

Instagram User Analytics

Live Project – Trainity Data
Analytics Internship

Project Objective

- Analyze user behavior and engagement on Instagram to support marketing and investor decision-making through data-driven insights.

Tools & Tech Used

- SQL -Structured Query Language.(MySQL Workbench 8.0.39.0)

Business Questions Answered

- Who are the most loyal users?
- Which users are inactive and need re-engagement?
- Who won the contest for most likes on a photo?
- What are the top 5 most used hashtags?
- What day is best to launch ad campaigns?
- Are users still actively posting?
- Are there bot-like accounts?

Approach & SQL Use

- Executed SQL queries to extract insights from Instagram user and post tables.
- Used ORDER BY, GROUP BY, LIMIT, and JOIN clauses.
- Calculated key metrics like user longevity, photo count, hashtag frequency, and suspicious behavior indicators.

Insights & Recommendations

- Reward loyal users to retain engagement.
- Encourage inactive users through campaigns.
- Post ads on Mondays when sign-ups spike.
- Promote trending hashtags.
- Flag suspected bot accounts.

What I Learned

- Improved real-world SQL skills and analytical thinking.
- Gained hands-on experience working with platform engagement data.
- Learned how to interpret business needs into technical queries and translate insights into actionable outcomes.

Queries and Output



Query 1 x sys_config



Limit to 1000 rows

```

1  # bots and fake accounts
2  • select username , count(*) as total_likes
3  from ig_clone.users join ig_clone.likes
4  on users.id = likes.user_id
5  group by likes.user_id
6  having total_likes= (select count(*) from ig_clone.photos)
7

```



Result Grid



Filter Rows:

Export:



Wrap Cell Content:



	username	total_likes
▶	Aniya_Hackett	257
	Jadyn81	257
	Rocio33	257
	Maxwell.Halvorson	257
	Ollie_Ledner37	257
	Mckenna17	257
	Duane60	257



Result Grid



Form Editor

Result 10 x

Read Only

Cont

Query 1 x sys_config SQLAd

Limit to 1000 rows

```
1 # ad campaign launch
2 • select dayname(created_at) as day_of_week,
3    count(*) as number_of_users_registered
4    from ig_clone.users
5    group by day_of_week
6    order by number_of_users_registered desc
7
```

Result Grid Filter Rows: Export: Wrap Cell Content: Result Grid Form Editor

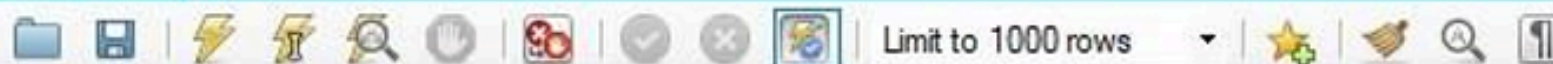
day_of_week	number_of_users_registered
Friday	15
Monday	14
Saturday	12
Sunday	16
Thursday	16
Tuesday	14
Wednesday	13

Result 8 x Read Only Context

base Server Tools Scripting Help



Query 1 x sys_config



```
1  # user engagement
2  • select count(distinct users.id) as total_number_of_instagram_users,
3     count(photos.id) as total_number_of_photos_on_instagram ,
4     count(photos.id)/count(distinct users.id) as average_post_peruser
5  from ig_clone.users
6  left join ig_clone.photos
7  on users.id=photos.user_id
```



Result Grid



Filter Rows:

Export:



Wrap Cell Content:



	total_number_of_instagram_users	total_number_of_photos_on_instagram	average_po
▶	100	257	2.5700



Result
Grid

Query 1 x sys_config SQL

Limit to 1000 rows

```
1 # inactive users
2 • select username
3 from users
4 left join photos
5 on users.id = photos.user_id
6 where photos.id is null
7
```

Result Grid

	username
▶	Aniya_Hackett
	Kassandra_Homenick
	Jadyn81
	Rocio33
	Maxwell.Halvorson
	Tierra.Trantow
	Pearl7

Filter Rows: Export: Wrap Cell Content: Result Grid Form Editor

Result 1 x Read Only Con

Query 1 x sys_config SQL

Limit to 1000 rows

```
1 #1 loyal users
2 select* from users
3 order by created_at
4 limit 5;
5
6
7
```

