Instagram User Analytics

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Project Description

User analysis is the process by which we can track how users engage and interact with our digital product (software or mobile application) to derive business insights for marketing, product & development teams.

These insights are then used by teams across the business to launch a new marketing campaign, decide on features to build for an app, track the success of the app by measuring user engagement and improve the experience altogether while helping the business grow.

we are working with the product team of Instagram and the product manager has asked us to provide insights on the questions asked by the management team

Approach

Our approach involves analyzing user engagement and interactions with Instagram to drive insights for marketing, product, and development teams. We will collect comprehensive data from various sources, analyze it using statistical methods, and provide clear answers to the management team's questions. Collaborating with the product team, we will align insights with their goals, track user engagement, and continuously improve the user experience.

By following this approach, we can provide Instagram's product team with valuable user insights that inform marketing campaigns, feature decisions, user engagement tracking, and overall business growth strategies.

Define Objectives

Collect Data

Analyze Data

Answer Management Questions

Present Findings

Tech-Stack Used

: - PostgresSQL4.O – To write SQL Query's and find the table related to the tasks for analyzation. Microsoft Excel 365– To easy understand the tables and create charts related to the project for better visualization.
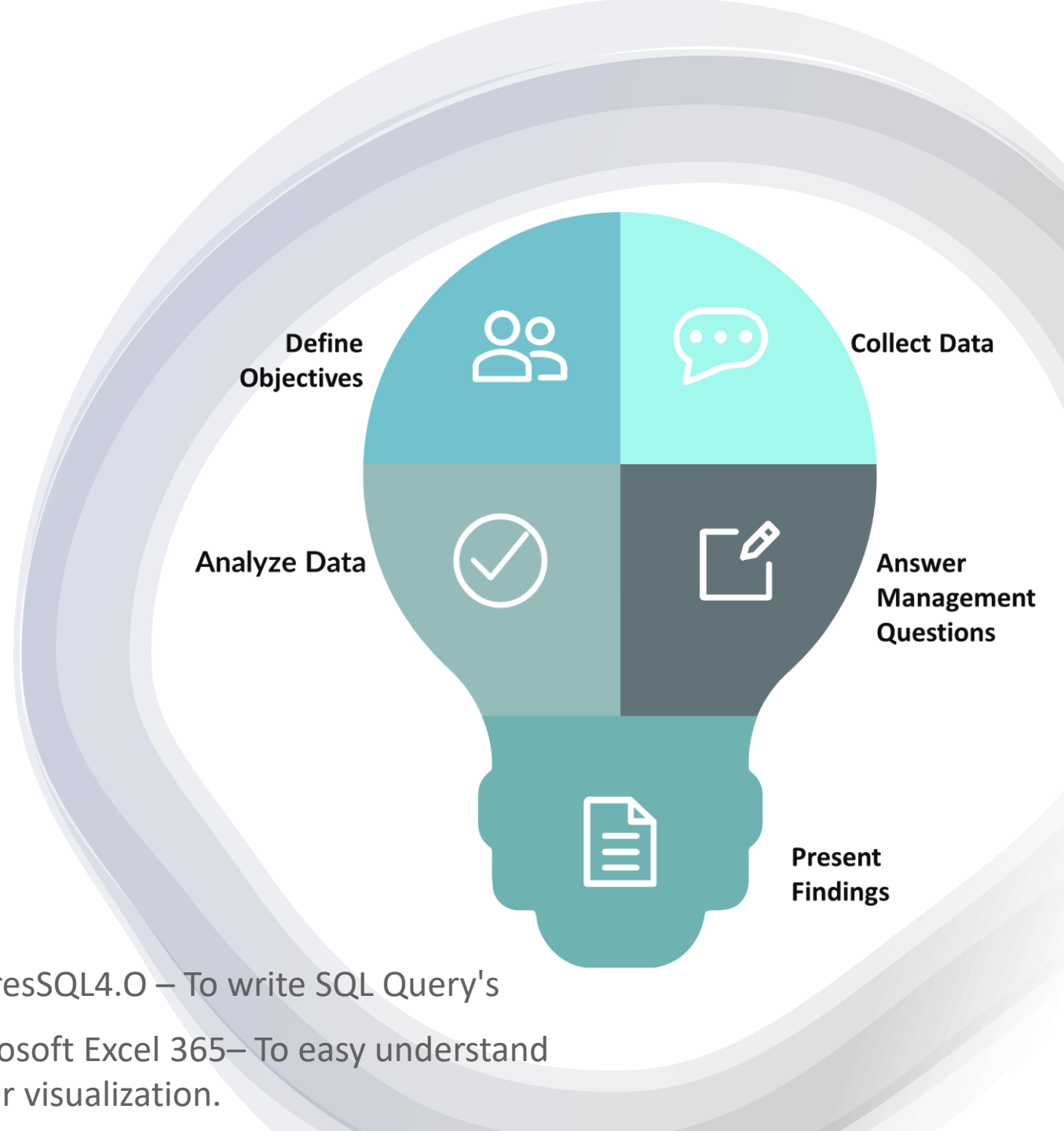
Marketing

