

# INSTAGRAM USER ANALYSIS

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# PROJECT DESCRIPTION

This project aims to conduct a comprehensive analysis of Instagram users, delving into their behaviors, preferences, and interactions within the platform. Leveraging advanced data analytics and machine learning techniques, we will scrutinize user engagement patterns, content preferences, and the impact of various factors such as demographics and posting frequency on user activity. By examining the relationships between users and their content, we aspire to uncover meaningful insights that can inform marketing strategies, content creation, and platform optimization. Our analysis will not only provide a nuanced understanding of individual user profiles but also contribute to a broader comprehension of the dynamic social ecosystem on Instagram, empowering businesses and influencers to make informed decisions and enhance their digital presence.



# APPROACH

In undertaking the Instagram User Analysis project, our approach centers on two critical stages: database creation and information extraction. To initiate the database creation process, we systematically compile a comprehensive dataset comprising user profiles, posts, and engagement metrics. This involves utilizing Instagram's API alongside web scraping methodologies to capture a diverse range of user behaviors. The extraction of information follows a meticulous strategy, focusing on data cleansing and normalization techniques to refine the dataset. By eliminating inconsistencies and enhancing the quality of the data, we ensure the accuracy of the information extracted. These two foundational steps pave the way for a robust analysis, enabling us to uncover meaningful insights into the dynamic landscape of Instagram user interactions and preferences.

## 1. Database creation

Gathering diverse user data through Instagram's API and web scraping for a comprehensive database.

## 2. Information extraction

Rigorous cleansing ensures accurate insights into Instagram user behaviors and preferences.

# Tech-Stack Used

Used MySQL Community Server - GPL Version 8.0.33 and Connector Version C++ 8.0.33 for creating my project as MySQL Community Server - GPL is a free and open-source relational database management system that uses SQL

# INSIGHTS

Leveraging MySQL Community Server under the GPL, our Instagram User Analysis project delivers actionable insights into user behaviors. The robust database system enables efficient storage and retrieval of engagement patterns, empowering stakeholders to make informed decisions based on a secure and scalable data foundation.

# Insights : Marketing Analysis

#1 Rewarding most loyal users :  
people who have been using the platform for longest time.

Code :

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

5 oldest users of the Instagram from the databases are :

	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
	NULL	NULL	NULL

# Insights

## #2 Remind Inactive Users to Start Posting:

The team wants to encourage inactive users to start posting by sending them promotional emails.

Code :

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

These users were inactive after their first post :

username
Aniya_Hackett
Kassandra_Homenick
Jadyn81
Rocio33
Maxwell.Halvorson
Tierra.Trantow
Pearl7
Ollie_Ledner37
Mckenna17
David.Osinski47
Morgan.Kassulke
Linnea59
Duane60
Julien_Schmidt
Mike.Auer39
Franco_Keebler64
Nia_Haag
Hulda.Macejkovic
Leslie67
Janelle.Nikolaus81
Darby_Herzog
Esther.Zulauf61
Bartholome.Bernhard
Jessyca_West
Esmeralda.Mraz57
Bethany20

# Insights

## #3 Declaring Contest Winner :

The team has organized a contest where the user with the most likes on a single photo wins.

Code :

```
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;
```

The user who got the most likes in his one post :

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

# Insights

## #4 Hashtag\_Researching\_:

A partner brand wants to know the most popular hashtags to use in their posts to reach the most people.

Code :

```
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;
```

The user who got the most likes in his one post :

tag_name	total
smile	59
beach	42
party	39
fun	38
food	24
lol	24
concert	24
hair	23
happy	22
beauty	20
dreamy	20
sunset	19
fashion	19
drunk	19
sunrise	17
landscape	17
style	17
photogra...	16
stunning	16
delicious	15
foodie	11

# Insights

#5 Launch AD Campaign:

The team wants to know the best day of the week to launch ads.

Code :

```
SELECT  
DAYNAME(created_at) AS day, count(*) as total  
FROM users  
GROUP BY day  
ORDER BY total DESC  
LIMIT 2j
```

These days would be best for AD Campaign :

	day	total
▶	Thursday	16
	Sunday	16

# Insights : Investor Metrics

## #1 User Engagement:

Investors want to know if users are still active and posting on Instagram or if they are making fewer posts.

A user average post is more than 2.

Code :

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

Result Grid	
	avg
▶	2.5700

# Insights

## #2 Bots & Fake Accounts :

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

Code :

```
SELECT user_id, COUNT(*) as num_likes
FROM likes
GROUP BY user_id
HAVING num_likes = (SELECT COUNT(*) FROM photos);

SELECT u.username, COUNT(*) as num_likes
FROM users u
JOIN likes l ON u.id = l.user_id
GROUP BY u.id
HAVING num_likes = (SELECT COUNT(*) FROM photos);
```

These are some users who can be bot or fake account :

username	num_likes
Aniya_Hackett	257
Jadyn81	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

In our Instagram User Analysis project using MySQL, we've successfully extracted and analyzed user data to unveil meaningful insights. The MySQL database proved instrumental in structuring and organizing the vast array of user information, enabling us to discern patterns in engagement, content preferences, and posting habits. With this data-driven approach, businesses and influencers can make informed decisions to tailor their strategies for enhanced user engagement. MySQL's efficiency in data management ensures a reliable foundation for ongoing analysis and strategic refinement, contributing to a more nuanced understanding of the dynamic Instagram user landscape.





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Thank you