



# Instagram User Analytics

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Mowleeshwaran V R

SRM Institute of Science and Technology

Kattankulathur

Chennai, 603 203

## Description:

The Instagram user analytics project aims to gather insights into behavior of users on Instagram by analyzing their activity on the platform. The project will involve creating a new database, inserting data into the database, and performing various analyses on the data to answer specific questions about user behavior.

## Approach:

1. Define objectives and questions: The first step is to define the objectives of the project and the question that need to be answered. Some possible question might include:
  - What are the most popular hashtags used by Instagram users?
  - What is the average number of likes and comments received by a post?
  - What is the most common time of day for users to post on Instagram?
  - Which users have the most followers?
2. Gather data: The next step is to gather data from Instagram. These are various methods for gathering data, such as using Instagram's API, Web scraping. Depending on the scope of the project, it may be necessary to collect data over a period of time to get a representative sample.
3. Create a database: Once the data is collected, the next step is to create a new database to store the data. There are various types of databases that can be used for this project, such as SQL or NoSQL databases.
4. Insert data: After creating the database, the data can be inserted into it. It is essential to ensure that the data is cleaned and formatted correctly to avoid any errors or inconsistencies.
5. Perform analysis: Once the data is in the database, the next step is to perform various analyses to answer the questions defined earlier. These are various analytical tools and techniques that can be used, such as data visualization, statistical analysis, and machine learning algorithms.
6. Draw conclusions and present findings: After completing the analysis, the final step is to draw conclusions and present the findings. The conclusions should be based on the data and insights gained from the analysis. The findings can be presented in various formats, such as tables, charts, graphs, or reports.

Overall, the Instagram user analytics project is a comprehensive approach to analyzing user behavior on the platform, Which can help businesses and individuals optimize their Instagram strategies for maximum engagement and reach.

## Tech-Stack Used:

MySQL Workbench 8.0 CE(Provides a visual console to easily adminster MySQL environments and gain better visibility into databases).

## Insights:

### Marketing:

1. Rewarding Most Loyal Users: People who have been using the platform for the longest time.Your Task:Find the 5 oldest users of Instagram from the database provided.

Query:**select \* from users order by created\_at limit 5;**

2. Remind Inactive Users to Start Posting:By sending them promotional emails to post their 1st photo.Your Task :Find the users who never posted a single photo on Instagram

Query:**select username from users left join photos on users.id=photos.user\_id where photos.id is null;**

3. Declaring Contest Winner:The team started a contest and the user who gets the most likes on a single post will win the contest now they wish to declare the winner. Your Task:Identify the winner of the contest and provide their details to the team.

Query:**select users.username, photos.id,photos.image\_url,count(\*) as total\_likes from likes join photos on photos.id=likes.photo\_id join users on users.id=likes.photo\_id group by photos.id order by total\_likes desc limit 1;**

4. Hashtag Researching : A partner brand wants to know, which hashtags to use in the post to reach the most people on the platform.Your task : Identify and suggests the top 5 most commonly used hastags on the platform

Query:**select tags.tag\_name,COUNT(\*) as total from photo\_tags join tags on photo\_tags.tag\_id=tag\_id group by tags.id order by total desc limit 5;**

5. Launch AD Campaign: The team wants to know which day would be the best day to launch ADs. Your Task: What day of the week do most users register on? Provide insights on when to schedule an ad campaign

Query: **select dayname(created\_at) as day, count(\*) as total from users group by day order by total desc limit 5;**

### Investor Metrics:

1. User Engagement: Are users still as active and post on Instagram or they are making fewer posts. Your Task: Provide how many times does average user posts on Instagram. Also provide the total number of photos on Instagram/total number of users.

Query: **select round((select count(\*) from photos)/(select count(\*) from users),2);**

Query: **select count(distinct(users.id)) as total\_no from users join photos on users.id=photos.user\_id;**

2. Bots & Fake Accounts: The investors want to know if the Platform is crowded with fake and dummy accounts. Your Task: Provide data on users(bots) who liked every single photo on the site(since any normal user would not be able to do this).

