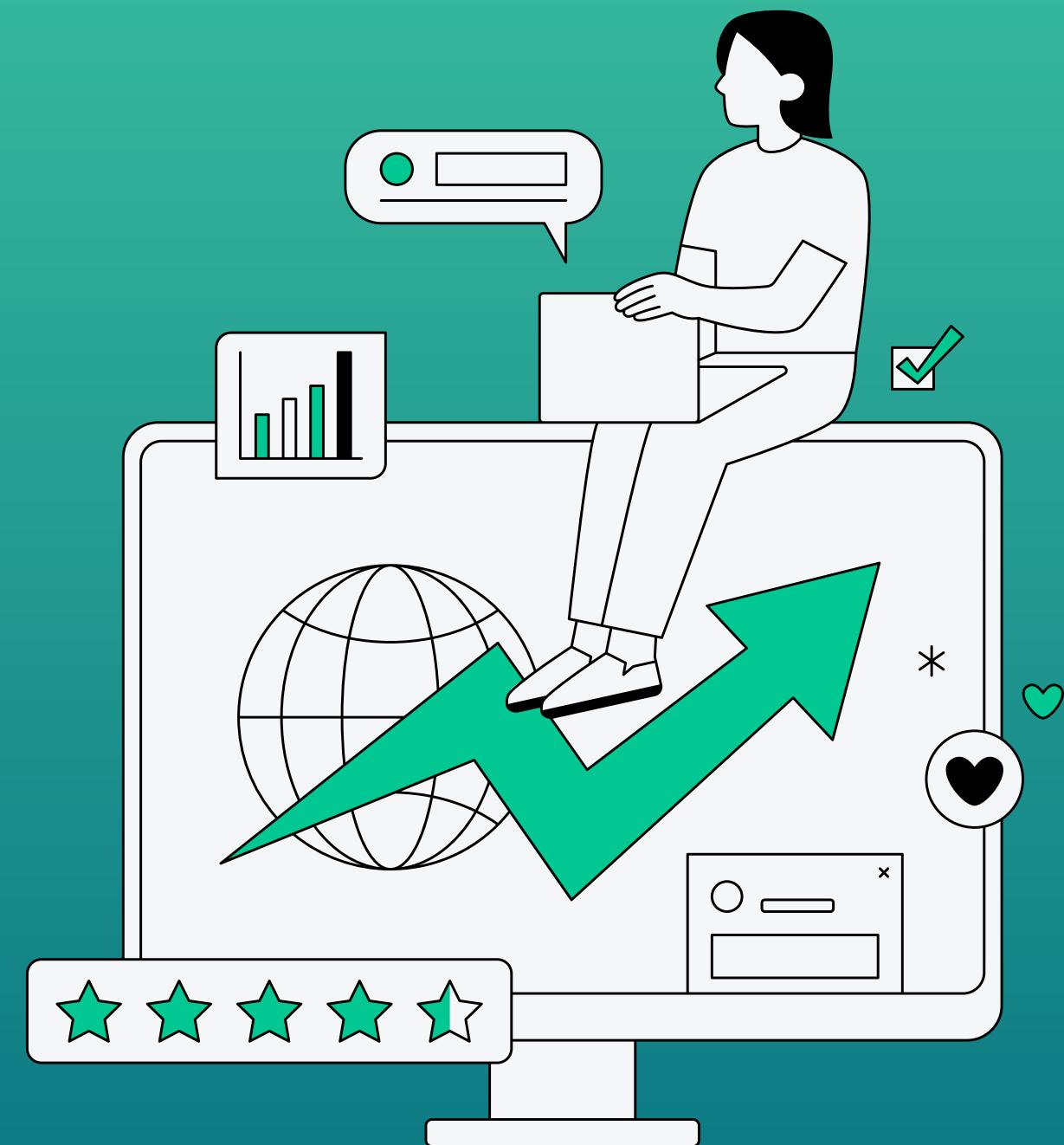


# INSTAGRAM USER ANALYTICS

Firasat



By analyzing user engagement data, we will provide insights to the product team on key areas such as:

- **Retaining Loyal Users:** Identify strategies to reward and retain loyal users.
- **Reactivating Inactive Users:** Develop tactics to re-engage users who have become less active.
- **Optimizing Contests:** Determine effective methods for conducting and managing contests.
- **Leveraging Hashtags:** Research and utilize hashtags to increase content visibility.
- **Executing Ad Campaigns:** Develop data-driven approaches for launching successful ad campaigns.
- **Measuring User Engagement:** Establish key performance indicators (KPIs) to track user engagement.
- **Detecting Bots and Fake Accounts:** Implement measures to identify and mitigate the impact of fraudulent accounts.

