

PROJECT – II

Instagram User Analytics

Description of the Project

User analysis is the process by which we track how users engage and interact with our digital product (software or mobile application) in an attempt to derive business insights for marketing, product & development teams. These insights are then used by teams across the business to launch a new marketing campaign, decide on features to build for an app, track the success of the app by measuring user engagement and improve the experience altogether while helping the business grow.

In this project we are working with the product team of Instagram and the product manager has asked some insights from the dataset by asking some questions.

The questions asked need data analysis on the dataset provided to us. Running relevant queries will lead to the answers of the total 7 questions asked.

Approach

The approach for completing this project was that I first learn about SQL . I watched the videos provided by TRAINITY. I practiced few query and developed few skills. Further, I learnt about various operations and functions that can be performed on a dataset to gain insights.

I read in detail about the of the project and the demand of the project and then loaded the dataset into db-fiddle. Doing this I solved every question by running queries over the data and storing the results. While doing all this I came across few new things and learn a lot more things.

Tech stack used:

Online tool: db-fiddle

Link: [db-fiddle](#)

Insights

1) MARKETING

a) Rewarding Most Loyal Users:

People who have been using the platform for the longest time

ANSWER(QUERY)

```
SELECT * FROM ig_clone.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

The results seen after running this query, gives us the 5 oldest users of IG with their accounts created in the year of 2016 in the month of May. This means that the year 2016 had most people registered into the IG as compared to any other year.

b) Remind Inactive Users to Start Posting:

By sending them promotional emails to post their 1st photo.

Task:

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

ANSWER(QUERY)

```
SELECT DISTINCT username FROM ig_clone.users
```

```
LEFT JOIN ig_clone.photos
```

```
ON ig_clone.users.id = ig_clone.photos.user_id
```

```
WHERE ig_clone.photos.user_id IS NULL
```

username
Aniya_Hackett
Kassandra_Homenick
Jaclyn81
Rocio33
...

Result of this query is to give us the details of all those users who haven't posted a single photo on their IG account since the creation of their account. This information about the usernames and all can now be utilized by the marketing team to suggest them posts or mails in relevance to posting.

TASK DONE!

c) Declaring Contest 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.

Task:

Identify the winner of the contest and provide their details to the team

ANSWER(QUERY)

```
SELECT photo_id AS Winner FROM ig_clone.likes GROUP BY photo_id
ORDER BY COUNT(*) DESC LIMIT 1
```

id	username
52	Zack_Kemmer93

The team now has the details about the account of the person with most likes on their photos posted on IG. Winner can be declared and rewarded.
TASK DONE!

d)Hashtag Researching:

A partner brand wants to know, which hashtags to use in the post to reach the most people on the platform.

Task:

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

ANSWER(QUERY)

```
SELECT tag_name , tag_id AS most_used_tags FROM ig_clone.photo_tags
INNER JOIN ig_clone.tags
ON ig_clone.photo_tags.tag_id = ig_clone.tags.id
GROUP BY tag_id
ORDER BY COUNT(*) DESC LIMIT 5
```

tag_name
smile
beach
party
fun
concert

Here is the list of the 5 most used tags by the IG users. These tags give us information that the people have mostly been out in parties or at beach when

they have posted. People tend to use IG more for the purposes of posting pictures about their parties or vacations compared to any other activity of life.

TASK DONE !

e) Launch AD Campaign:

The team wants to know, which day would be the best day to launch ADs.

Task:

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

ANSWER(QUERY)

```
SELECT WEEKDAY(created_at) AS WEEKDAY FROM ig_clone.users  
GROUP BY WEEKDAY ORDER BY COUNT(*) DESC LIMIT 1
```

WEEKDAY
3

The output indicated the 3rd i.e. the 4th day of the week(starting from 0th) which is Thursday to be the weekday when most people created their IG accounts. Thursdays is therefore more likely to be the day when people spend more time on IG and so becomes the ideal day for launching an ad campaign on IG.

2)Investor metrics

a) User Engagement:

Are users still as active and post on Instagram or they are making fewer posts

Task

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

ANSWER(QUERY)

```
SELECT COUNT(id)/(SELECT COUNT(id) FROM ig_clone.users)
Avg_psoting FROM ig_clone.photos
```

Avg_psoting
2.5700

The result show the average time a user posted on the IG given the data. This figure gives a good idea of how many users remain active on the IG.

b)Bots & Fake Accounts:

The investors want to know if the platform is crowded with fake and dummy 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).

ANSWER(QUERY)

```
SELECT * FROM ig_clone.users WHERE id = (SELECT user_id FROM
ig_clone.likes GROUP BY user_id
```

```
ORDER BY COUNT(*) DESC LIMIT 1) AND (SELECT COUNT(*) FROM
ig_clone.likes GROUP BY user_id
```

```
ORDER BY COUNT(*) DESC LIMIT 1) = (SELECT COUNT(*) FROM
ig_clone.photos)
```

id	username
21	Rocio33

The output comes up with the user id = 21 that might be a bot and not a human because this user has liked each and every single photo present on the IG which is beyond the scope of a human. The team can use this information in whatsoever way seems suitable.

RESULT:

While completing this project, I learned a great deal about the SQL which I haven't earlier. Not only learning, I got to apply all that into this amazing project where I worked with a real dataset to answer some of the real world problems based on real scenarios and it felt pretty good. I think all the queries gave an optimal result and felt satisfactory, now I am planning to move on to next topics and apply that learning into more of these interesting projects.

THANK YOU!!!