Instagram
User Analytics Report

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Project Description

In This project we are going to Analysis 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. 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.

- Abhishek Shukla

About the Analysis:

Approach : - To start the analysis on Instagram first of all I install MYSQL Workbench 8.0 CE, to decode the SQL codes and find the respected table related to the tasks which is given in this assignment, then after I use Microsoft Excel to create charts related to the given tasks for better understand the report and to effectively address the all tasks and provide meaningful insights to the management team, the approaches are given below for the user analysis project:

Data Collection and Preparation:

a. Obtain access to the Instagram database or relevant analytics tools.

b. Extract relevant user data, including user profiles, post activity, engagement metrics, and timestamps.

c. Clean and pre-process the data, ensuring accuracy and removing any irrelevant or duplicate entries.

d. Publish the insights after the analyzation.

Tech-Stack Used : - MYSQL – To write SQL Query's and find the table related to the tasks for analyzation.

Microsoft Excel 2023 Professional – To easy understand the tables and create charts related to the project for better visualization.

- Abhishek Shukla

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

Rewarding Most Loyal Users

People who have been using the platform for the longest time.

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

Remind Inactive Users to Start Posting

By sending them promotional emails to post their 1st photo.

Task: Find the users who have never posted a single photo on Instagram

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.

Task: Identify the winner of the contest and provide their details to the team

Hashtag Researching

A partner brand wants to know, which hashtags to use in the post to reach the most people on the platform.
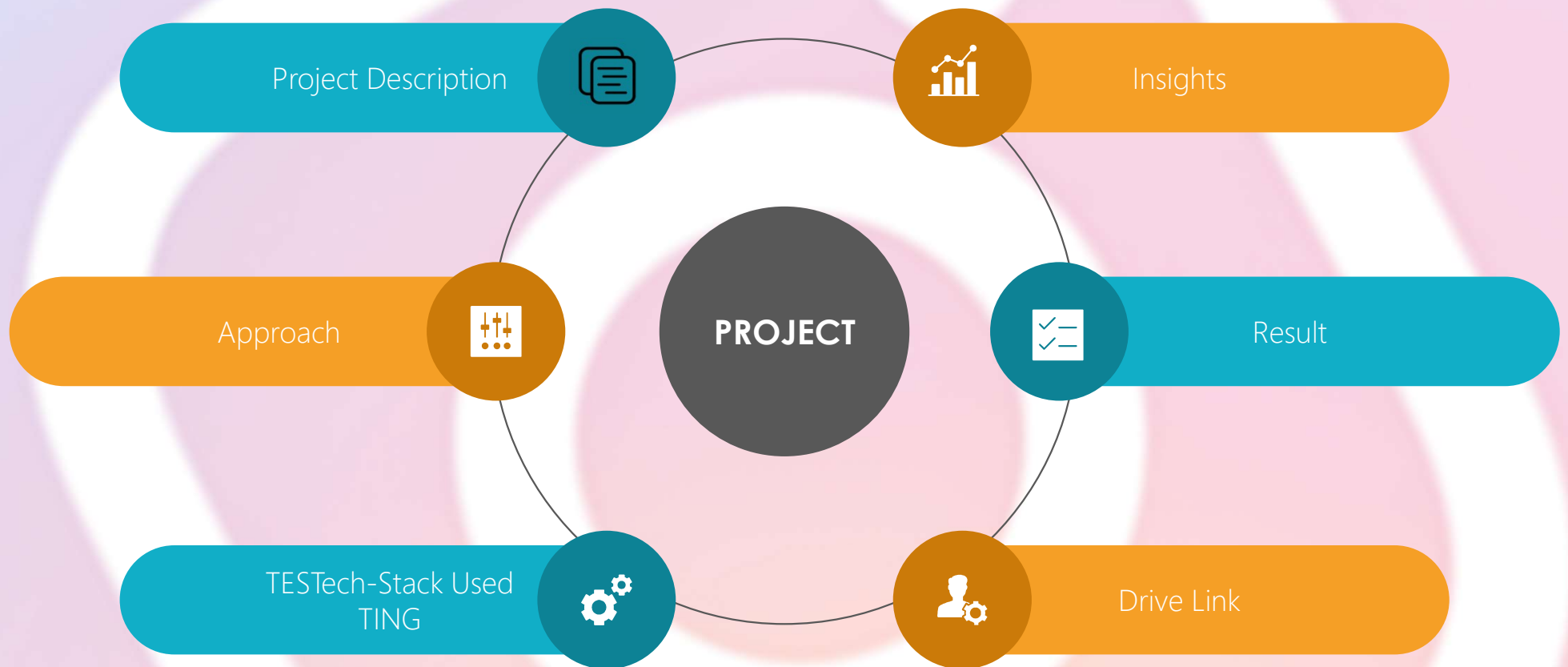
Task: Identify and suggest the top 5 most commonly used hashtags on the platform.