Through data-driven analysis, we will provide actionable recommendations to improve user experience, enhance marketing effectiveness, and demonstrate platform value to investors.

# Description

This project aims to conduct a comprehensive analysis of user engagement on the Instagram platform to inform the development of enhanced platform features. Our primary focus is on marketing and investor metrics.

# TECH STACK USED:



MySQL 8.0.39 Community



MySQL is a database used to store and manage information in an organized way. It is also used for analysing data.

Canva is a graphic design platform that makes it easy for anyone to create professional-looking designs. It offers a wide range of templates for social media posts, presentations, posters, and more.

# INSIGHTS

# OBJECTIVES:

## 1) Marketing Analysis

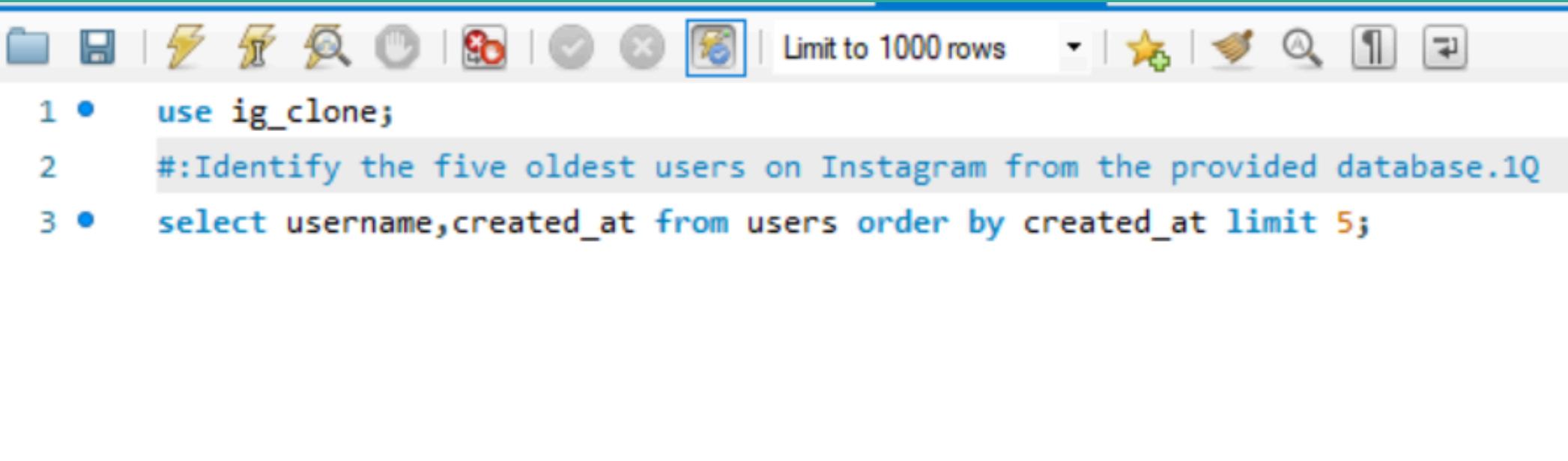
- Perform a comprehensive analysis of Instagram user data.
- Support strategic decision-making for marketing efforts by:
  - Targeting user engagement.
  - Optimizing ad campaigns.

## 2) Investor Metrics

- Extract key metrics to assess platform performance and user engagement.
- Aid investor relations by:
  - Assessing overall user activity.
  - Identifying potential risks, such as fake accounts.