The marketing team wants to launch some campaigns, and they need your help with the following

1
Rewarding Most Loyal Users
People who have been using the platform for the longest time.

2
Remind Inactive Users to Start Posting
Find the users who have never posted a single photo on Instagram

3
Declaring Contest Winner
The team started a contest and the user who gets the most likes on a single photo will win the contest now they wish to declare the winner.

4
Hashtag Researching
A partner brand wants to know, which hashtags to use in the post to reach the most people on the platform.
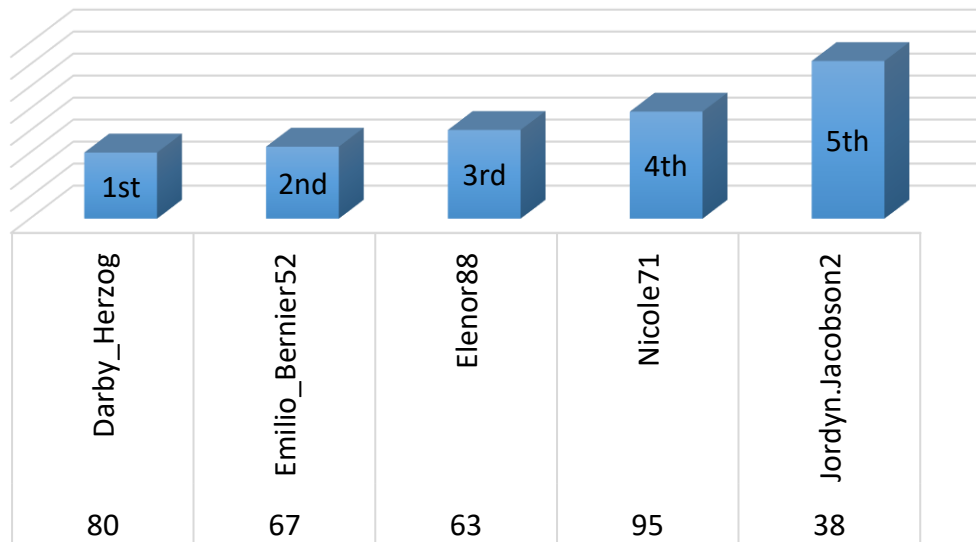
5
Launch AD Campaign
The team wants to know, which day would be the best day to launch ADs.

1

1.Rewarding Most Loyal Users: People who have been using the platform for the longest time.

