

INSTAGRAM USER ANALYTICS

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PRESENTED BY
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Agenda



Project Description



Approach



Tech-Stack Used



Insights



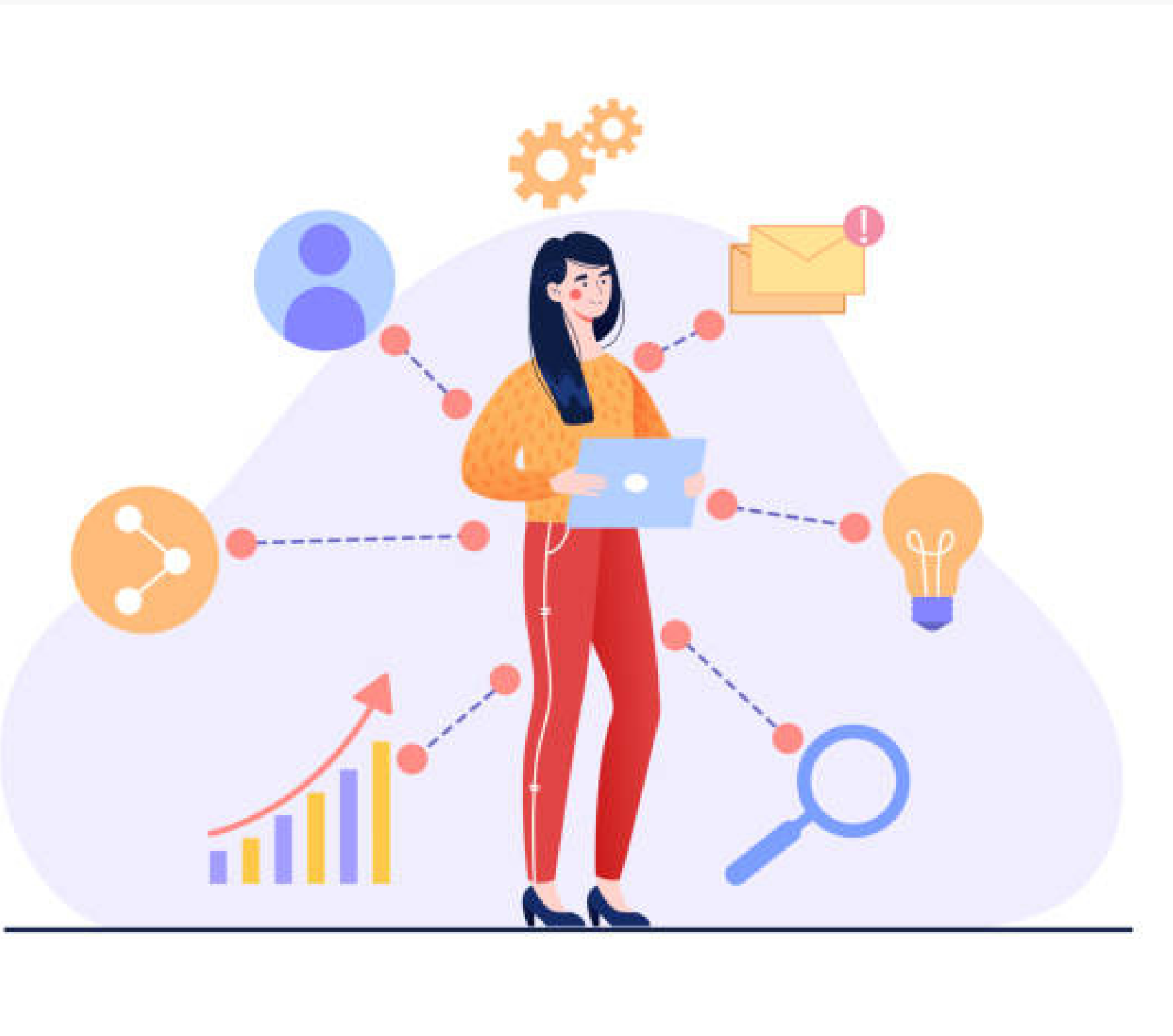
Results

Project Description



- User analysis is the process 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.
- The main aim is to work with the product team of Instagram and the product manager has asked to provide insights on the questions asked by the management team.
- These insights are then used by teams across the business like Marketing: The marketing team to launch some campaigns and Investor Metrics: The investors want to know if Instagram is performing well and is not becoming redundant like Facebook, they want to assess the app based on the given grounds.

Approach



- The project was carried on using MYSQL Workbench.
- The database was created.
- The database had to be thoroughly examined in order to understand the data.
- Next the data was further sorted and extracted based on the Queries that need to be answered.
- The required insights were obtained.

Tech Stack Used



MySQL Workbench is a unified visual tool for database architects, developers, and DBAs.

Version: 8.0.30.0



SQL is a standard language for accessing and manipulating databases.