# Marketing analysis

## loyal users reward: five oldest users of instagram:

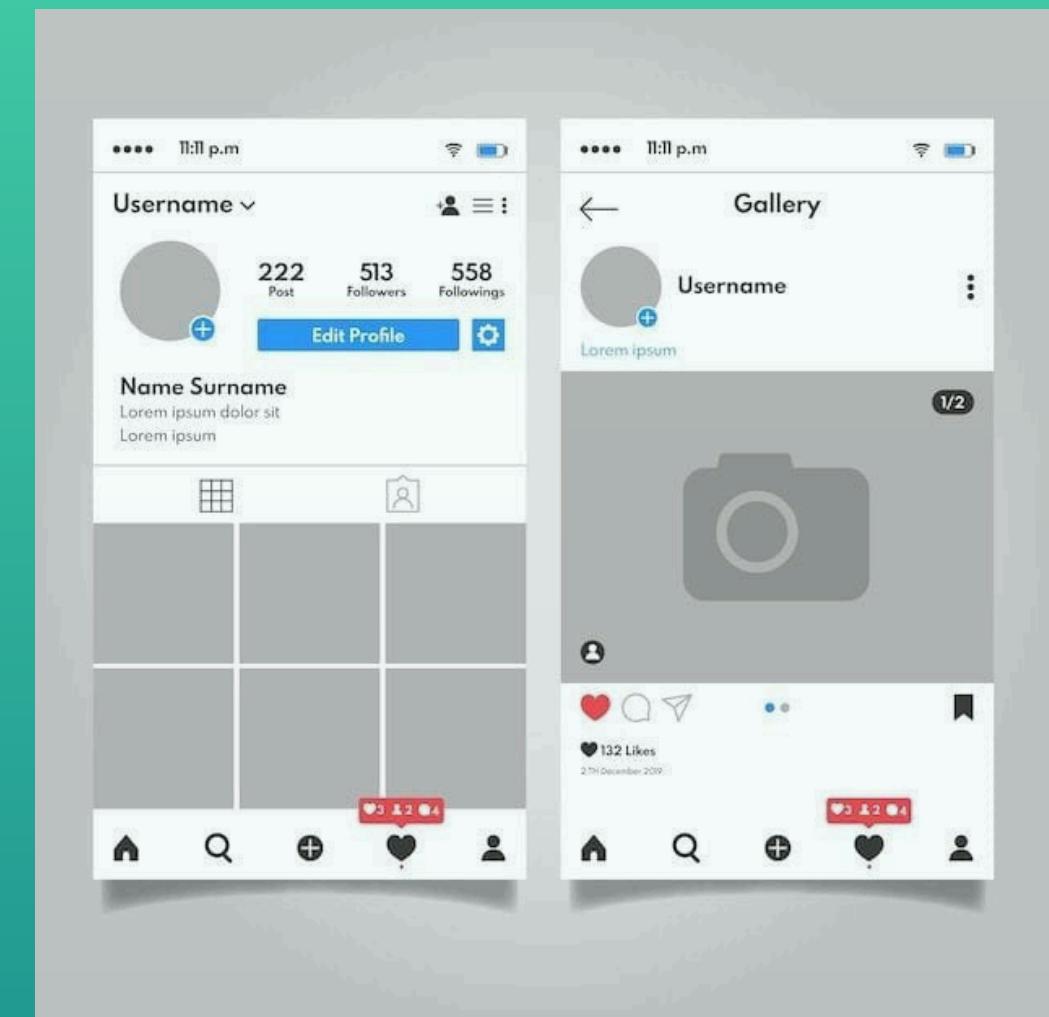


```
1 • use ig_clone;
2 • #:Identify the five oldest users on Instagram from the provided database.1Q
3 • select username,created_at from users order by created_at limit 5;
```