Your Task: Find the 5 oldest users of the Instagram from the database provided

created_at

	1st	2nd	3rd	4th	5th
	Darby_Herzog	Emilio_Bernier52	Elenor88	Nicole71	Jordyn.Jacobson2
	80	67	63	95	38

SQL query to find the answer

```
select * from users
order by created_at asc
limit 5
```

	id [PK] integer	username character varying (255)	created_at timestamp without time zone
1	80	Darby_Herzog	2016-05-06 00:14:21.191
2	67	Emilio_Bernier52	2016-05-06 13:04:29.96
3	63	Elenor88	2016-05-08 01:30:40.677
4	95	Nicole71	2016-05-09 17:30:22.371
5	38	Jordyn.Jacobson2	2016-05-14 07:56:25.835

Insights : Instagram Marketing Team, I received your message on my email ID regarding your request for information about the five oldest loyal users of the Instagram platform. I have generated a report which is published above this page. The report provides the data in both tabular and chart formats for easier comprehension. If you require further assistance or have any additional queries, please don't hesitate to reach out to me.

2

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

Post count by users

25	66	89	57	34	71	83	91	21	5	24	68	80	76	81	90	74	41	54	36	53	49	45	75	14	7
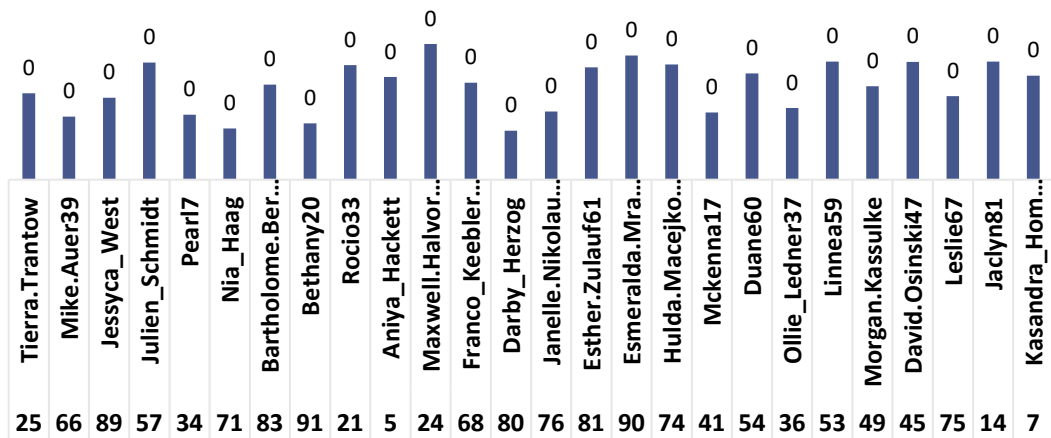
SQL query to find the answer

select * from users
full join photos
on photos.user_id = users.id
where photos.id is null

Insights

: While Analyzing the report on MYSQL Workbench I found that 26 users are not posted any photo on their profile yet from the day of account creation as well as I am shortlisted their name, id, account creation date to better understand the report which is in the right side on the page and a bar chart is also created on the left side of the page using MS Excel to visualize the report.

