

## PROJECT REPORT - Instagram User Analytics

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### Project Description

- The management team of **Instagram.com** has asked the product team within the company a few questions to improve the Instagram website user experience and help the business grow.
- As a part of the product team, I am given an assignment by the product manager to provide insights on the questions asked by the management team.
- A detailed report needs to be presented to the management team answering the following questions thrown by the management.

Serving to	Purpose of serving	Questions asked by Management	<u>Key findings expected</u>
The Marketing Department	Helping the marketing team to launch some marketing campaigns	Find 5 people who are using Instagram for the longest time	5 oldest users of Instagram
		Which users have never posted a single photo?	List of inactive users on the platform
		Identify the user who got the most likes on a single photo posted.	Details of the winner of the contest who got the most likes
		Which hashtags to use in the post to reach the most people on the platform? (Asked by a partner brand)	Top 5 most commonly used hashtags on the Instagram platform
		What day of the week do most users register on?	Best day to launch Ads
The Investors	To help understand how Instagram is performing and for the assessment purpose of the investors'	On average how many times a user posts photos on Instagram?	About user engagement
		How many users have liked every single photo posted?	The number of bots or fake accounts on Instagram

1. I am going to create a database from the Instagram dataset provided.
2. I am going to use MySQL to query the database and analyze the dataset according to the questions asked by the management team.
3. Thereafter, the project report will be submitted along with all analyses made as per the requirement of the management and leadership team.

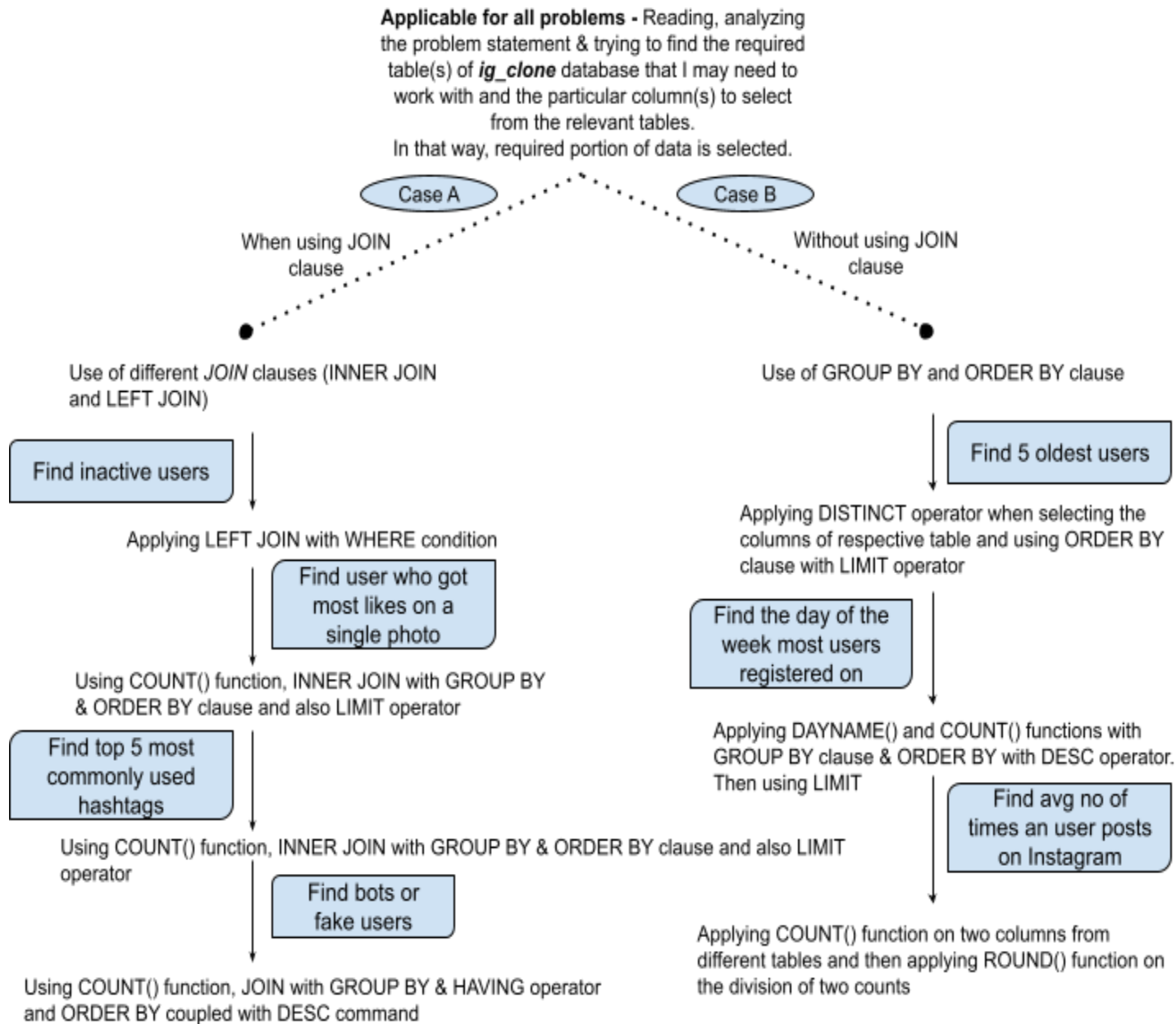
## Approach

After getting the file containing the commands for creating the *ig\_clone* database and also the *Instagram Project- SQL Instructions.docx* file containing the MySQL installation steps, I downloaded the ***MySQL-installer-community-8.0.31.0.msi*** installer file and followed the process of installation of -

- MySQL Server 8.0.31
- MySQL Workbench 8.0.31
- MySQL Shell 8.0.31

I was able to create *ig\_clone* database after writing and executing the commands inside MySQL Workbench SQL editor on my local machine. Then, I started exploring the database *ig\_clone* by writing SQL queries for each of the problem statements given.