	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

### Insights:

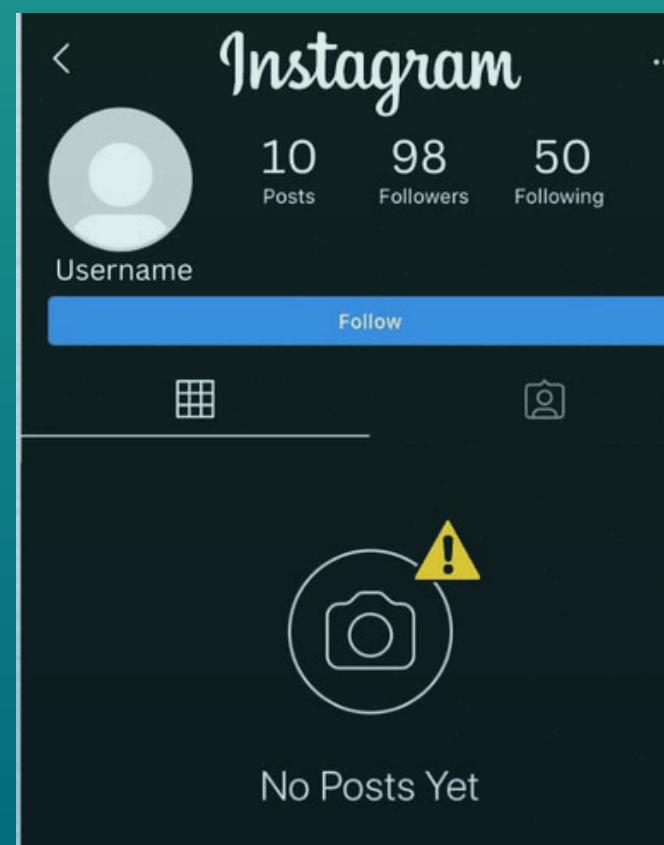
- The top five longest-standing users in our current database include Darby Herzog, Emilio\_bernier52, Elenor88, Nicole71, and Jordyn.Jacobson2. These users have shown remarkable loyalty to the platform.
- Interestingly, Instagram's earliest members in this dataset joined the community in May 2016, marking the beginning of their journey on the platform.



# Inactive User Engagement: users who have never posted a single photo on Instagram:

## Insights:

- The "username" column highlights users who have yet to post a single photo on Instagram up to the current date of this dataset
- Remarkably, there are 26 of these users, making up 26% of the total user base



```
1  #Identify users who have never posted a single photo on Instagram.2Q
2 • select u.id, u.username
3   from users u
4   left join ig_clone.photos p on u.id = p.user_id
5   where p.user_id is null;
```

Result Grid		
	id	username
▶	5	Aniya_Hackett
	7	Kassandra_Homenick
	14	Jadyn81
	21	Rocio33
	24	Maxwell.Halvorson
	25	Tierra.Trantow
	34	Pearl7
	36	Ollie_Ledner37
	41	Mckenna17
	45	David.Osinski47
	49	Morgan.Kassulke
	53	Linnea59
	54	Duane60
	57	Julien_Schmidt
	66	Mike.Auer39
	68	Franco_Keebler64
	69	Franco_Keebler64
	71	Nia_Haag
	74	Hulda.Macejkovic
	75	Leslie67
	76	Janelle.Nikolaus81
	80	Darby_Herzog
	81	Esther.Zulauf61
	83	Bartholome.Bernhard
	89	Jessyca_West
	90	Esmeralda.Mraz57
	91	Bethany20

# Contest Winner Declaration:

```
1 • with RankedLikes as (
2     select likes.photo_id, users.username, count(likes.user_id) as likess
3     from likes
4     inner join photos on likes.photo_id = photos.id
5     inner join users on photos.user_id = users.id
6     group by likes.photo_id, users.username
7 ),
8 MaxLikes as (
9     select max(likess) as max_likes
10    from RankedLikes
11 )
12 -- Select all entries with the maximum number of likes
13 select photo_id, username, likess
14 from RankedLikes
15 where likess = (select max_likes from MaxLikes)
16 order by likess desc;
```

	photo_id	username	likess
▶	145	Zack_Kemmer93	48



The “zack\_kemmer93” is the winner of the contested who has posted a Photo with Photo ID “145” has got the most likes (48).

# Hashtag Research:



top five most commonly used hashtags on the platform.



```
1 •  select t.tag_name, count(p.photo_id) as ht
2   from photo_tags p
3   inner join tags t on t.id = p.tag_id
4   group by t.tag_name
5   order by ht desc limit 5;
```



tag_name	ht
smile	59
beach	42
party	39
fun	38
concert	24

## Insights:

- The data frame reveals that the most frequently used hashtags include smile, beach, party, fun, and concert.