Launch AD Campaign

The team wants to know, which day would be the best day to launch ADs.

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

Project Analysis

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PROJECT

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TESTech-Stack Used TING

Drive Link

Project Instagram Analysis 1.1

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

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

Instagram

05 Oldest users of the Instagram

id	username	created_at
80	Darby_Herzog	06-05-2016
67	Emilio_Bernier52	06-05-2016
63	Elenor88	08-05-2016
95	Nicole71	09-05-2016
38	Jordyn.Jacobson2	14-05-2016

SQL Query to find information

SELECT * FROM users ORDER BY created_at ASC LIMIT 5;

	5th	4th	3rd	2nd	1st
	Darby_Herzog	Emilio_Bernier 52	Elenor88	Nicole71	Jordyn.Jacobs on2
	80	67	63	95	38
created_at	06-05-2016	06-05-2016	08-05-2016	09-05-2016	14-05-2016

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.

Regards
Abhishek Shukla
Team Data Analyst
Trainity
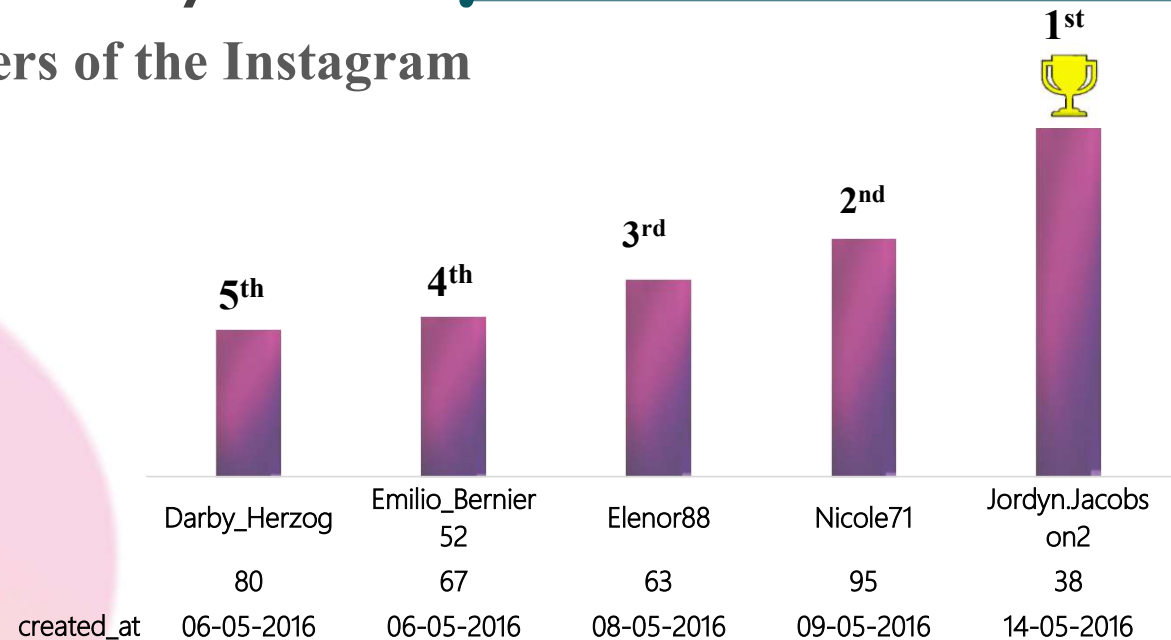
Project Instagram Analysis 1.2

Remind Inactive Users to Start Posting: By sending them promotional emails to post their 1st photo.