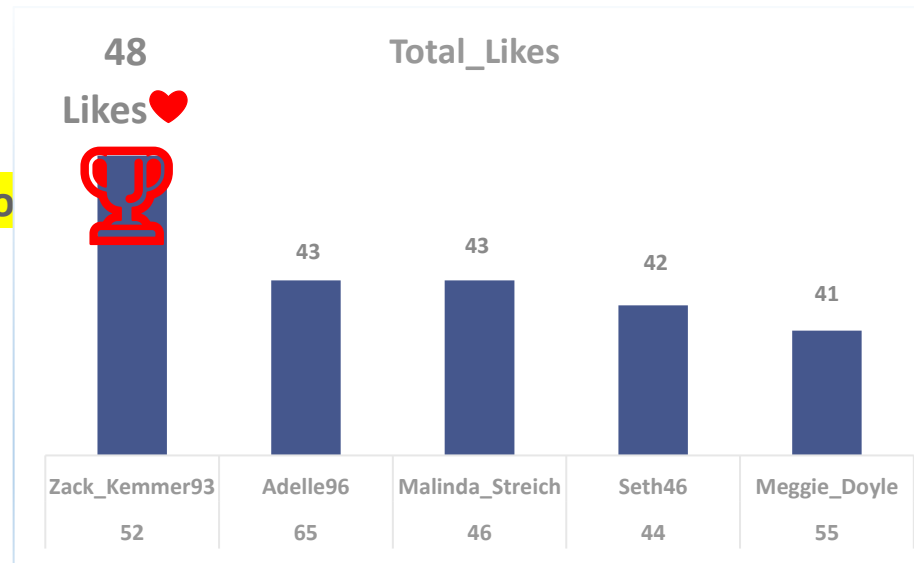|	id integer	username character varying (255)	created_at timestamp without time zone
1	25	Tierra.Trantow	2016-10-03 12:49:20.774
2	66	Mike.Auer39	2016-07-01 17:36:14.714
3	89	Jessyca_West	2016-09-14 23:47:04.78
4	57	Julien_Schmidt	2017-02-02 23:12:48.451
5	34	Pearl7	2016-07-08 21:42:00.982
6	71	Nia_Haag	2016-05-14 15:38:50.23
7	83	Bartholome.Bernhard	2016-11-06 02:31:23.463
8	91	Bethany20	2016-06-03 23:31:53.322
9	21	Rocio33	2017-01-23 11:51:15.467
10	5	Aniya_Hackett	2016-12-07 01:04:39.298
11	24	Maxwell.Halvorson	2017-04-18 02:32:43.597
12	68	Franco_Keebler64	2016-11-13 20:09:26.855
13	80	Darby_Herzog	2016-05-06 00:14:21.191
14	76	Janelle.Nikolaus81	2016-07-21 09:26:09.466
15	81	Esther.Zulauf61	2017-01-14 17:02:33.511
16	90	Esmeralda.Mraz57	2017-03-03 11:52:27.469

3

Declaring Contest Winner: The team started a contest and the user who gets the most likes on a single photo 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

SQL query to find the answer

select
users.id,users.username,likes.photo_id, count(likes.user_id)as
Total_likes

from likes

inner join photos

on photos.id = likes.photo_id

inner join users

on users.id = photos.user_id

group by users.id, likes.photo_id

order by Total_likes desc

limit 5

Total_Likes

Username	Likes
Zack_Kemmer93 / 52	48
Adelle96 / 65	43
Malinda_Streich / 46	43
Seth46 / 44	42
Meggie_Doyle / 55	41

	id integer	username character varying (255)	photo_id integer	total_likes bigint
1	52	Zack_Kemmer93	145	48
2	65	Adelle96	182	43
3	46	Malinda_Streich	127	43
4	44	Seth46	123	42
5	55	Meggie_Doyle	147	41

Contest Winner Announcement

We delight to announce the winner of the recent contest. After careful consideration and evaluation, Backend team has determined that the winner of the contest is -

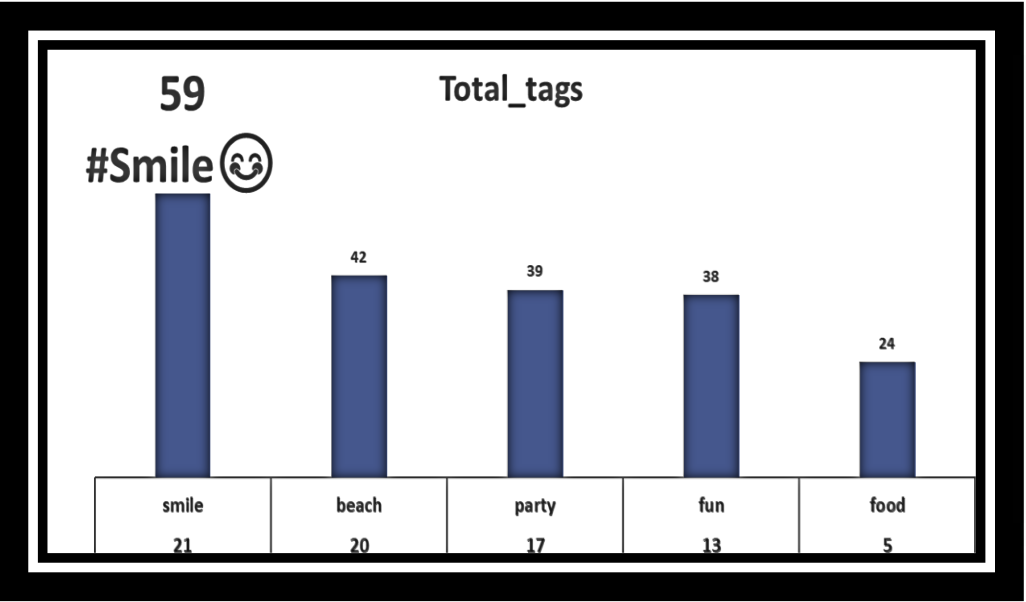|	
id	52
username	Zack_Kemmer93
total_likes	48
Winner	

