Trainity

Arranged by

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Instagram User Analytics Report

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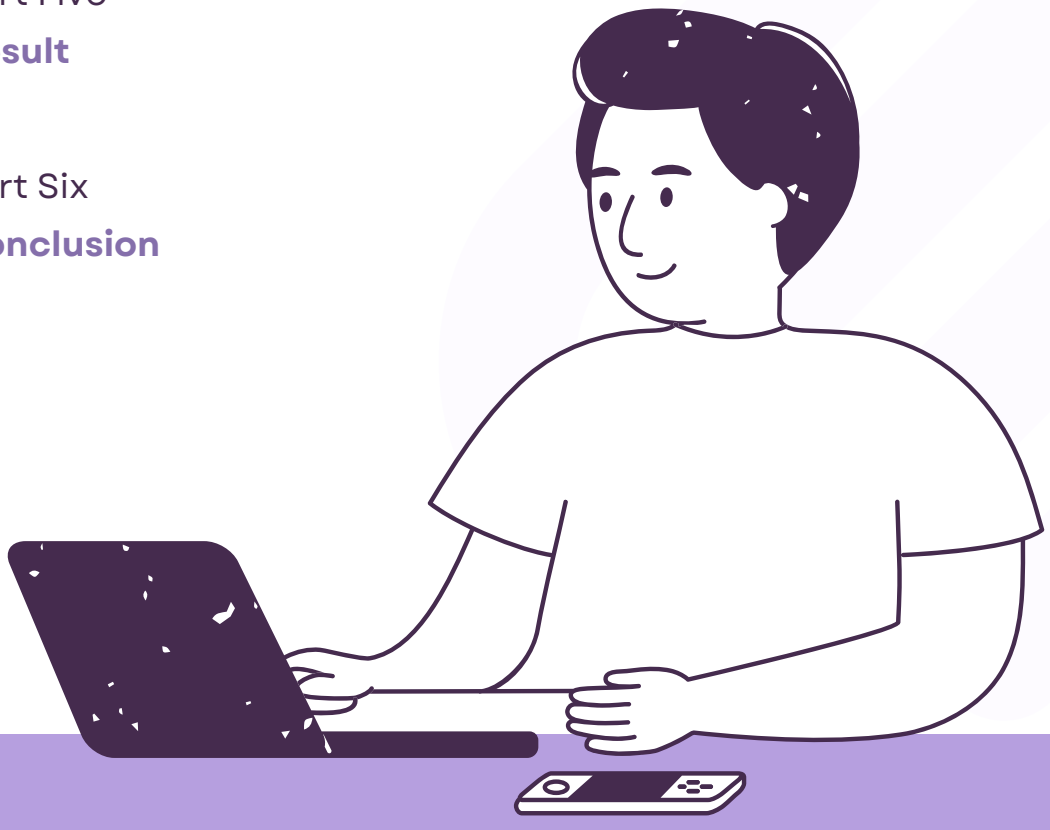


Part One

Project Description

Brief Summaries of the Report

In this project, we have used SQL to create a database on Instagram user metrics. The database contains information on user activity, such as the number of posts they have made, the number of likes they have received, and the hashtags they have used. We have used MySQL to derive insights from the data and answer the various questions of the problem statement.

The data-backed insights gained for both marketing and investor metrics issues have been explained in this report in an informative and concise manner.

Approach

Part Two

- Section 1: Data Collection and Database Creation: We began by designing a relational database comprising seven tables to store diverse information about the 100 Instagram users. These tables encompassed data on user metrics such as likes, follows, hashtags, and account creation details.

- Section 2: Problem Statements and Significance: The identified problem statements play a crucial role in improving the user experience on Instagram and addressing investor inquiries. By effectively addressing these problem statements, we can enhance the platform's functionality, user engagement, and investor confidence.

Approach

Part Two

- Section 3:

We employed various SQL queries to explore and analyze the collected data. These queries provided us with meaningful insights into user behavior, engagement patterns, and other key metrics. Throughout the report, we will present and explain these queries along with their corresponding findings.

- Section 4: Results and Recommendations:

Based on our analysis, we have identified significant patterns, trends, and correlations within the Instagram user metrics. These findings shed light on user preferences, content engagement, and account creation trends, among other valuable insights.

Part Three

Tech-Stack Used

MySQL Workbench

SQL Workbench played a pivotal role in our data analysis process, offering a comprehensive set of capabilities that facilitated the extraction of insights and the derivation of meaningful conclusions from our dataset. This powerful tool provided us with several advantages, making it an ideal choice for our analytical tasks.