Task: Find the users who have never posted a single photo on Instagram

Project Analysis 1.2

SQL Query to find number of users who is not posted any photos from the day of account creation

To Create Master Data

```
SELECT *
FROM (
    SELECT user_id, COUNT(id) AS Toatl_Photos
    FROM photos
    GROUP BY user_id
) t1
full JOIN (
    SELECT id, created_at, username FROM users
) t2 ON t1.user_id = t2.id
```

/* To create Master Data I wrote a nested select query with group by function to group photo_id called as id on the basis of user_id of photos table after that I used full Join function and compare table photos to table users and get complete data of user activity to create a comparative bar chart using MS Excel.*/

To Create null Post Data

```
SELECT *
FROM (
    SELECT user_id, COUNT(id) AS Toatl_Photos
    FROM photos
    GROUP BY user_id
) t1
full JOIN (
    SELECT id, created_at, username FROM users
) t2 ON t1.user_id = t2.id
where t1.user_id is null
order by t2.id asc
```
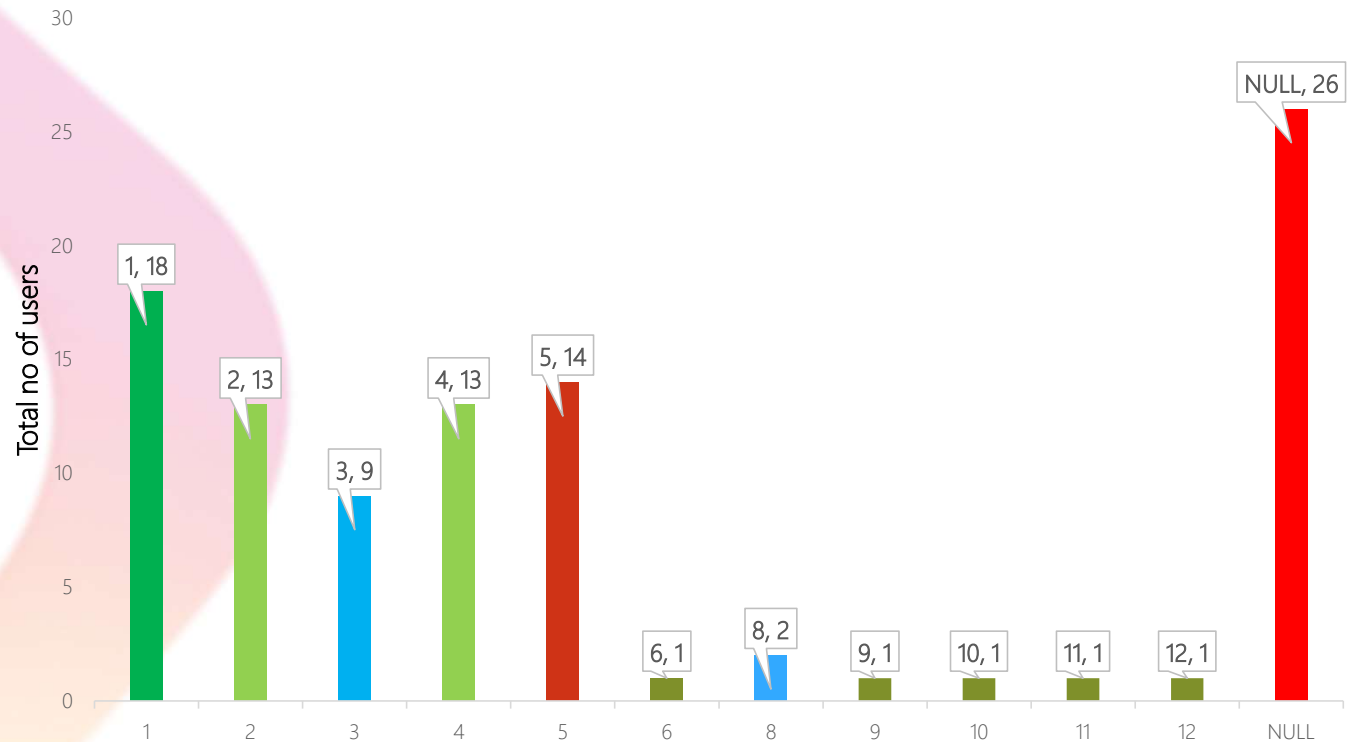
/* To generate the final filtered report I wrote nested select query with full Join function I created tow substance t1 & t2 I used group by function on user_id of photos table with t1 substance and count the photos id to know how much photos are posted by user of Instagrame and then call join to get the report*/