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 suggest the top 5 most commonly used hashtags on the platform

SQL query to find the answer

select tags.id,tags.tag_name,count
(photo_tags.photo_id) as Total_tags
from photo_tags

inner join tags

on photo_tags.tag_id = tags.id

group by tags.id

order by Total_tags desc

limit 5

	id [PK] integer	tag_name character varying (255)	total_tags bigint
1	21	smile	59
2	20	beach	42
3	17	party	39
4	13	fun	38
5	5	food	24

We are happy to help you to grow your business on this platform. After analyzing the table of related hashtags, we have identified the top 5 hashtags that most users are using on this platform. If you want to increase public engagement on your posts, make sure to use these 5 hashtags.

id	21
tag_name	smile
total_tags	59
Mosted used Tag	#Smile 😊

5

Your Task: What day of the week do most users register on? Provide insights on when to schedule an ad campaign

SQL query to find the answer

select extract (DOW from created_at) as Day_of_the_week , count(*)

as total_users , to_char(created_at,'Day') As Registration_day from users

group by Day_of_the_week, Registration_day

order by total_users desc

Limit 7

User's Registration Day-wise
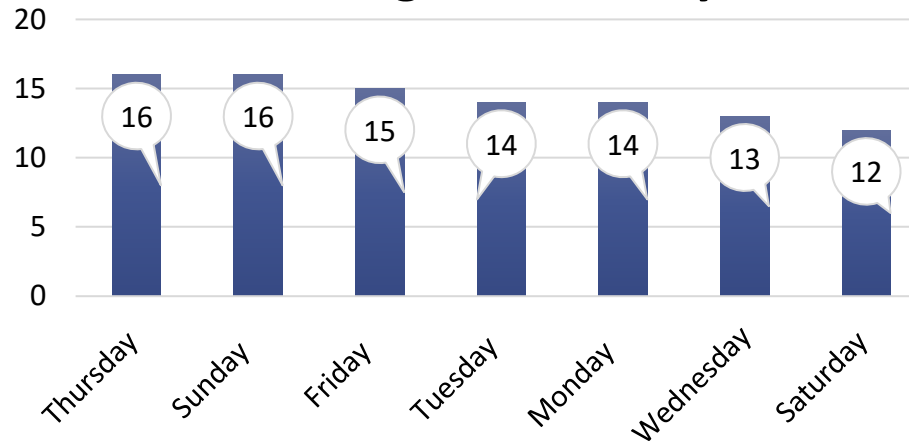
	day_of_the_week numeric	total_users bigint	registration_day text
1	4	16	Thursday
2	0	16	Sunday
3	5	15	Friday
4	2	14	Tuesday
5	1	14	Monday
6	3	13	Wednesday
7	6	12	Saturday

Insights
After analyzing the data we found the maximum number of user are registered on **Thursday** and **Sunday**, if you want to start an Ads Campaign you can start On above days to increase your public engagement. If you require further assistance or have any additional queries, please don't hesitate to reach out to me.

