of the week do most users register on? Provide insights on when to schedule an ad campaign

SQL Query:

```
select count(dayofweek(created_at)) as users_reg,
dayofweek(created_at) as weekday
from
ig_clone.users
group by weekday
order by users_reg
```

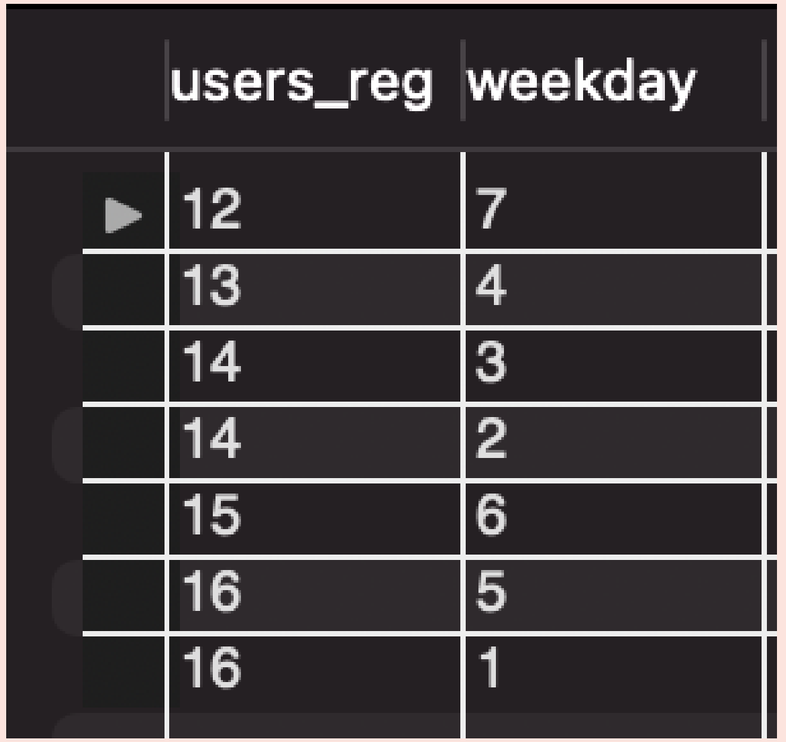
```
1  select count(dayofweek(created_at)) as users_reg, dayofweek(created_at) as weekday
2  from
3  ig_clone.users
4  group by weekday
5  order by users_reg
6
```

100% 1:6

Result Grid | Filter Rows: Search | Export:

users_reg	weekday
12	7
13	4
14	3
14	2
15	6
16	5
16	1

Result Grid | Form Editor | Field Types | Query Stats | Execution Plan



users_reg	weekday
12	7
13	4
14	3
14	2
15	6
16	5
16	1

Conclusion: As we can see weekday 1 & 5, i.e. Sunday & Thursday had the highest number of users registered

Note that, 1=Sunday, 2=Monday, 3=Tuesday, 4=Wednesday, 5=Thursday, 6=Friday, 7=Saturday