Purpose of usage:

- The user interface is very easy to use, user-friendly, and intuitive.
- It is licensed under GPL and is free for downloading.
- Workbench is cross-platform supportive and can be used on different operating systems including Windows, Linux, and mac os.
- Schema and query formation and optimization can be done using graphical visualization tools.
- It contains all the features that are updated now and then with changes in the MySQL database server to make itself completely supportive to the MySQL database server.
- EveSQL has developed a plugin that can be used with a workbench that allows the optimization of the queries inside the IDE itself.

Insights





A)Marketing Insights

1. Rewarding Most Loyal Users:

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

Output:

Result Grid



Filter Rows:

	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

Inference: Here are top 5 oldest users who have been using the platform for the longest time.
They can be awarded as most loyal users

2.Remind Inactive Users to Start Posting:

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

Output:

Result Grid		Filter Ro
	username	
▶	Aniya_Hackett	Nia_Haag
	Kassandra_Homenick	Hulda.Macejkovi
	Jadyn81	Leslie67
	Rocio33	Janelle.Nikolaus
	Maxwell.Halvorson	Darby_Herzog
	Tierra.Trantow	Esther.Zulauf61
	Pearl7	Bartholome.Berr
	Ollie_Ledner37	Jessyca_West
	Mckenna17	Esmeralda.Mraz
	David.Osinski47	Bethany20
	Morgan.Kassulke	
	Linnea59	
	Duane60	
	Julien_Schmidt	
	Mike.Auer39	
	Franco_Keebler64	
	Nia_Haag	

Inference: Here are the users who have never posted a single photo on Instagram, we can remind them to start posting by sending them promotional emails to post their 1st photo.

3.Declaring Contest Winner:

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.user_id
GROUP BY photos.id
ORDER BY Total_Likes DESC
LIMIT 1;
```

Output:

=====

	Result Grid			Filter Rows:	<input type="text"/>	Export:
	username	id	image_url	Total_Likes		
▶	Harley_Lind18	145	https://jarret.name	48		

Inference: Here is the user who gets the most likes on a single photo . He can be declared as contest winners.

4.Hashtag Researching:

Query:

```
SELECT tag_name,  
       COUNT(tag_name) AS total  
FROM tags  
JOIN photo_tags  
ON tags.id = photo_tags.tag_id  
GROUP BY tags.id  
ORDER BY total DESC  
LIMIT 5;
```

Output:

Result Grid			Filter Rows:
	tag_name	total	
▶	smile	59	
	beach	42	
	party	39	
	fun	38	
	concert	24	

Inference: Here are the top 5 most commonly used hashtags on the platform. The partner brand can select the hashtags to use in the post to reach the most people on the platform.

5.Launch AD Campaign:


Query:



```
SELECT date_format(created_at,'%W')
AS 'day of the week',
COUNT(*) AS 'total registration' FROM users
GROUP BY 1
ORDER BY 2 DESC;
```

(OR -To get more precise)

```
SELECT DAYNAME(created_at) AS day,
COUNT(*) AS total FROM users
GROUP BY day
ORDER BY total DESC
LIMIT 2;
```

Output:

Result Grid 			Filter Rows: <input type="text"/>	
	day of the week	total registration		
▶	Thursday	16		
	Sunday	16		
	Friday	15		
	Tuesday	14		
	Monday	14		
	Wednesday	13		
	Saturday	12		

Result Grid 			 Filter Rows: <input type="text"/>	
	day	total		
▶	Thursday	16		
	Sunday	16		

Inference: Here are the days on which most users are registered on instagram. To be more precise ad campaigns can be scheduled on either Thursdays or Sundays.

Insights



B) Investor Metrics

1.User Engagement:

Query: SELECT ROUND((SELECT
COUNT(*)FROM photos)
/(SELECT COUNT(*)
FROM users),2);

(user ranking by posts higher to lower)

