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PROJECT
INSTAGRAM USER ANALYTICS

BY

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PROJECT DESCRIPTION

- Mainly the project is about Instagram user analysis where we track how users engage and interact with our digital product i.e. software or mobile application in order to derive insights that will be useful for the development of the product and even the data can be useful for marketing the product properly.
- The insights which are derived can then be used by teams across the business to launch a new marketing campaign, Decide on new features to include in the app, Track the success of the app by measuring user engagement, and improve the experience altogether while helping the business growth fighting the competition with the competitive products available across the globe.

APPROACH

1. CREATION OF DATABASE: Using the file provided by the product manager of Instagram and the data present in that sql file, I have loaded those data into my mysql workbench and created the "ig_clone" database, created tables and also inserted data into it successfully.
2. EXTRACTING DESIRED DATA USING MYSQL: Using MySQL knowledge and writing queries according to the given conditions and requirements by the Instagram team, I have extracted the relevant data required for knowing Instagram performance and its user analysis.

TECH-STACK USED

1. MySQL Workbench 8.0 CE: I used this version of MySQL to create database&tables, insert values and then run required and respective queries to derive the data and thus insights from the database and provide data to the Instagram team. I used this one as it is a free version available.
2. Microsoft Powerpoint 2016 Plus: I used this software to prepare the project details and disclose the results obtained in an attractive manner.

INSIGHTS

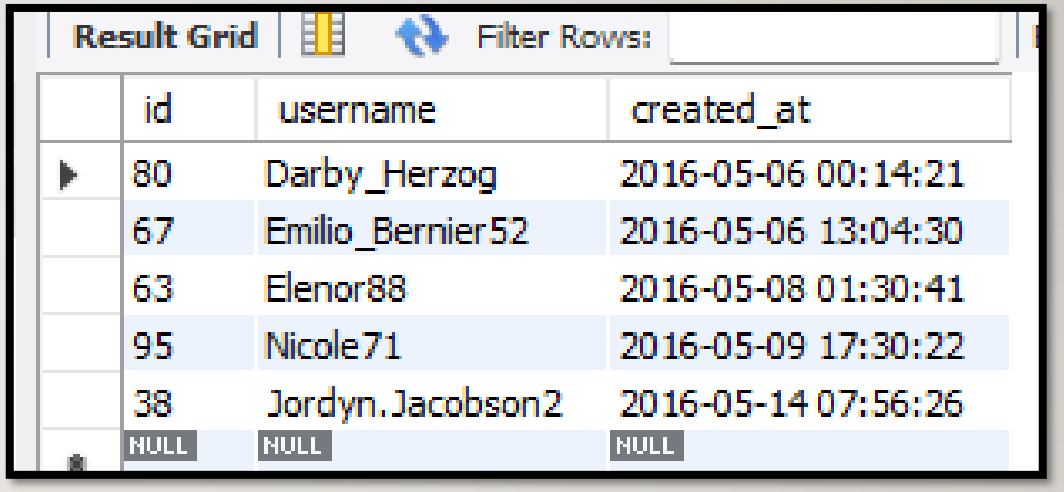
A) Marketing: The marketing team wants to launch some campaigns, and they need your help with the following

Rewarding Most Loyal Users: People who have been using the platform for the longest time.

Sql Query: Find the 5 oldest users of Instagram from the database provided

```
SELECT     * FROM
  users
ORDER BY created_at
limit 5;
```

Result Set:



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

The above picture shows the details of the 5 Oldest users Of Instagram,
So they should be rewarded by Instagram management.

INSIGHTS

Remind Inactive Users to Start Posting: By sending them promotional emails to post their 1st photo.
2. Find the users who have never posted a single photo on Instagram

```
SQL Query:  SELECT     users.id, username,
            photos.id as photo_id,  photos.image_url
      FROM     users
      LEFT JOIN
   photos ON users.id = photos.user_idWHERE
photos.id IS NULL;
```

Result Set:

Result Grid | Filter Rows: | Expo

id	username	photo_id	image_url
5	Aniya_Hackett	NULL	NULL
7	Kasandra_Homenick	NULL	NULL
14	Jadyn81	NULL	NULL
21	Rocio33	NULL	NULL
24	Maxwell.Halvorson	NULL	NULL
25	Tierra.Trantow	NULL	NULL
34	Pearl7	NULL	NULL
36	Ollie_Ledner37	NULL	NULL
41	Mckenna17	NULL	NULL
45	David.Osinski47	NULL	NULL
49	Morgan.Kassulke	NULL	NULL
53	Linnea59	NULL	NULL
54	Duane60	NULL	NULL
57	Julien_Schmidt	NULL	NULL
66	Mike.Auer39	NULL	NULL
68	Franco_Keebler64	NULL	NULL
71	Nia_Haag	NULL	NULL
74	Hulda.Macejkovic	NULL	NULL
75	Leslie67	NULL	NULL
76	Janelle.Nikolaus81	NULL	NULL
80	Darby_Herzog	NULL	NULL
81	Esther.Zulauf61	NULL	NULL
83	Bartholome.Bernhard	NULL	NULL
89	Jessyca_West	NULL	NULL
90	Esmeralda.Mraz57	NULL	NULL

