



TRAINITY

# INSTAGRAM USER ANALYTICS



# PROJECT DESCRIPTION

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- The project aimed to analyze a social media platform's user engagement by studying photos and likes data.
- The purpose was to understand which photos received the most likes derive insights into user preferences and popular content
- The primary approach involved querying and joining data from the photos, likes, and users tables.
- This evaluation yields valuable and practical knowledge to the Instagram product teams, which can be utilized to anticipate and project the future developments of the Instagram app.

# APPROACH

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## Data Collection:

Obtained relevant datasets from the social media platform's database

## Data Exploration:

Explored the data to understand the structure, relationships, and columns in each table.



## Data Preprocessing:

Performed necessary data transformations to make it suitable for analysis.



## Sql Queries:



Utilized SQL queries to join the tables based on common keys

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# TECH-STACK USED

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MYSQL WORKBENCH

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# INSIGHTS

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- The photo with the most likes provided insights into the content that resonated most with users, potentially indicating popular trends or visual themes
- Understanding which users uploaded the most - liked photos could offer valuable information about influential content creators on the platform

## A) Marketing:

- 1) Rewarding Most Loyal Users: 5 oldest users of instagram

### SQL QUERY:

```
select * from users order by created_at limit 5;
```

### QUERY OUTPUT:

| <u>id</u> | <u>username</u>  | <u>created_at</u>   |
|-----------|------------------|---------------------|
| 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 |

## 2)Remind Inactive Users to Start Posting:

### SQL QUERY:

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

# QUERY OUTPUT:

| username           |
|--------------------|
| Aniya_Hackett      |
| Kassandra_Homenick |
| Jaclyn81           |
| Rocio33            |
| Maxwell.Halvorson  |
| Tierra.Trantow     |
| Pearl7             |
| Ollie_Ledner37     |
| Mckenna17          |
| David.Osinski47    |
| Morgan.Kassulke    |
| Linnea59           |
| Duane60            |
| Julien_Schmidt     |

|                     |
|---------------------|
| Mike.Auer39         |
| Franco_Keebler64    |
| Nia_Haaq            |
| Hulda.Macejkovic    |
| Leslie67            |
| Janelle.Nikolaus81  |
| Darby_Herzog        |
| Esther.Zulauf61     |
| Bartholome.Bernhard |
| Jessyca_West        |
| Esmeralda.Mraz57    |
| Bethany20           |

### 3) Declaring Contest Winner

#### SQL QUERY:

```
SELECT
    username,
    photos.id,
    photos.image_url,
    count(likes.user_id) 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;
```

#### QUERY OUTPUT:

| username      | id  | image_url   | total |
|---------------|-----|---|-------|
| Zack_Kemmer93 | 145 | <a href="https://jarret.name">https://jarret.name</a> | 48    |

## 4)Hashtag Researching:

### SQL QUERY:

```
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;
```

### QUERY OUTPUT:

| tag_name | total |
|----------|-------|
| smile    | 59    |
| beach    | 42    |
| party    | 39    |
| fun      | 38    |
| concert  | 24    |

## 5)Launch AD Campaign:

### SQL QUERY:

```
select date_format(created_at,'%W')as 'weekday',count(*) as  
'number of registration' from users group by 1 order by 2 desc ;
```

### QUERY OUTPUT:

THURSDAY WILL  
BE THE BEST DAY TO  
LAUNCH AD  
CAMPAIGN

| weekday   | number of registration |
|-----------|------------------------|
| Thursday  | 16                     |
| Sunday    | 16                     |
| Friday    | 15                     |
| Tuesday   | 14                     |
| Monday    | 14                     |
| Wednesday | 13                     |
| Saturday  | 12                     |

## B) Investor Metrics:

### 1) User Engagement:

Provide how many times does average user posts on Instagram:

#### SQL QUERY:

```
SELECT  
    (SELECT COUNT(*) FROM photos)  
    / (SELECT COUNT(*) FROM users) AS avg;
```

#### QUERY OUTPUT:

| avg    |
|--------|
| 2.5700 |

Provide 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;
```

## QUERY OUTPUT:

| USERS | PHOTOS |
|-------|--------|
| 283   | 257    |

## 2)Bots & Fake Accounts:

### SQL QUERY:

```
SELECT user_id,username, COUNT(*) AS count_of_likes FROM users INNER JOIN
likes ON users.id = likes.user_id
GROUP BY likes.user_id
HAVING count_of_likes = (SELECT COUNT(*)FROM photos);
```

### QUERY OUTPUT:

| user_id | username           | count_of_likes |
|---------|--------------------|----------------|
| 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            |

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# RESULT

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- The insights gained from this analysis can guide strategic decisions for the platform's growth and user satisfaction.
- This achievement provided valuable information.
- Overall, the project's impact lies in its ability to derive actionable insights from the available data.



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# DRIVE LINK

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[https://drive.google.com/drive/folders/1rpBiJJBbW3B9A0auxs  
WEamXAy0HeXs9F?usp=sharing](https://drive.google.com/drive/folders/1rpBiJJBbW3B9A0auxsWEamXAy0HeXs9F?usp=sharing)