Project Analysis 1.2

Remind Inactive Users to Start Posting

Sl no	No of Photos from Photos Table	id From Users Table	created_at From Users Table	Username From Users Table
1	0	5	07-12-2016	Aniya_Hackett
2	0	7	12-12-2016	Kasandra_Homenick
3	0	14	06-02-2017	Jaclyn81
4	0	21	23-01-2017	Rocio33
5	0	24	18-04-2017	Maxwell.Halvorson
6	0	25	03-10-2016	Tierra.Trantow
7	0	34	08-07-2016	Pearl7
8	0	36	04-08-2016	Ollie_Ledner37
9	0	41	17-07-2016	Mckenna17
10	0	45	05-02-2017	David.Osinski47
11	0	49	30-10-2016	Morgan.Kassulke
12	0	53	07-02-2017	Linnea59
13	0	54	21-12-2016	Duane60
14	0	57	02-02-2017	Julien_Schmidt
15	0	66	01-07-2016	Mike.Auer39
16	0	68	13-11-2016	Franco_Keebler64
17	0	71	14-05-2016	Nia_Haag
18	0	74	25-01-2017	Hulda.Macejkovic
19	0	75	21-09-2016	Leslie67
20	0	76	21-07-2016	Janelle.Nikolaus81
21	0	80	06-05-2016	Darby_Herzog
22	0	81	14-01-2017	Esther.Zulauf61
23	0	83	06-11-2016	Bartholome.Bernhard
24	0	89	14-09-2016	Jessyca_West
25	0	90	03-03-2017	Esmeralda.Mraz57
26	0	91	03-06-2016	Bethany20

Number of users who is not posted any photos from the day of account creation

Users Activity comparative Bar Chart

Total no of users

Total no of photos grouped by Date accepts NULL Values

Chart data labels: 1, 18 | 2, 13 | 3, 9 | 4, 13 | 5, 14 | 6, 1 | 8, 2 | 9, 1 | 10, 1 | 11, 1 | 12, 1 | NULL, 26

Insights :

While Analyzing the report on MYSQL Workbench I found that 26 users are not posted any photos 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 left side on the page and a bar chart is also created on the right side of the page using MS Excel to visualize the report.

A Creative Email to Remind Inactive Users to Start Posting

Subject: To start Your Creativity, Kindly Share Your First Photo on Instagram!

Dear Instagram User,

We hope this email finds you well. As a valued member of our Instagram community, we have noticed that you haven't yet shared your first photo on the platform. We believe that your unique perspective and creativity have the potential to inspire others. Instagram is a huge community where millions of users express themselves through post their stories, memories. That's why we want to encourage you to take the Photo and post on Instagram and Share Your Story: because Every photo tells a story, and by posting your first photo, you have the opportunity to share your journey, interests, and adventures with others. Connect with Friends: Instagram allows you to connect with friends, family, and like-minded individuals from around the world. By posting your first photo, you can strengthen your relationships and engage with others who appreciate your unique perspective. We understand that starting something new can be hard, but remember that every journey begins with a single step. So why not take that step today and post your first photo on Instagram? To help you get started, we provide you a quick guide on how to post your first photo:

Download the Instagram app on your mobile phone from your app store if you already have Instagram app in your mobile phone kindly skip the initial step.

- ✓ Sign up for an account using your email address or phone number.
- ✓ Tap the "+" button at the bottom centre of the screen to create a new post.
- ✓ Choose a photo from your gallery or take a new one using the camera feature.
- ✓ Apply filters or edit the photo to enhance its appearance.
- ✓ Add a captivating caption to describe your photo and engage your audience.
- ✓ Include relevant hashtags to make your photo discoverable by others.
- ✓ Tap the "Share" button to post your first photo on Instagram.

Remember, your first photo is just the beginning. It's an opportunity to express yourself, connect with others.

Join the huge Instagram community today by sharing your first photo. We are waiting for your first post. If you have any questions or need assistance, our dedicated support team is here to help you 24*7.

Happy Instagramming!

Best regards,

The Instagram Team

Project Instagram Analysis 1.3

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.

Task: Identify the winner of the contest and provide their details to the team

Declaring Instagram Contest Winner

id	photo_id	username	Total_likes
52	145	Zack_Kemmer93	48
46	127	Malinda_Streich	43
65	182	Adelle96	43
44	123	Seth46	42
63	174	Elenor88	41

SQL QUERY:-

SELECT users.id,likes.photo_id,users.username,
COUNT(likes.user_id) Total_Likes **FROM** likes
INNER JOIN photos **ON** photos.id = likes.photo_id
INNER JOIN users **ON** users.id = photos.user_id
GROUP BY likes.photo_id, users.username, users.id
ORDER BY Total_Likes **DESC**
LIMIT 5;

Insights :

