INSTAGRAM USER ANALYTICS

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AGENDA

- Project Description
- Approach
- Tech-Stack Used
- Insights
- Result

PROJECT DESCRIPTION

Finding business insights that can be used by teams across the business to launch a new marketing campaign, decide on features to build for an app, track the success of the app by measuring user engagement and improve the experience altogether while helping the business grow.

APPROACH

Database creation

Created and inserted the values in the database using the DDL & DML SQL queries provided by the product manager(as per project) in the MySQL database using MySQL workbench.

Extraction of Insights

After creating the database required insights are generated from the database tables by running SQL queries in MySQL workbench.

TECH-STACK USED

Used MySQL Community Server - GPL Version 8.0.36.0 and Connector Version C++ 8.0.36.0 for creating my project as MySQL Community Server - GPL is a free and open-source relational database management system that uses SQL.

INSIGHTS : MARKETING

 # 1.Rewarding Most Loyal Users:

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

```
SELECT id,
        username,
        created_at
FROM users
ORDER BY created_at
LIMIT 5;
```

The 5 oldest users of the Instagram from the database are :

id	username	created_at
63	Elenor88	2016-05-08 01:30:41
67	Emilio_Bernier52	2016-05-06 13:04:30
80	Darby_Herzog	2016-05-06 00:14:21
167	Emilio_Bernier52	2016-05-06 13:04:30
180	Darby_Herzog	2016-05-06 00:14:21

INSIGHTS : MARKETING

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

```
SELECT u.id,
        u.username,
        Count(p.user_id) AS 'no._of_posts'
FROM users u
    LEFT JOIN photos p
        ON u.id = p.user_id
GROUP BY u.id
HAVING Count(p.user_id) = 0;
```

The users who have never posted a single photo on Instagram:

id	username	no._of_posts
5	Aniya_Hackett	0
7	Kasandra_Homenick	0
14	Jaclyn81	0
21	Rocio33	0
24	Maxwell.Halvorson	0
25	Tierra.Trantow	0
34	Pearl7	0
36	Ollie_Ledner37	0
41	Mckenna17	0
45	David.Osinski47	0
49	Morgan.Kassulke	0
53	Linnea59	0
54	Duane60	0
57	Julien_Schmidt	0
66	Mike.Auer39	0
68	Franco_Keebler64	0
71	Nia_Haag	0
74	Hulda.Macejkovic	0
75	Leslie67	0
76	Janelle.Nikolaus81	0
80	Darby_Herzog	0
81	Esther.Zulauf61	0
83	Bartholome.Bernhard	0

INSIGHTS : MARKETING

 # 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.

```
SELECT id,
            username
FROM users
WHERE id = (SELECT user_id
                  FROM photos
                  WHERE id = (SELECT photo_id
                                       FROM likes
                                       GROUP BY photo_id
                                       ORDER BY Count(photo_id) DESC
                                       LIMIT 1));
```

Details of the winner of the contest are :

	id	username
▶	52	Zack_Kemmer93

INSIGHTS : MARKETING

 # 4.Hashtag Researching:

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

```
SELECT t.tag_name,
        Count(t.tag_name) AS "tags count"
FROM tags t
    INNER JOIN photo_tags ph
            ON t.id = ph.tag_id
GROUP BY t.tag_name
ORDER BY Count(t.tag_name) DESC
LIMIT 5;
```

The top 5 most commonly used hashtags on the platform are

	tag_name	tags count
▶	smile	59
	beach	42
	party	39
	fun	38
	concert	24

INSIGHTS : MARKETING

 # 5.Launch AD Campaign:

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

```
SELECT Dayname(created_at) "day of week“,
            Count(Dayname(created_at)) "count of users registered"
FROM users
GROUP BY Dayname(created_at)
ORDER BY Count(Dayname(created_at)) DESC
LIMIT 2;
```

Day of the week do most users register on :

	day of week	count of users registered
▶	Thursday	32
	Sunday	32

INSIGHTS :INVESTOR METRICS

 # 1.User Engagement:

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

```
SELECT (SELECT Count(id)
            FROM   photos) / (SELECT Count(DISTINCT user_id)
                              FROM   photos) AS Average_posts_per_User,
           (SELECT Count(id)
            FROM   photos) / (SELECT Count(id)
                              FROM   users)  AS Ratio_of_Total_Posts_to_Total_Users;
```

Average user posts and ratio of total posts to total users in Instagram are :

	Average_posts_per_User	Ratio_of_Total_Posts_to_Total_Users
▶	6.9459	2.5700

INSIGHTS :INVESTOR MATRICS

 # 2.Bots & Fake Accounts:

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

```
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));
```

Data of users (bots) who have liked every single photo on the site (since any normal user would not be able to do this) are :

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

RESULTS

- ❑ Learnt fundamentals of data analysis using SQL queries to extract insights from database by which we track how users engage and interact with our digital product (software or mobile application) in an attempt to derive business insights for marketing, product & development teams.
- ❑ Conclusions from above analysis :
  - Marketing team can reward the most loyal customers, send promotional emails to inactive users, use popular hashtags and most active day for brand promotions.
  - User engagement can be very useful growth success metric for the company.
  - Company can remove the bots and fake accounts from the platform to enhance the user experience

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