INSTAGRAM USER ANALYTICS

SQL FUNDAMENTAL

PROJECT DESCRIPTION

- This project is about finding the important solutions of questions which further helps to improve the platform for users and business prospective.

- In this project I try to find some useful insights from data for marketing team for further help in their campaigns from promoting some ads to find not so active users to engage with platform etc. and also from investors metrics I tried to find some useful insights.

APPROCH

- My approach towards this project is to gather business insights from user engagement data using SQL queries .The management team was provided database so that I can perform the SQL operation to answer the questions which help them to build the application.

- In order to execute the project , SQL queries were used to create a database using raw data provided .

TECH STACK USED

MySQL workbench 8.0 is a open source SQL development , that helps to create database and perform SQL operation.

PROJECT INSIGHTS

The knowledge that I gained from the project is how to create the database , how to use the database, how can we perform SQL operation based on scenarios.

A) Marketing:

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

QUERY:

/*5 oldest users of the Instagram from the database provided */

SELECT*   FROM users
ORDER BY created_at asc
LIMIT 5;

id	username	created_at
80	Darby_Herzog	06-05-2016 00:14
67	Emilio_Bernier52	06-05-2016 13:04
63	Elenor88	08-05-2016 01:30
95	Nicole71	09-05-2016 17:30
38	Jordyn.Jacobson2	14-05-2016 07:56

2. Remind Inactive Users to Start Posting : By sending them promotional emails to post their 1st photo.

QUERY:

 /* users who have never posted a single photo on Instagram*/

```
  SELECT
 users.id,
  users.username,
  photos.user_id,
  photos.image_url
 from users
 left join photos
 on users.id=photos.user_id
  where photos.id is null;
```

id	username
5	Aniya_Hackett
7	Kasandra_Homenick
14	Jaclyn81
21	Rocio33
24	Maxwell.Halvorson
25	Tierra.Trantow
34	Pearl7
36	Ollie_Ledner37
41	Mckenna17
45	David.Osinski47
49	Morgan.Kassulke
53	Linnea59
54	Duane60
57	Julien_Schmidt
66	Mike.Auer39
68	Franco_Keebler64
71	Nia_Haag
74	Hulda.Macejkovic
75	Leslie67
76	Janelle.Nikolaus81
80	Darby_Herzog
81	Esther.Zulauf61
83	Bartholome.Bernhard
89	Jessyca_West
90	Esmeralda.Mraz57
91	Bethany20

3.**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.

QUERY:

/*The winner of the contest who gets most likes on single photo */

SELECT COUNT(*), photos.id , username
FROM photos
JOIN likes
ON likes.photo_id = photos.id
JOIN users
ON photos.user_id= users.id
GROUP BY photos.id
ORDER BY COUNT(*) DESC
LIMIT 1;

COUNT(*)	id	username
48	145	Zack_Kemmer93

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

QUERY:
    /*The top 5 most commonly used hashtags on the platform */

SELECT tag_name, count(*) as total_tags
 FROM photo_tags
JOIN tags
ON photo_tags.tag_id = tags.id
GROUP BY tags.id
ORDER BY total_tags DESC
 LIMIT 5;

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

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

QUERY:
   /*The day of the week do most users register on */

SELECT count(DISTINCT username),
dayname(created_at) FROM users
GROUP BY dayname(created_at)
ORDER BY count(DISTINCT username)DESC ;

COUNT(DISTINCT USERNAME)	DAYNAME (created_at)
16	Sunday
16	Thursday
15	Friday
14	Monday
14	Tuesday
13	Wednesday
12	Saturday

B) **Investor Metrics**:

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

SELECT
(select count(*) as totalphotos from photos) /
(select count(*) from users) as totalphotos ;

totalphotos
2.5700

2. **Bots & Fake Accounts:** The investors want to know if the platform is crowded with fake and dummy accounts.

QUERY:

/*The users who have like every single photo on the site */

SELECT username,count(*) as num_likes
 FROM users
INNER JOIN likes
ON users.id = likes.user_id
GROUP BY likes.user_id
 HAVING num_likes = (select count(*) from photos) ;

username	num_likes
Aniya_Hackett	257
Jaclyn81	257
Rocio33	257
Maxwell.Halvorson	257
Ollie_Ledner37	257
Mckenna17	257
Duane60	257
Julien_Schmidt	257
Mike.Auer39	257
Nia_Haag	257
Leslie67	257
Janelle.Nikolaus81	257
Bethany20	257

RESULT

- This project is my first on SQL which helped me to sharpen my basic SQL skill.

- By this project I have achieved and gain knowledge how to clean the data with help of MySQL.

- And how to interact with database and how to customize the query to get the desired output.