Result 5

The Above Picture gives the details of the Users Whom Not Even Posted A Single Post,
So Team Instagram should send notifications to those users regularly reminding them to post their 1st Instagram post.

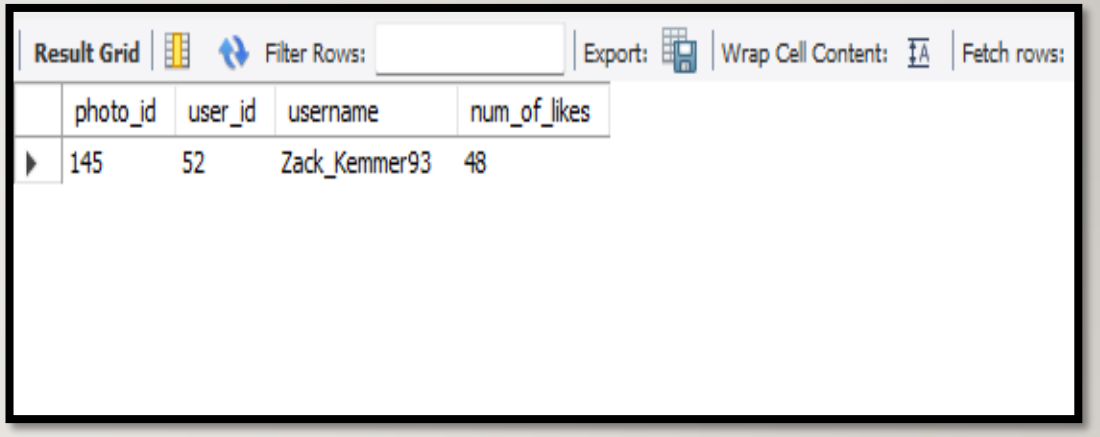
INSIGHTS

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.

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

SQL Query: SELECT DISTINCT photo_id, photos.user_id, users.username, COUNT(likes.created_at) AS num_of_likes FROM likes LEFT JOIN photos ON likes.photo_id = photos.id LEFT JOIN users ON photos.user_id = users.idGROUP BY photo_idORDER BY num_of_likes DESCLIMIT 1;

Result Set:



The above Picture gives the details of the user who got more likes on a single photo and so he is the winner of the contest.

INSIGHTS

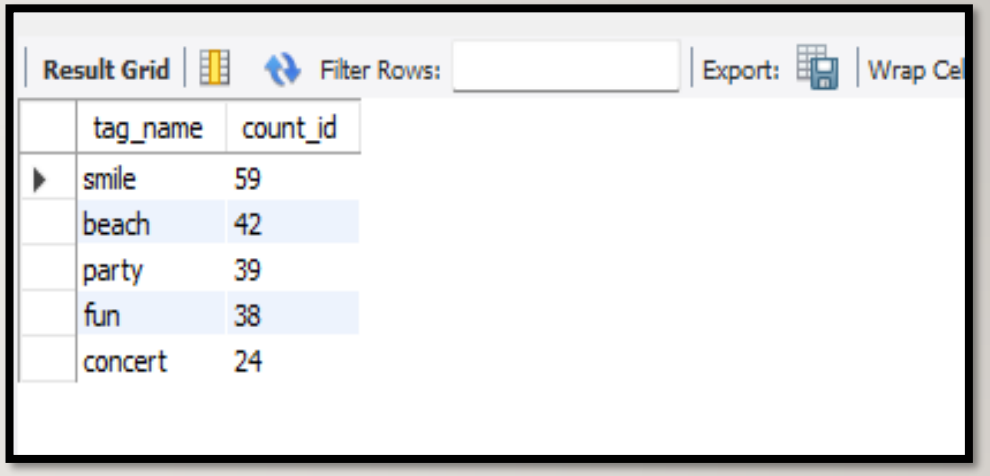
Hashtag Researching: A partner brand wants to know, which hashtags to use in the post to reach the most people on the platform.