Investor Metrics:

Our investors want to know if Instagram is performing well and is not becoming redundant like Facebook, they want to assess the app on the following grounds Media

1-User Engagement:
2- Bots & Fake Accounts:

User Engagement

Are users still as active and post on Instagram or they are making fewer posts

Bots & Fake Accounts

The investors want to know if the platform is crowded with fake and dummy accounts

1-User Engagement

Task: Provide how many times does average user posts on Instagram. Also, provide the total number of photos on Instagram/total number of users

SQL query to find the answer

```
select count(users.username) As total_user ,count (photos.id)as total_photos, round(cast(count(photos.id)as decimal)/ cast(count(users.id)as decimal),2) as Average_post from users right join photos on photos.id = users.id
```

Average Photo 2.57

Total Users 100

Total Photos 257

Total Users 100

Total Photos 257
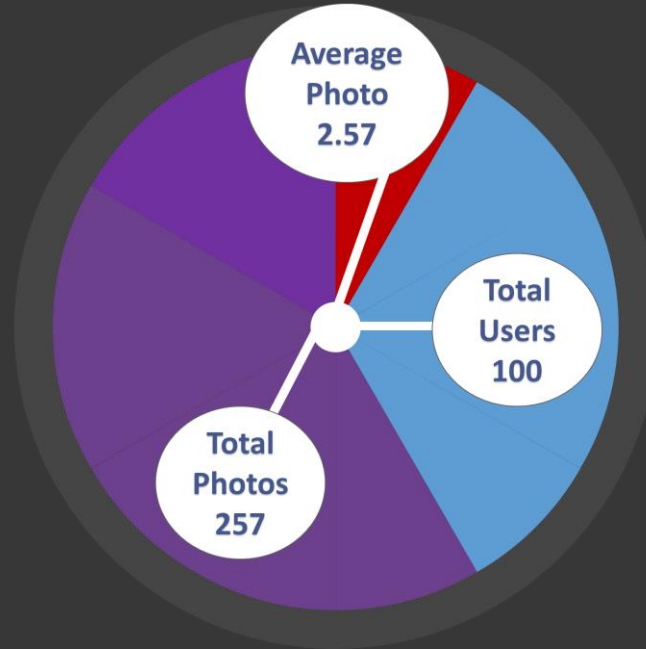
Average Photo 2.57

total_user bigint	total_photos bigint	average_post numeric
100	257	2.57

After analyzing the report, we have obtained clear figures regarding the online photo posting activity of users and the average number of photos per user This will help us understand the frequency of usage of the Instagram application by registered users.

2-Bots & Fake Accounts

Task: Provide data on users (bots) who have liked every single photo on the site (since any normal user would not be able to do this).

SQL query to find the answer

select user_id,users.username,
count (photo_id) as
Total_liked_photos from likes
inner join users
on users.id = likes.user_id
group by user_id , users.username
having count (photo_id)= 257
order by user_id asc

	user_id integer	username character varying (255)	total_liked_photos bigint
1	5	Aniya_Hackett	257
2	14	Jaclyn81	257
3	21	Rocio33	257
4	24	Maxwell.Halvorson	257
5	36	Ollie_Ledner37	257
6	41	Mckenna17	257
7	54	Duane60	257
8	57	Julien_Schmidt	257
9	66	Mike.Auer39	257
10	71	Nia_Haag	257
11	75	Leslie67	257
12	76	Janelle.Nikolaus81	257
13	91	Bethany20	257

13 Users

After analyzing the report, we have obtained clear figures regarding Bots & Fake Accounts who liked every Photos. This will help to find the Bots &Fake Accounts on Instagram for further action.

Result

During this project, we were able to provide valuable insights to the Instagram product team and management. By analyzing user data, we successfully achieved the following:

1-Rewarding Most Loyal Users
2-Remind Inactive Users to Start Posting
3-Declaring Contest Winner
4-Hashtag Researching
5-Launch AD Campaign
6-User Engagement
7-Bots & Fake Accounts

Thank You

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