Result Grid

	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

Result Grid

Form Editor

Query 1 x sys_config

Limit to 1000 rows

```
2 • select * from ig_clone.tags;
3 • select tag_name , count(photo_id) as most_used_tags
4   from ig_clone.tags join ig_clone.photo_tags
5   on tags.id = photo_tags.tag_id
6  group by id
7  order by most_used_tags DESC
8  limit 5
```

Result Grid

	tag_name	most_used_tags
▶	smile	59
	beach	42
	party	39
	fun	38
	concert	24

Export: Wrap Cell Content:

Result Grid

Form Editor

Query 1 x sys_config

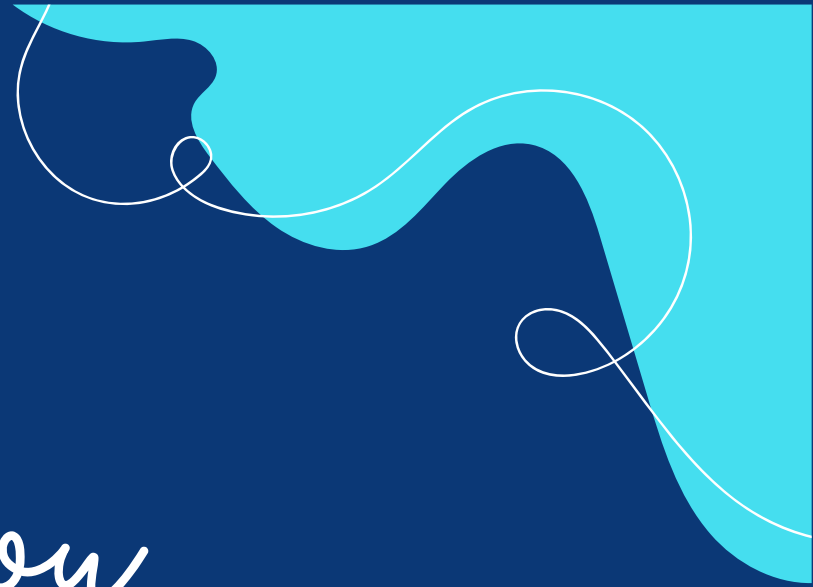
Limit to 1000 rows

```
3 count(*) as number_of_likes
4 FROM ig_clone.likes JOIN ig_clone.photos
5 on likes.photo_id=photos.id
6 JOIN ig_clone.users on photos.user_id=users.id
7 group by photo_id
8 order by number_of_likes DESC
9 limit 1
```

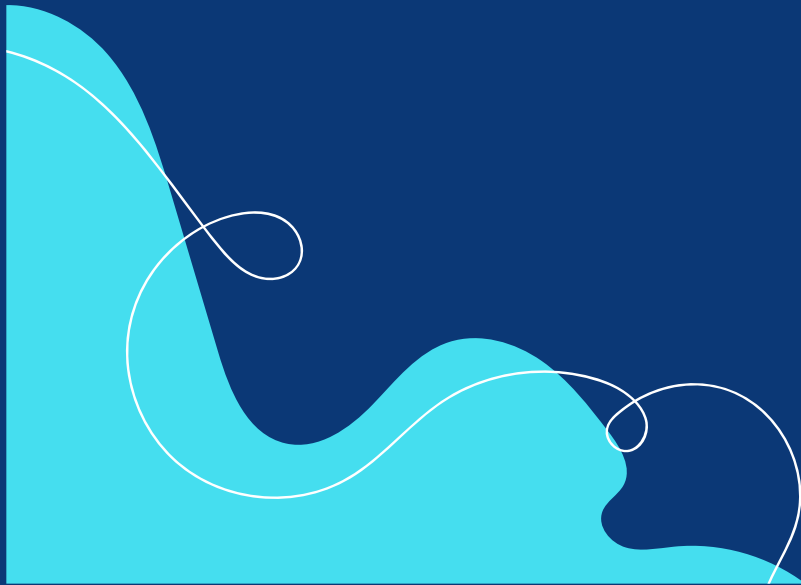
Result Grid

	id	username	image_url	photo_id	number_of_likes
▶	52	Zack_Kemmer93	https://jarret.name	145	48

Result Grid



thank you



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