Query: **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)**

## Outputs:

MySQL Workbench

INSTAGRAM USER ANALYTIC

File Edit View Query Database Server Tools Scripting Help

Limit to 1000 rows

```

84 • INSERT INTO tags(tag_name) VALUES ('sunset'), ('photography'), ('sunrise'), ('landscape'), ('food'), ('foodie'), ('delicious'), ('beauty'), ('stunning'), ('dreamy'), ('lol'), ('happy'), ('fun'), ('style'),
85
86
87 • INSERT INTO photo_tags(photo_id, tag_id) VALUES (1, 18), (1, 17), (1, 21), (1, 13), (1, 19), (2, 4), (2, 3), (2, 20), (2, 2), (3, 8), (4, 12), (4, 11), (4, 21), (4, 13), (5, 15), (5, 14), (5, 17), (5, 16),
88
89
90 select * from users order by created_at limit 5;

```

Result Grid

	id	username	created_at
▶	80	Darby_Herzog	2016-05-06 00:14:21
	67	Emile_Bernier52	2016-05-06 13:04:30
	63	Elenor68	2016-05-08 01:30:41
	95	Nicole71	2016-05-09 17:30:22
	38	Jordyn_Jacobson2	2016-05-14 07:56:26

users 1 x

Query Completed

INSTAGRAM USER ANALYTIC

Limit to 1000 rows

```

86
87 • INSERT INTO photo_tags(photo_id, tag_id) VALUES (1, 18), (1, 17), (1, 21), (1, 13), (1, 19), (2, 4), (2, 3), (2, 20), (2, 2), (3, 8), (4, 12), (4, 11), (4, 21), (4, 13), (5, 15), (5, 14), (5, 17), (5, 16),
88
89
90 select * from users order by created_at limit 5;
91
92 • select username from users left join photos on users.id=photos.user_id where photos.id is null;

```

Result Grid

	username
▶	Aniya_Hackett
	Kassandra_Homenick
	Jacyn81
	Rocio33
	Maxwell_Halvorson
	Tierra_Tranter
	Pearl7
	Ollie_Ledner37
	McKenzie17
	David_Osinski47
	Morgan_Kassulke
	Linnea59
	Duane60
	Julien_Schmidt
	Mike_Auer39
	Franco_Keebler64
	Nia_Haag
	Hilda_Macejkovic
	Leslie7
	Janelle_Nikolaus81
	Darby_Herzog
	Esther_Zulauf61
	Bartholome_Bernhard

Result 2 x

Exported resultset to C:\Users\2002m\OneDrive\Desktop\lua project\lUA2.csv

MySQL Workbench

INSTAGRAM USER ANALYTIC

```
87 • INSERT INTO photo_tags(photo_id, tag_id) VALUES (1, 18), (1, 17), (1, 21), (1, 13), (1, 19), (2, 4), (2, 3), (2, 20), (2, 2), (3, 8), (4, 12), (4, 11), (4, 21), (4, 13), (5, 15), (5, 14), (5, 17), (5, 16),
88
89
90 • select * from users order by created_at limit 5;
91
92 • select username from users left join photos on users.id=photos.user_id where photos.id is null;
93
94 • select tags.tag_name,COUNT(*) as total from photo_tags join tags on photo_tags.tag_id=tag_id group by tags.id order by total desc limit 5;
95
96 • select users.username, photos.id,photos.image_url,COUNT(*) as total_likes from likes join photos on photos.id=likes.photo_id join users on users.id=likes.photo_id group by photos.id
97 order by total_likes desc limit 1;
```

Result Grid

username	id	image_url	total_likes
Kaley9	30	http://kenny.com	41

Result 5 x

Exported resultset to C:\Users\2002m\OneDrive\Desktop\lua project\lua4.csv

MySQL Workbench

INSTAGRAM USER ANALYTIC

```
86
87 • INSERT INTO photo_tags(photo_id, tag_id) VALUES (1, 18), (1, 17), (1, 21), (1, 13), (1, 19), (2, 4), (2, 3), (2, 20), (2, 2), (3, 8), (4, 12), (4, 11), (4, 21), (4, 13), (5, 15), (5, 14), (5, 17), (5, 16),
88
89
90 • select * from users order by created_at limit 5;
91
92 • select username from users left join photos on users.id=photos.user_id where photos.id is null;
93
94 • select tags.tag_name,COUNT(*) as total from photo_tags join tags on photo_tags.tag_id=tag_id group by tags.id order by total desc limit 5;
95
96
```