SQL Workbench provided us with a robust and user-friendly environment for data manipulation, analysis, and visualization. Its powerful features, including advanced querying capabilities, data visualization options, analytical functions, efficient data management, and scalability, significantly contributed to our ability to generate valuable insights and draw meaningful conclusions from the Instagram user metrics dataset.

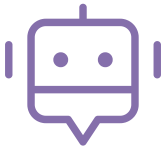
Insights

Part Four

Overall User Insights

100
Users

257
Photos



13
Bots

All Post Insights

21
Hashtags

7623
Follows

8782
Likes

7488
Comments

Result

Part Five

A) Marketing:

1.Rewarding Most Loyal Users:

People who have been using the platform for the longest time.

SQL Query Used:

```
SELECT * FROM users
 ORDER BY created_at
 LIMIT 5
```

```
1     /* Most Loyal User */
2 •   use ig_clone;
3 •    select * from users
4      order by created_at
5      limit 5
```

Result Grid | Filter Rows:

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

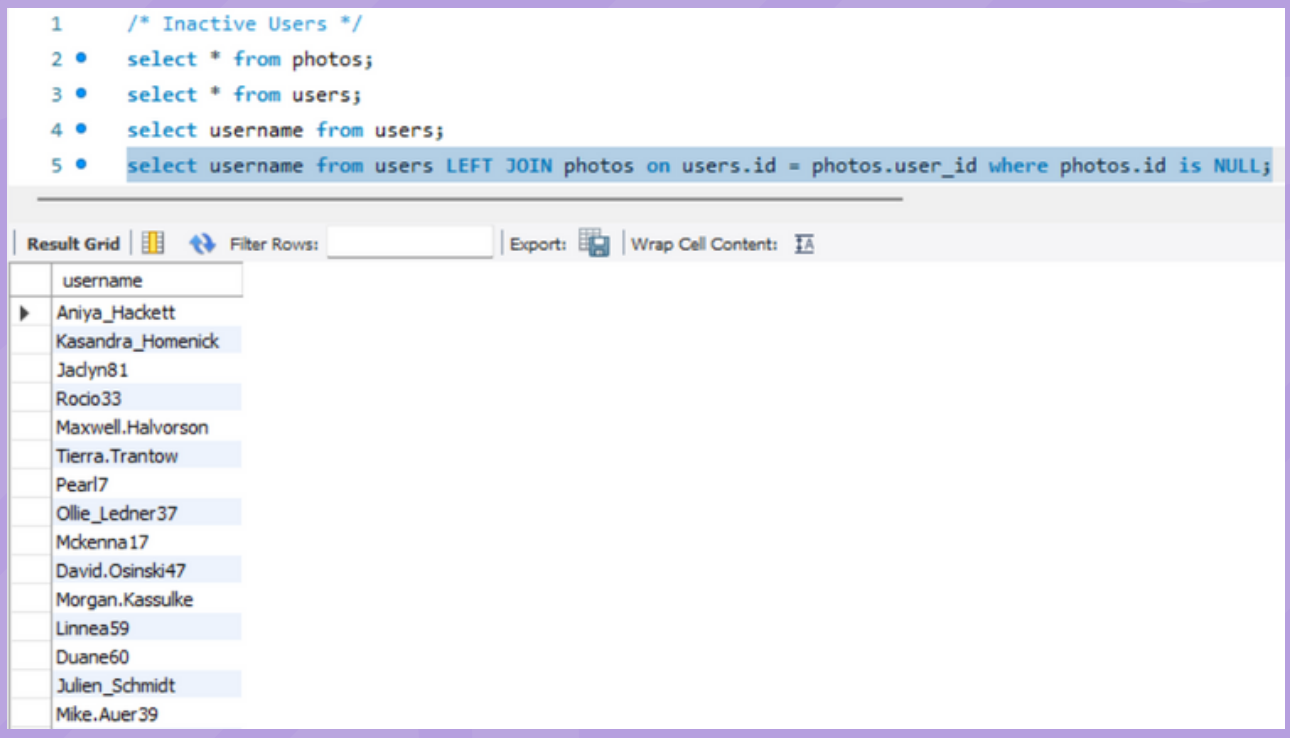
A) Marketing:

2. Remind Inactive Users to Start Posting:

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

SQL Query Used:

```
SELECT username FROM users
LEFT JOIN photos ON
users.id = photos.user_id
WHERE photos.id is NULL;
```



```
1    /* Inactive Users */
2 •  select * from photos;
3 •  select * from users;
4 •  select username from users;
5 •  select username from users LEFT JOIN photos on users.id = photos.user_id where photos.id is NULL;
```