Result and Insights

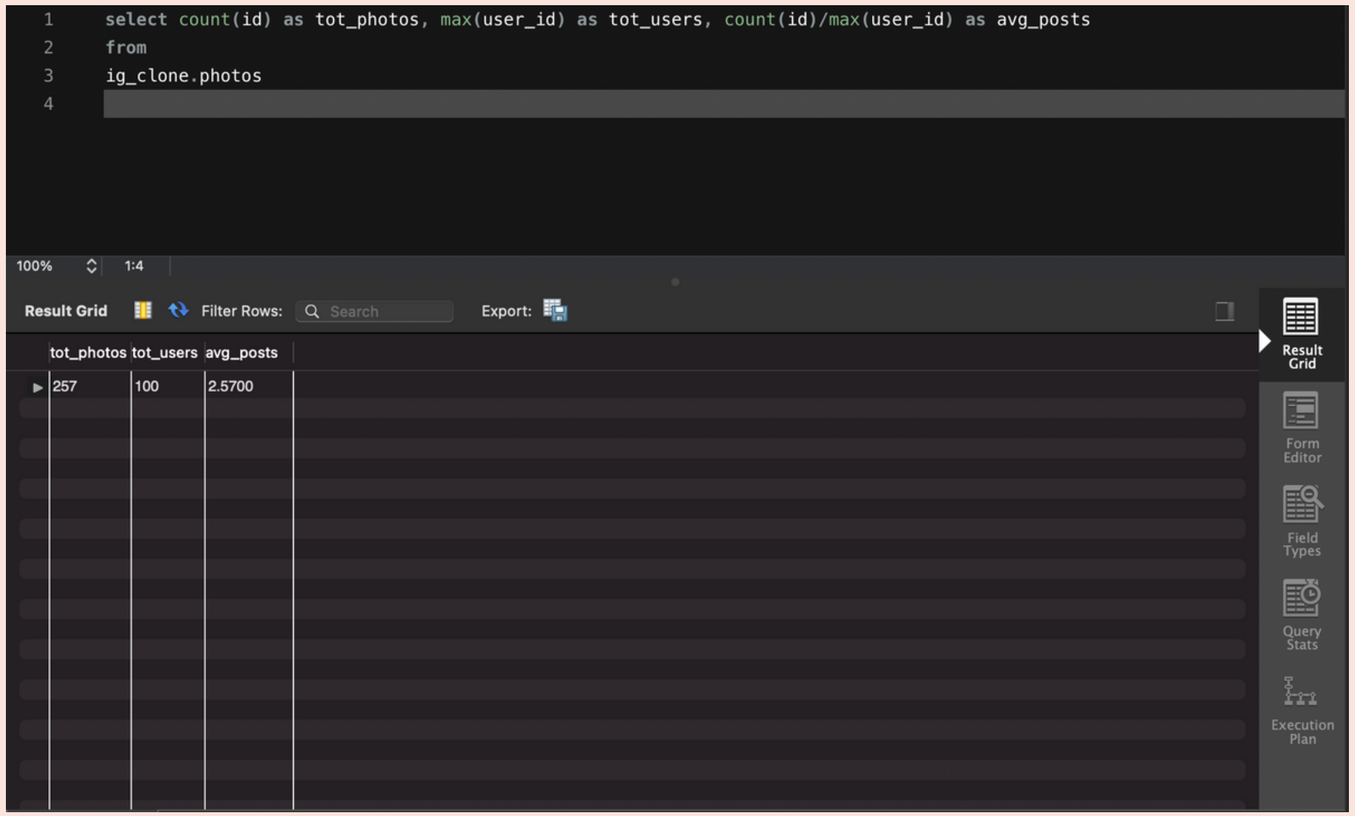
B) Investor metrics

1. User Engagement

Task: Provide how many times does average user posts on Instagram. Also, provide the total number of photos on Instagram/total number of users

SQL Query:

```
select count(id) as tot_photos, max(user_id) as tot_users,
count(id)/max(user_id) as avg_posts
from
ig_clone.photos
```



tot_photos	tot_users	avg_posts
257	100	2.5700

Conclusion: Hence we can see, the total number of posts are 257, total users are 100 and hence the avg no of posts is 2.57.

Result and Insights

B) Investor metrics

2. Bots & Fake Accounts

Task: Provide data on users (bots) who have liked every single photo on the site (since any normal user would not be able to do this).

SQL Query:

```
select user_id, count(user_id) as posts_liked, users.username
from ig_clone.likes
join ig_clone.users
on likes.user_id = users.id
group by user_id
having count(user_id) = 257
order by posts_liked
```

```sql
select user_id, count(user_id) as posts_liked, users.username
from ig_clone.likes
join ig_clone.users
on likes.user_id = users.id
group by user_id
having count(user_id) = 257
order by posts_liked
```

100% 1:8

Result Grid | Filter Rows: Search | Export:

user_id	posts_liked	username
5	257	Aniya_Hackett
14	257	Jaclyn81
21	257	Rocio33
24	257	Maxwell.Halvorson
36	257	Ollie_Ledner37
41	257	Mckenna17
54	257	Duane60
57	257	Julien_Schmidt
66	257	Mike.Auer39
71	257	Nia_Haag
75	257	Leslie67
76	257	Janelle.Nikolaus81
91	257	Bethany20

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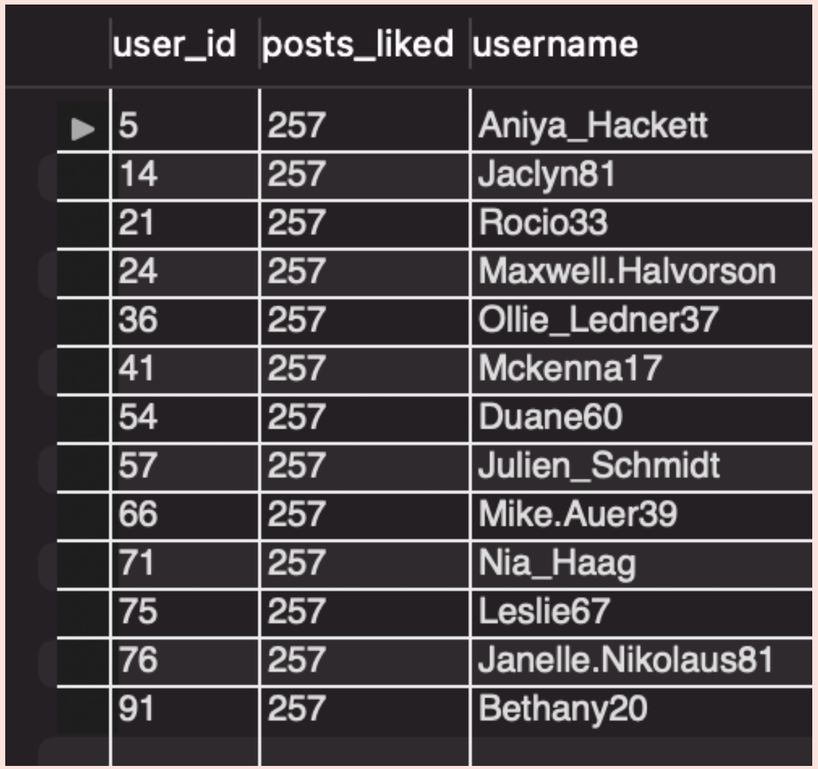

user_id	posts_liked	username
5	257	Aniya_Hackett
14	257	Jaclyn81
21	257	Rocio33
24	257	Maxwell.Halvorson
36	257	Ollie_Ledner37
41	257	Mckenna17
54	257	Duane60
57	257	Julien_Schmidt
66	257	Mike.Auer39
71	257	Nia_Haag
75	257	Leslie67
76	257	Janelle.Nikolaus81
91	257	Bethany20

Conclusion: Hence these are the users which have liked all the posts on Instagram and are probably bots!

Result

As a result, while I was working on this project, I gained knowledge on how to deal with a SQL database and how to use SQL queries to draw useful insights. In addition to that, I became very knowledgeable about the mySQL workbench and how to get the most out of it. Initially I had few problems as to working with the database and figuring out which function is the most relevant while formulating the query, but gradually after practicing all the tasks mentioned in the project I got a hold of the same and I managed to complete the project before the deadline.

Thank You