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

SQL Query:

```
SELECT tags.tag_name,
COUNT(tag_id) AS
count_id
FROM photo_tags
INNER JOIN tags
ON photo_tags.tag_id = tags.id
GROUP BY tag_name
ORDER BY count_id DESCLIMIT 5;
```

Result Set:



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

The above picture gives the details of the top 5 most commonly used hashtags on Instagram

So users can use these hashtags under their posts to get more reach on the platform

INSIGHTS

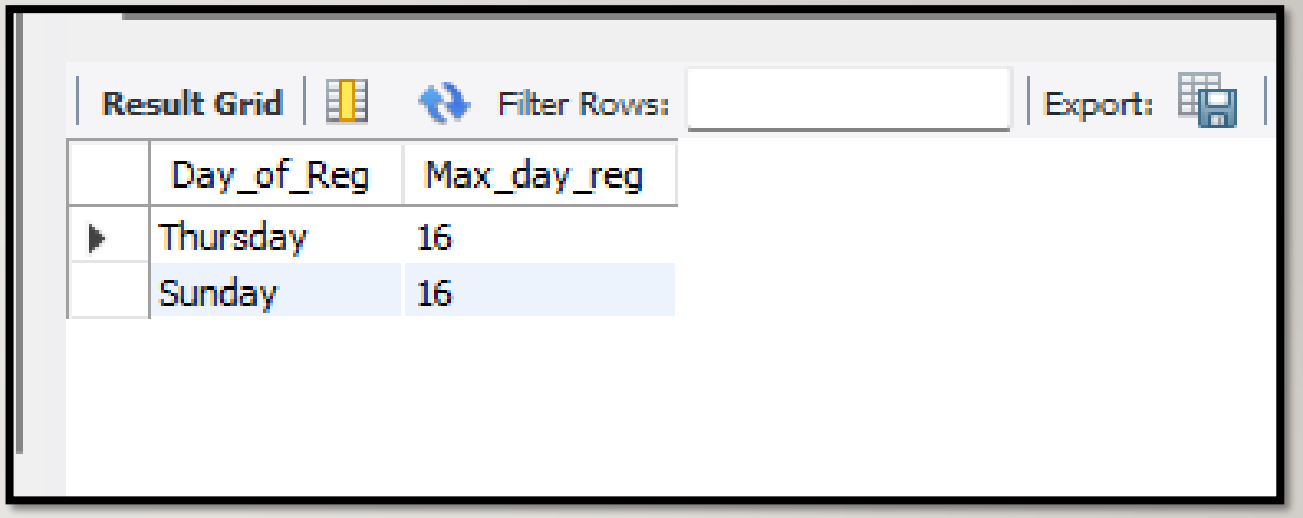
Launch AD Campaign: The team wants to know, which day would be the best day to launch ADs.

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

SQL Query:

```
SELECT
    DAYNAME(created_at)
        AS Day_of_Reg,
    COUNT(created_at)  AS
  Max_day_reg
   FROM    users
   GROUP BY day_of_reg
   ORDER BY max_day_reg DESC
LIMIT2;
```

Result Set:



	Day_of_Reg	Max_day_reg
▶	Thursday	16
	Sunday	16

Above picture gives the details of the day on which most of the users register on Instagram

So the marketing team of Instagram can now plan promotional marketing campaigns as per the data below.

INSIGHTS

B) Investor Metrics: Our investors want to know if Instagram is performing well and is not becoming redundant like Facebook, they want to assess the app on the following grounds

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

1. 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:

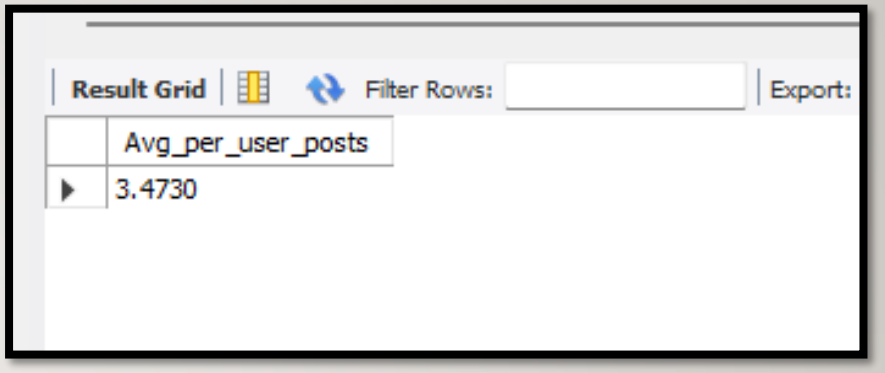
A. Provide how many times does average user posts on Instagram.

```
SELECT COUNT(id) / COUNT(DISTINCT user_id)
      AS  Avg_per_user_posts
FROM    photos;
```