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

username
Aniya_Hackett
Kasandra_Homenick
Jaclyn81
Rocio33
Maxwell.Halvorson
Tierra.Trantow
Pearl7
Ollie_Ledner37
Mckenna17
David.Osinski47
Morgan.Kassulke
Linnea59
Duane60
Julien_Schmidt
Mike.Auer39

A) Marketing:

3. Declaring Contest Winner:

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

SQL Query Used:

```
SELECT * FROM likes;
SELECT photo_id, COUNT(photo_id) as
count_value
FROM likes
GROUP BY photo_id
ORDER BY  count_value desc;
SELECT id, user_id FROMphotos
WHEREid = 145;
SELECT username FROM users
WHERE id = 52;
```

```
1     /* Contest Winner (most likes on single photo) */
2 •   select * from likes;
3 •   select photo_id, count(photo_id) as count_value
4     from likes
5     group by photo_id
6     order by count_value desc;
7     /* photo_145 has most likes (48) */
8 •   select id, user_id from photos
9     where id = 145;
10    /* photo_id 145 was posted by user 52 */
11 •  select username from users
12    where id = 52;
13    /* Zack_Kemmer93 is the username of user 52 */
```

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

username
Zack_Kemmer93

A) Marketing:

4. Hashtag Researching:

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

SQL Query Used:

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

```
1   /* 5 most commanly used hashtags */
2   select * from tags;
3   SELECT * from photo_tags;
4   SELECT count(photo_id) from photo_tags;
5   select photo_id, count(*) from photo_tags
6   group by photo_id;
7   SELECT tags.tag_name,COUNT(*) AS tag_count
8   FROM photo_tags
9   JOIN tags ON photo_tags.tag_id = tags.id
10  GROUP BY tags.id
11  ORDER BY tag_count DESC
12  LIMIT 5;
```

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

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

A) Marketing:

5. Launch AD Campaign:

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

SQL Query Used:

```
SELECT WEEKDAY(created_at)
as weekday,
COUNT(users.username) as
num_users FROM
ig_clone.users
GROUP BY weekday
ORDER BY num_users DESC
```

```
1    -- Most Active Weekday
2 •  select * from users;
3 •  select weekday(created_at) as weekday,
4    count(users.username) as num_users from ig_clone.users
5    group by weekday
6    order by num_users DESC
```

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

weekday	num_users
3	16
6	16
4	15
1	14
0	14
2	13
5	12

Weekday 3 corresponds to THURSDAY, therefore thursday would be the best day to launch ADs

A) Investor Metrics:

1. User Engagement:

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

```sql
use ig_clone;
-- How many times does average user posts on Instagram
SELECT   user_id , COUNT(id)AS COUNTS FROM photos
GROUP BY user_id;
```

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

user_id	COUNTS
1	5
2	4
3	4
4	3
6	5
8	4
9	4
10	3
11	5
12	4
13	5
15	4
16	4
17	3
18	1

```sql
-- The Total Number Of Photos on Instagram
select count(id) as
'Total Photos' from photos;
```

Result Grid | Filter Rows: | Export:

Total Photos
257

```sql
-- Total Number of Users
select count(id) as 'Total Users'  from users;
```

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

Total Users
100

A) Investor Metrics:

2. Bots & Fake Accounts:

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

SQL Query Used:

```
WITH photo_count as (
SELECT likes.user_id,
COUNT(likes.photo_id) num_likes
FROM likes
GROUP BY likes.user_id
ORDER BY num_likes desc)
SELECT * FROM photo_count
WHERE num_likes = (SELECT
COUNT(*) FROM photos);
```

```
1  with photo_count as (
2  select likes.user_id,
3  count(likes.photo_id) num_likes from likes
4  group by likes.user_id
5  order by num_likes desc)
6  select * from photo_count
7  where num_likes = (select count(*) from photos)
```

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

user_id	num_likes
21	257
71	257
5	257
66	257
41	257
14	257
57	257
24	257
76	257

Part Five

Conclusion

- The findings of the analysis provide valuable insights into how users are interacting with Instagram. For example, we found that the most active users are those who have been using the platform for the longest time. We also found that there are a significant number of bots on Instagram, which could be impacting the platform's overall engagement metrics.

- The findings of the analysis can be used to inform marketing campaigns and investment decisions. For example, the marketing team could use the findings to target their campaigns to the most active users. The investor team could use the findings to assess the platform's overall health and growth potential.

- The analysis was limited by the quality of the data. The data was incomplete and inaccurate in some areas. This limited the insights that could be gained from the analysis. However, the findings of the analysis are still valuable and can be used to inform marketing campaigns and investment decisions.