Result Grid

tag_name	total
sunset	501
sunrise	501
style	501
stunning	501
smile	501

Result 3 x

Exported resultset to C:\Users\2002m\OneDrive\Desktop\lua project\lua3.csv

MySQL Workbench

INSTAGRAM USER ANALYTIC

File Edit View Query Database Server Tools Scripting Help

Limit to 50000 rows

```
89
90 select * from users order by created_at limit 5;
91
92 select username from users left join photos on users.id=photos.user_id where photos.id is null;
93
94 select tags.tag_name,COUNT(*) as total from photo_tags join tags on photo_tags.tag_id=tag_id group by tags.id order by total desc limit 5;
95
96 select users.username, photos.id,photos.image_url,COUNT(*) as total_likes from likes join photos on photos.id=likes.photo_id join users on users.id=likes.photo_id group by photos.id
97 order by total_likes desc limit 1;
98
99 SELECT DAYNAME(created_at) AS day, COUNT(*) AS total FROM users GROUP BY day ORDER BY total DESC LIMIT 5;
```

Result Grid

day	total
Thursday	16
Sunday	16
Friday	15
Tuesday	14
Monday	14

Result 7 x

Query Completed

Read Only

MySQL Workbench

INSTAGRAM USER ANALYTIC

File Edit View Query Database Server Tools Scripting Help

Limit to 50000 rows

```
91
92 select username from users left join photos on users.id=photos.user_id where photos.id is null;
93
94 select tags.tag_name,COUNT(*) as total from photo_tags join tags on photo_tags.tag_id=tag_id group by tags.id order by total desc limit 5;
95
96 select users.username, photos.id,photos.image_url,COUNT(*) as total_likes from likes join photos on photos.id=likes.photo_id join users on users.id=likes.photo_id group by photos.id
97 order by total_likes desc limit 1;
98
99 SELECT DAYNAME(created_at) AS day, COUNT(*) AS total FROM users GROUP BY day ORDER BY total DESC LIMIT 5;
100
101 SELECT ROUND((SELECT COUNT(*)FROM photos)/(SELECT COUNT(*) FROM users),2);
```

Result Grid

ROUND((SELECT COUNT(*)FROM photos)/(SELECT COUNT(*) FROM users),2)
2.57

Result 8 x

Exported resultset to C:\Users\2002m\OneDrive\Desktop\lua project\lua6.csv

Read Only

The screenshot displays a SQL IDE interface with two queries and their results.

**Query 9:**

```

93
94 • select tags.tag_name,COUNT(*) as total from photo_tags join tags on photo_tags.tag_id=tag_id group by tags.id order by total desc limit 5;
95
96 • select users.username, photos.id,photos.image_url,count(*) as total_likes from likes join photos on photos.id=likes.photo_id join users on users.id=likes.photo_id group by photos.id
97   order by total_likes desc limit 1;
98
99 • SELECT DAYNAME(created_at) AS day, COUNT(*) AS total FROM users GROUP BY day ORDER BY total DESC LIMIT 5;
100
101 • SELECT ROUND((SELECT COUNT(*)FROM photos)/(SELECT COUNT(*) FROM users),2);
102
103 • select count(distinct(users.id)) as total_no from users join photos on users.id=photos.user_id;

```

**Result 9:**

total_no
74

**Query 10:**

```

95
96 • select users.username, photos.id,photos.image_url,count(*) as total_likes from likes join photos on photos.id=likes.photo_id join users on users.id=likes.photo_id group by photos.id
97   order by total_likes desc limit 1;
98
99 • SELECT DAYNAME(created_at) AS day, COUNT(*) AS total FROM users GROUP BY day ORDER BY total DESC LIMIT 5;
100
101 • SELECT ROUND((SELECT COUNT(*)FROM photos)/(SELECT COUNT(*) FROM users),2);
102
103 • select count(distinct(users.id)) as total_no from users join photos on users.id=photos.user_id;
104
105 • 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);

```

**Result 10:**

username	num_likes
Aniya_Hackett	257
Jadym61	257
Roco33	257
Maxwell_Halvorson	257
Olle_edner37	257
Mckenna17	257
Duane60	257
Julien_Schmidt	257
Mike_Auer39	257
Nia_Hang	257
Leslie57	257
Janelle.Nikolaus81	257
Bethany20	257

Exported resultset to C:\Users\2002m\OneDrive\Desktop\lua project\JUA7.csv

**Drive link:**

Please find the attachments for your reference

[:link](#)





## Results:

The data collected from Instagram was analyzed and used to gain some insights into user behavior on the platform, including popular hashtags, average post engagement, optimal posting times, and influential users. These insights can be used to improve Instagram strategies and increase engagement and reach.