# Ad Campaign Launch:

the day of the week when most users register on Instagram

```
1 • select
2     date_format(created_at, '%W') as day_of_week,
3     count(username) as registration_count
4
5     from
6         users
7     group by
8         day_of_week
9     order by
10        registration_count DESC;
```

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

## Insights:

The data frame indicates that the highest number of user registrations occurred on Thursday and Sunday.

For optimal results, the Marketing team should schedule ad campaigns on Thursday and Sunday, as these days are the most effective for engagement.

# Investor Metrics: User Engagement:



```
1 • Select * from photo, user;
2 • With base as(
3     Select u. Id as userid, count(p.id) as photoid from users u left join photos p on p. User_id=u .id group by u. Id)
4     Select sum(photoid) as totalphotos, count(userid) as total_users,sum(photoid)/count(userid) as photoperuser from base;
5
```

the average number of posts per user on Instagram.

photoperuser
2.5700

## insight:

Therefore, the average user posts 2.57 times on Instagram, which corresponds to the ratio of the total number of photos (257) posted to the total number of users (100).



	totalphotos	total_users
▶	257	100

# Bots & Fake Accounts:

users (potential bots) who have liked every single photo on the site

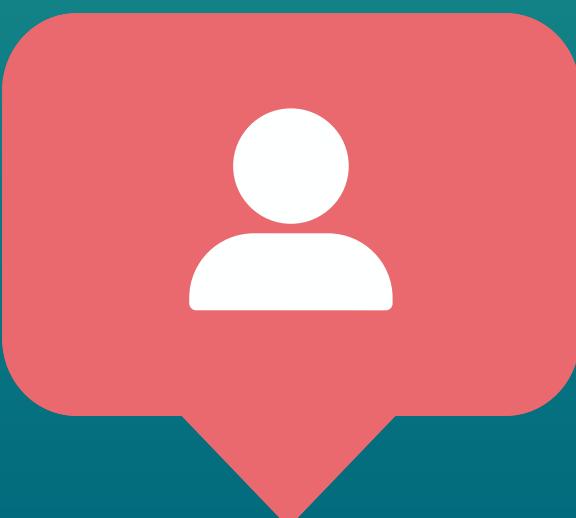
```
1 •  select l.user_id, COUNT(l.photo_id) as liked_photos
2   from Likes l
3   group by l.user_id
4   having count(l.photo_id) = (select count(*) from Photos);
```

Result Grid | Filter Row

	user_id	liked_photos
▶	5	257
	14	257
	21	257
	24	257
	36	257
	41	257
	54	257
	57	257

66 257  
71 257  
75 257  
76 257  
91 257

- Insights:
  - The data frame reveals a list of users who have liked all 257 photos in the database, suggesting these accounts may be bots.
  - In total, there are 13 such users, representing 13% of the entire user base.



# Conclusion

## insights:

Working on this project gave me a deeper understanding of Instagram's user data and how powerful insights can be derived from it. I found key patterns, such as identifying the platform's most loyal users who have been active since May 2016. Data analysis also revealed different levels of user engagement, helping distinguish between active and passive users to potential. These features are valuable not only for developing marketing strategies but also for increasing investor confidence in Instagram's continued growth and user engagement.

## Result:

This project was a success, and I achieved a comprehensive analysis that has significantly improved my skills in SQL and data analysis. The insights gained can directly inform marketing tactics, like engaging loyal users and timing ad campaigns for maximum impact. For investors, the clear metrics on user activity and platform health offer a solid foundation for understanding Instagram's growth potential. Overall, this project underscored the importance of data-driven decision-making and demonstrated how meaningful insights can be extracted to support both strategic business goals and the platform's long-term success.

***Thank you  
for taking the time to review my analysis. I  
appreciate the opportunity to share the insights  
and results of this project. I hope the findings  
provide valuable perspectives for both  
marketing strategies and investor relations. I  
look forward to any feedback or questions you  
may have.***