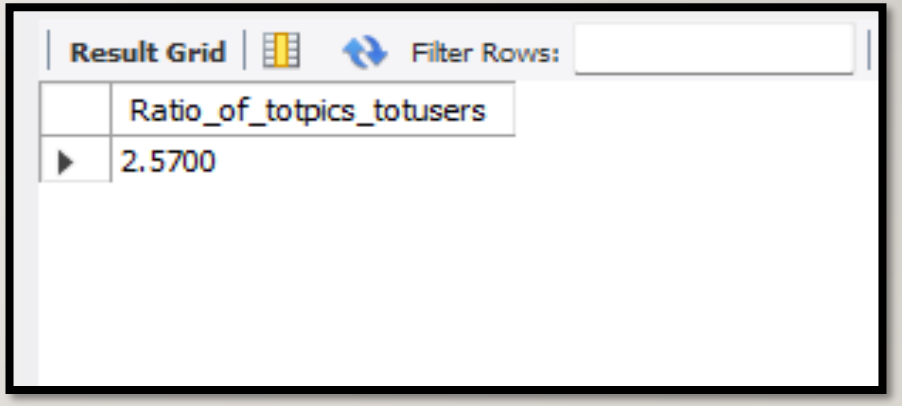
B. Provide the total number of photos on Instagram/total number of users

```
SELECT    (SELECT          COUNT(id)
                    FROM          photos)  /
 (SELECT          COUNT(id)       FROM
users) as Ratio_of_totpics_totusers;
```

Result Set A:



Result Set B:



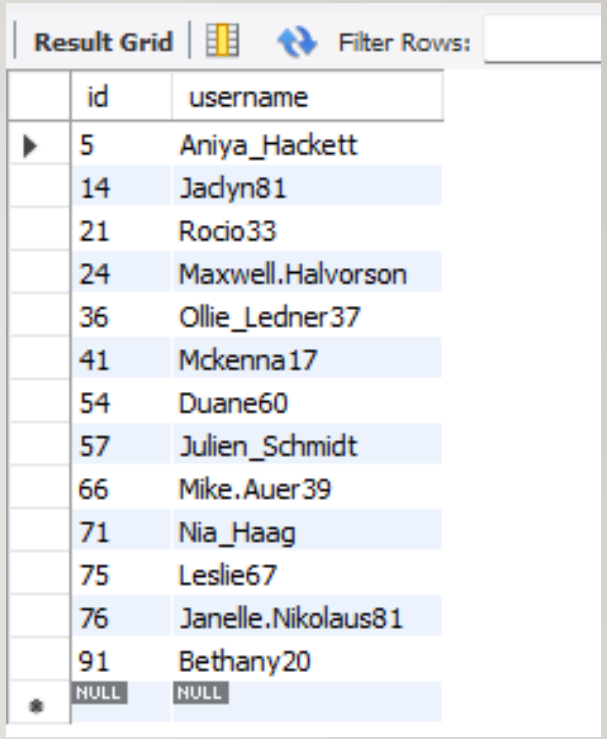
By the above results, we can know the performance of Instagram exactly.

INSIGHTS

Bots & Fake Accounts: The investors want to know if the platform is crowded with fake and dummy accounts
2. 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 id, username
FROM users WHERE id IN
(SELECT user_id FROM
likes
GROUP BY user_id
HAVING COUNT(user_id) = (SELECT
COUNT(id) FROM photos));
```

Result Set:



Result Grid | Filter Rows:

id	username
5	Aniya_Hackett
14	Jadyn81
21	Rocio33
24	Maxwell.Halvorson
36	Ollie_Ledner37
41	Mckenna17
54	Duane60
57	Julien_Schmidt
66	Mike.Auer39
71	Nia_Haag
75	Leslie67
76	Janelle.Nikolaus81
91	Bethany20
NULL	NULL

In order to attract investors into our product we need to identify and delete these bot accounts as it is a scrap and so keep our product clean.

RESULTS

- From "Project-Instagram User Analytics", I have learned how to use SQL Queries to Extract data from databases and use that data to get valuable insights by performing analysis on it.
- Those Analytics Results Will be helpful to make betterments in our product.
- Helpful to know user engagement with the product-Instagram.

CONCLUSION

Finally, Instagram User Analytics performed will be helpful in the following ways:

- To Know the oldest users and reward them with some gifts.
- To Conduct contests and encourage the public to use our product on Instagram In the market.
- To know the most famous hashtags being used under the posts.
- To Know the most effective days in a week to conduct promotional-marketing campaigns to attract the maximum possible public to download and start using our product-Instagram.
- To know user engagement with our product.
- To send notifications to inactive users to start posting and using Instagram.
- To identify bots and eliminate them to attract investors to invest in our product.