My methodology to solve each of these questions or problem statements to achieve the expected key findings was like this –



## Tech-stack Used

Software	Version	Purpose of using
MySQL Community Edition, Windows (x86, 32-bit) ( <b>installer file - mysql-installer-community-8.0.31.0.msi</b> )	8.0.31.0	This installer provides all MySQL Softwares that are needed, including MySQL Server and Workbench)
MySQL Server	8.0.31	Server provides a Relational Database Management System which has querying and connectivity features. It was possible to query with SQL and connect to the MySQL server with the help of this software
MySQL Workbench	8.0.31	Provides an SQL editor to write queries to interact with the database for dataset analysis. Created the database <b>ig_clone</b> by executing commands required for database creation.
Google Docs	Web version of GDrive	Writing project report in detail

## Insights

### 1. 5 oldest users of Instagram

- a. Found the five users who were using the Instagram platform for the longest time having the oldest to the 5th oldest.

Result Grid			Filter Rows:	Export:	Wrap Cell Content:
	username	created_at			
▶	Darby_Herzog	2016-05-06 00:14:21			
	Emilio_Bernier52	2016-05-06 13:04:30			
	Elenor88	2016-05-08 01:30:41			
	Nicole71	2016-05-09 17:30:22			
	Jordyn.Jacobson2	2016-05-14 07:56:26			

- b. With this information, we can identify the users who are the most loyal. We can give rewards to them for being with the platform for the longest period of time.

### 2. List of inactive users of the platform

- a. We got the username of the users who have never posted a single photo since they created their account on Instagram.

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

	username
▶	Aniya_Hackett
	Kasandra_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

Result 11

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- b. We can send promotional emails to those 26 users each with a reminder to start posting something on their respective accounts.

### 3. Declaring contest winner

- a. We have identified the one user who got the most likes on a single photo posted.

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
username	image_url	id	total
Zack_Kemmer93	https://jarret.name	145	48

- b. We will provide the user details who have won the contest to the marketing team to declare the name.

#### 4. Hashtag Researching

- a. We have identified the top 5 most commonly used hashtags on the platform.

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
tag_name	all_tags_count		
smile	59		
beach	42		
party	39		
fun	38		
concert	24		

- b. With this information in hand, we shall suggest these 5 hashtags so that the partner brand can use them in posts to reach the maximum number of users.



## 5. The best day to launch Ads

- a. Got the top 2 days when users register most of the time.

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	day_of_wk	total_reg		
▶	Thursday	16		
	Sunday	16		
	Friday	15		

- b. Will provide the marketing team with this information so that they can schedule and launch an Ad campaign targeting those two days of the week.

## 6. User engagement assessment on Instagram

- a. We have got the average no of times a user post photos on Instagram

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	<pre>round(   ((SELECT count(photos.id) FROM     photos)     /     (SELECT count(users.id) FROM     users))     ,1   )</pre>			
▶	2.6			

- b. We will inform investors about this fact. They can understand how Instagram is performing by seeing the number of posts by a user on average and how active the users are on Instagram.

## 7. About bots or fake accounts

- a. We have analyzed the database tables and found some user accounts from where likes were given to each and every photo on Instagram. We are considering these accounts as bots/ fake/ dummy accounts because it is kind of impossible to give likes to every photo existing on this huge platform.

Result Grid			
		Filter Rows:	Export:   Wrap Cell Content:
	user_id	total_photos_liked_by_bot	created_at
▶	5	257	2023-01-15 22:23:53
	14	257	2023-01-15 22:23:53
	21	257	2023-01-15 22:23:53
	24	257	2023-01-15 22:23:53
	36	257	2023-01-15 22:23:53
	41	257	2023-01-15 22:23:53
	54	257	2023-01-15 22:23:53
	57	257	2023-01-15 22:23:53
	66	257	2023-01-15 22:23:53
	71	257	2023-01-15 22:23:53
	75	257	2023-01-15 22:23:53
	76	257	2023-01-15 22:23:53
	91	257	2023-01-15 22:23:53

- b. Investors will be notified about these fake or dummy accounts existing on the Instagram platform. They may find it a useful metric that can help them understand if Instagram is redundant like Facebook or not.

## Result

- ★ While doing this project on Instagram user analytics,
  - I learned the structure of SQL queries, and SQL fundamental topics like logical operators, aggregate functions, sorting functions, and different types of joins(inner join, left join, right join, full join, etc). This learning helped me to write and execute SQL queries on MySQL Workbench for doing analysis according to the needs.
  - I learned how to install and use MySQL on my local machine.
  - I learned how to execute the queries required to create the ***ig\_clone*** database.
  - I have learned how to do some user analysis using SQL and MySQL
  - Being part of the Instagram Product team, I tried to answer questions and figure out what can be derived from those findings. It helped me to understand the analytics process.

## Drive Links

[SQL file - MySQL Workbench](#)

[Project\\_Report\\_pdf - Instagram User Analytics](#)