INSTAGRAM USER ANALYTICS

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Project Description

This Project helps to analyze the raw data to create useful insights for marketing, product and development teams in order to assist them with generating business insight . During this process, I am using various SQL queries to collect the required data . My analysis of the provided data enabled me to identify the oldest users, the most popular hashtag etc.

Project Approach:

In order to execute the project , MySQL was used to create a database using the raw data provided . Once the database was created , various sorting and data extracting queries were used to get the insights required.

Tech Stack Used:

MySQL Workbench v8.0.32.0 was used during project execution in order to query the database. The ease of access and setup, troubleshooting support as well as the GUI made it a good tool for the project.

Project Insights :

　　The knowledge that I gained from this project is how to create the database ,how to use the database , how can we perform SQL operation based on scenarios and how we can use this data to improve the experience altogether while helping this business grow.

Result : By looking at the questions asked we get following output queries

A. **Marketing :** The Marketing team wants to launch some campaigns , and they needs to solve some quire.

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

QUERY :

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

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

Output:

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

Conclusion :

The users id 80, 67, 63, 95, 38 are oldest users of the instagram from the database provided .

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

QUERY :

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

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

Output :

username
Aniya_Hackett
Bartholome.Ber…
Bethany20
Darby_Herzog
David.Osinski47
Duane60
Esmeralda.Mraz57
Esther.Zulauf61
Franco_Keebler64
Hulda.Macejkovic

Jaclyn81
Janelle.Nikolaus81
Jessyca_West
Julien_Schmidt
Kasandra_Home…
Leslie67
Linnea59
Maxwell.Halvorson

Mckenna17
Mike.Auer39
Morgan.Kassulke
Nia_Haag
Ollie_Ledner37
Pearl7
Rocio33
Tierra.Trantow

Conclusion : The above users have never post a single photo .

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 user who gets the most likes on a single photo.*/

```
SELECT

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

Output:

username	id	image_url	total
Zack_Kemmer93	145	https://jarret.name	48

Conclusion :

The user **Id. 145 Zack_Kemmer93** gets the most likes on a single photo.

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 :

/* Find the five most popular hashtags */

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

Output :

tag_name	tot...
smile	59
beach	42
party	39
fun	38
concert	24

Conclusion : **#Smile** , **#Beach** , **#Party** , **#Fun** and **#Concert** are the five most popular hashtags .
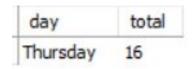
5 . Launch AD Campaign: The team wants to know, which day would be the best day to launch ADs.

QUERY : /* What day of the week do most users register on It ? */

```
SELECT
    dayname(created_at) AS day,
    count(*) As total
FROM users
group by day
order by total desc
limit 1;
```

Output :

day	total
Thursday	16

Conclusion :

Thursday , most users register on Instagram so , Thursday would be the best day to launch ADs .

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

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

QUERY :
/* Calculate average number of photos per user. */

Code:

```
SELECT (SELECT count(*)
            FROM photos) / (SELECT count(*)
                                FROM users) As avg;
```

Output :

avg
2.5700

Conclusion : Average number of photos per user is 2.5700 .

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

QUERY : / * Finding the bots - the users who have liked every single photo */

```
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);
```

Output :

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

Conclusion : The above users are fake and

Dummy accounts.