```
SELECT users.username,COUNT(photos.image_url)
FROM users
JOIN photos
ON users.id = photos.user_id
GROUP BY users.id
ORDER BY 2 DESC;
```

Inference:

This provides how many times does average user posts on Instagram. Also, the total number of photos on Instagram/total number of users in order to know are users still as active and post on Instagram or they are making fewer posts

Output:

Result Grid	
Filter Rows:	
	ROUND((SELECT COUNT(*)FROM photos)/(SELECT COUNT(*) FROM users),2)
▶	2.57

	username	COUNT(photos.image_url)
▶	Eveline95	12
	Clint27	11
	Cesar93	10
	Delfina_VonRueden68	9
	Aurelie71	8
	Jaime53	8
	Donald.Fritsch	6
	Yvette.Gottlieb91	5
	Zack_Kemmer93	5
	Harrison.Beatty50	5
	Travon.Waters	5
	Alexandro35	5
	Mariano_Koch3	5
	Colten.Harris76	5
	Justina.Gaylord27	5
	Kenton_Kirlin	5

2.Bots & Fake Accounts:

Query:

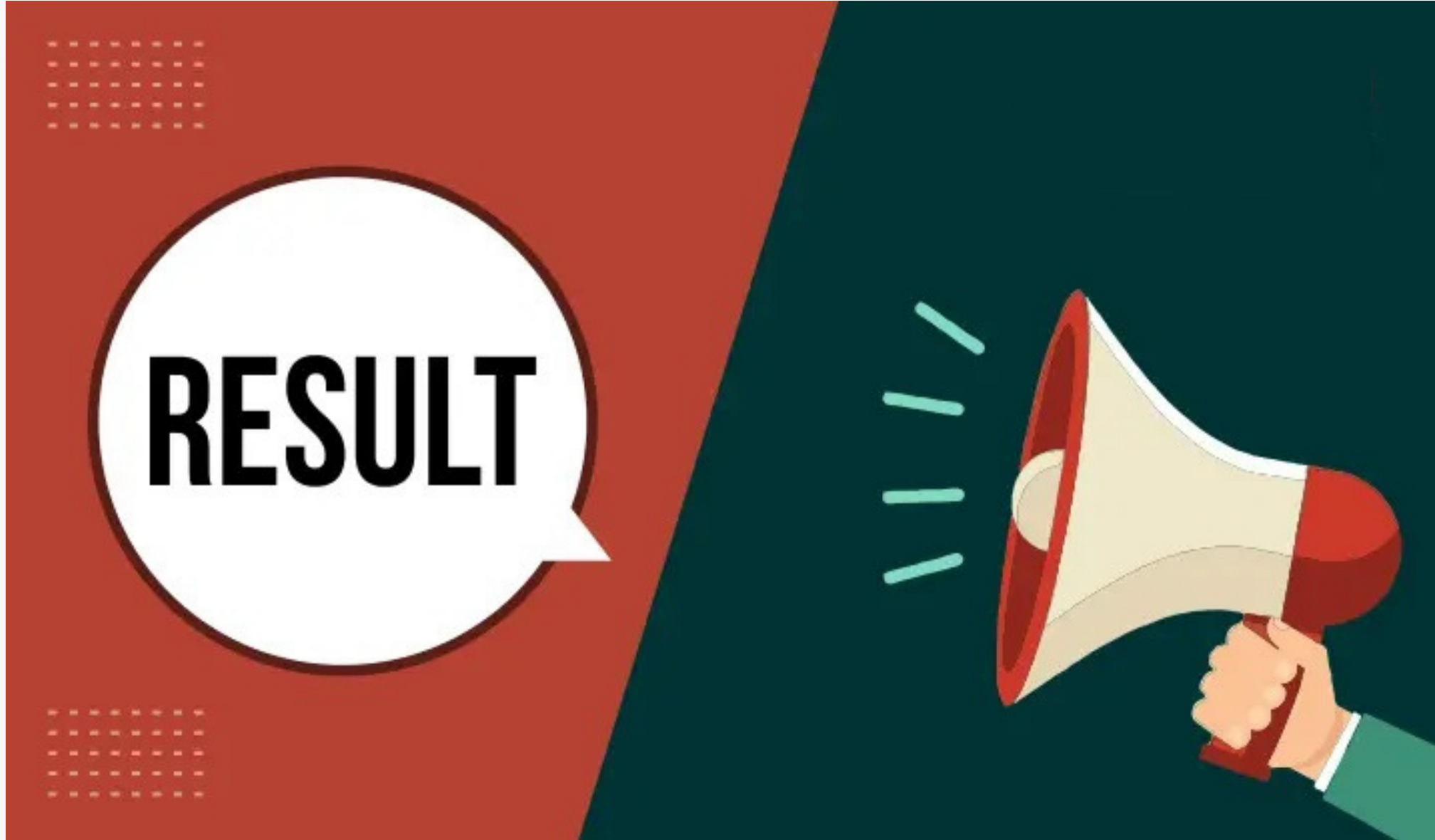
```
SELECT users.id,username,  
COUNT(users.id) As total_likes_by_user  
FROM users  
JOIN likes  
ON users.id = likes.user_id  
GROUP BY users.id  
HAVING total_likes_by_user  
= (SELECT COUNT(*) FROM photos);
```

Output:

Result Grid			
	id	username	total_likes_by_user
▶	5	Aniya_Hackett	257
	14	Jadyn81	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

Inference: This provides data on users (bots) who have liked every single photo on the site (since any normal user would not be able to do this) in order to know the platform is crowded with fake and dummy accounts.

Result



- Hence, the given queries were answered using SQL through MYSQL Workbench.
- The insights derived were useful for resolving Marketing as well as investors queries.
- This project was useful to bring out the theoretical SQL knowledge , into practical approach in order to know the real world usage of SQL in data analytics.

*Thank
you!*