INSTAGRAM USER ANALYTICS

SQL FUNDAMENTALS

PROJECT DESCRIPTION:

The project is to delve into the perceptions of Instagram users, exploring their patterns of interaction with other users and their levels of engagement with the platform on a daily basis. The insights gleaned from this analysis offer valuable and practical information to the product teams at Instagram, equipping them to anticipate and forecast future trends of the app.Through the use of database management tools, we can extract meaningful insights from the raw data and even visualize them, facilitating the enhancement of the platform's efficiency.

PROJECT APPROACH:

I initiated the project by building a database utilizing the dataset's instructions. This was followed by creating tables for identifying and retrieving information from the data within them. To address inquiries posed by the Instagram App's management team and investor metrics, SQL queries were utilized to gather relevant data. A variety of sorting and data extraction queries were used to acquire the insights required to fulfill the project's objectives.

TECH STACK USED:

I utilized MYSQL as my workspace to execute the SQL commands and query the database. To carry out the data analysis, I specifically used MySQL Workbench v8.0.30.0, which proved to be an efficient and reliable tool for the project.

INSIGHTS:

During the project, I gained knowledge on how to effectively query and analyze data, optimizing my queries to extract useful insights from the database. I learned how to transform raw data into meaningful information by applying SQL queries, improving my ability to analyze and understand data.

A) Marketing:

1. Rewarding Most Loyal Users: 5 Oldest Users of the Instagram

SQL QUERY :

```
SELECT
    username as USER_NAME,
```

```
    DATE_FORMAT(created_at,'%Y-%m-%d') AS DATE,
    DATE_FORMAT(created_at,'%H:%i:%s') AS TIME
FROM users ORDER BY 2,3  LIMIT 5;
```

OUTPUT :

USER_NAME	DATE	TIME
Darby_Herzog	06-05-16	0:14:21
Emilio_Bernier52	06-05-16	13:04:30
Elenor88	08-05-16	1:30:41
Nicole71	09-05-16	17:30:22
Jordyn.Jacobson2	14-05-16	7:56:26

2.Remind Inactive Users to Start Posting:

SQL QUERY:

SELECT u.username AS USER_NAME FROM users u LEFT JOIN photos p ON u.id=p.user_id WHERE p.image_url is NULL ORDER BY 1;

OUTPUT:

USER_NAME
Aniya_Hackett
Bartholome.Bernhard
Bethany20
Darby_Herzog
David.Osinski47
Duane60
Esmeralda.Mraz57
Esther.Zulauf61

Franco_Keebler64
Hulda.Macejkovic
Jaclyn81
Janelle.Nikolaus81
Jessyca_West
Julien_Schmidt
Kasandra_Homenick
Leslie67
Linnea59
Maxwell.Halvorson
Mckenna17
Mike.Auer39
Morgan.Kassulke
Nia_Haag
Ollie_Ledner37
Pearl7
Rocio33
Tierra.Trantow

3.Declaring Contest Winner:

SQL QUERY:

SELECT u.username AS USER_NAME, l.photo_id AS PHOTO_ID,COUNT(l.user_id) AS USER_ID_COUNT FROM photos p JOIN likes l on p.id=l.photo_id JOIN users u on u.id=p.user_id GROUP BY 1,2 ORDER BY 3 DESC LIMIT 1;

OUTPUT:

USER_NAME	PHOTO_ID	USER_ID_COUNT
Zack_Kemmer93	145	48

The Winner of the Contest is Zack_Kemmer93 with 48 likes for the single image.

4.Hashtag Researching:

SQL QUERY:

SELECT t.tag_name AS TAG_NAME,COUNT(t.tag_name) COUNT FROM tags t
JOIN photo_tags p ON t.id=p.tag_id GROUP BY 1 ORDER BY 2 DESC LIMIT 5;

OUTPUT:

TAG_NAME	COUNT
smile	59
beach	42
party	39
fun	38
concert	24

The Top five commonly used hash tags are smile , beach , party , fun and concert.

5.Launch AD Campaign:

SQL QUERY:

SELECT DATE_FORMAT(created_at,'%W') AS DAY,COUNT(u.id) AS COUNT FROM users u GROUP BY 1 ORDER BY 2 DESC;

OUTPUT:

DAY	COUNT
Thursday	16
Sunday	16
Friday	15
Tuesday	14
Monday	14
Wednesday	13
Saturday	12

To Launch the Ad campaign Thursday and Sunday were the suitable time because they had the highest user registration count of 16.

B) Investor Metrics:

1.User Engagement:

PROVIDING THE AVERAGE USER POSTS ON INSTAGRAM

SQL QUERY:

```
SELECT AVG(posts_count) as AVG_POSTS FROM (SELECT u.id ,COUNT(p.id) AS
posts_count FROM users u JOIN photos p ON u.id=p.user_id GROUP BY 1) AS tb;
```

OUTPUT:

AVG_POSTS
3

Average Posts Count : 3

PROVIDING THE TOTAL NUMBER OF PHOTOS ON INSTAGRAM / TOTAL NUMBER OF USERS

SQL QUERY:

SELECT COUNT(u.id) AS USERS,COUNT(P.ID) AS PHOTOS FROM users u LEFT JOIN photos p ON u.id=p.user_id;

OUTPUT:

USERS	PHOTOS
283	257

2. Bots & Fake Accounts:

Unique photos count=257 as per the previous query output

SQL QUERY :

SELECT u.id AS USER_ID ,u.username AS USER_NAME ,count FROM (SELECT user_id,COUNT(photo_id) as count FROM likes GROUP BY 1) AS ts JOIN users u ON u.id=ts.user_id WHERE count=257;

OUTPUT:

USER_ID	USER_NAME	COUNT
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:

By Completing this project has given me the confidence to extract valuable insights from databases provided by product teams in the future.

DRIVE LINK :

https://docs.google.com/document/d/1YZwRc15A_DnLLa75PT25oSzd6Y3pHSB2tV9YIOgd9CU/edit?usp=sharing