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 -
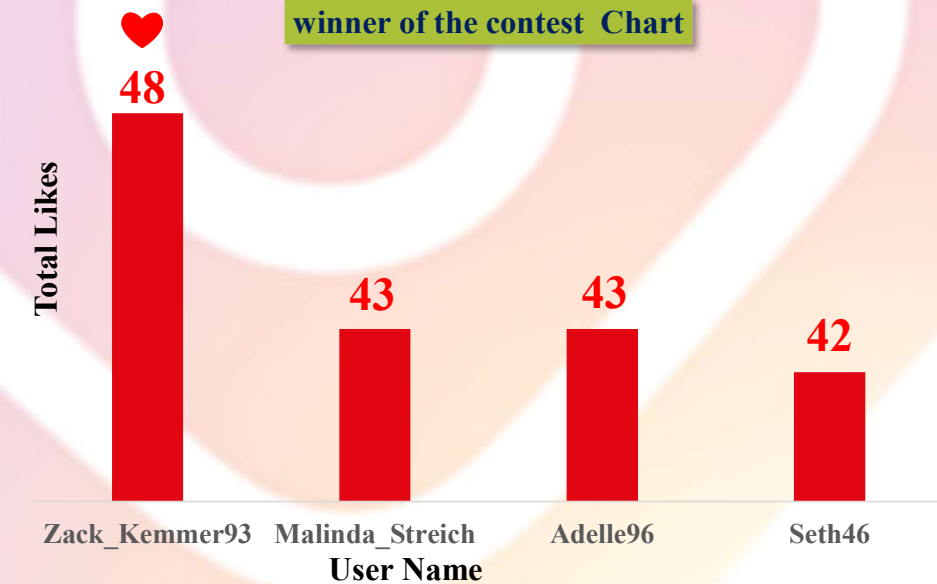
Name: Zack_Kemmer93
User ID: 52
Photo ID : 145
Total Likes: 48

winner of the contest Chart

48 — Zack_Kemmer93
43 — Malinda_Streich
43 — Adelle96
42 — Seth46

Total Likes (y-axis)
User Name (x-axis)

Project Instagram Analysis 1.4

Hashtag Researching: A partner brand wants to know, which hashtags to use in the post to reach the most people on the platform.

Task: Identify and suggest the top 5 most commonly used hashtags on the platform

Project Analysis 1.4

Top 5 Most Commonly Used Hashtags

id	tag_name	Tag_Use_Count
21	smile	59
20	beach	42
17	party	39
13	fun	38
5	food	24

SQL QUERY:-

SELECT tags.id,tags.tag_name,
COUNT(photo_tags.photo_id) AS Tag_count FROM tags
INNER JOIN photo_tags
ON photo_tags.tag_id = tags.id
GROUP BY tags.id, tags.tag_name
ORDER BY Tag_count DESC
LIMIT 5;
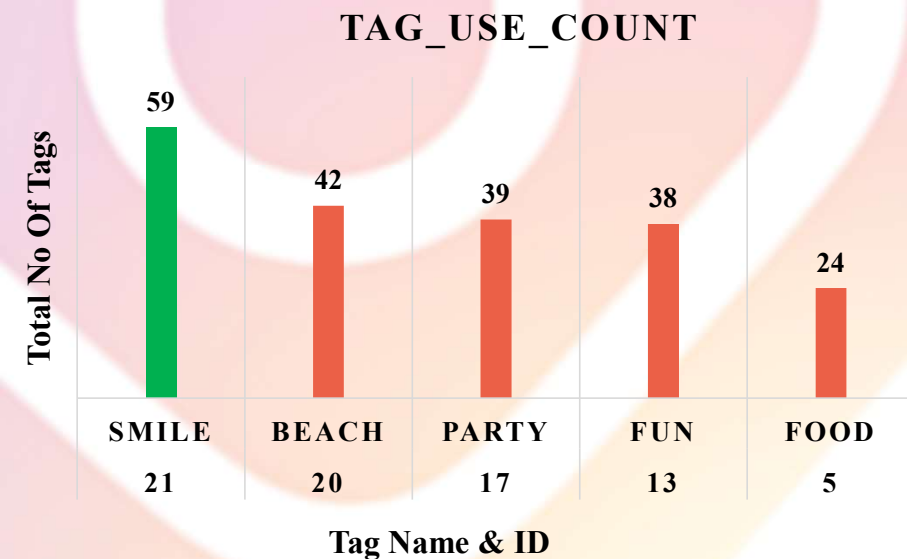
Insights :

Dear Partner,

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 the majority of users are using on this platform. If you want to increase public engagement on your posts, make sure to use these 5 hashtags.

TAG_USE_COUNT

Total No Of Tags

SMILE	BEACH	PARTY	FUN	FOOD
59	42	39	38	24
21	20	17	13	5

Tag Name & ID

Project Instagram Analysis 1.5

Launch AD Campaign: The team wants to know, which day would be the best day to launch ADs.

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

Project Analysis 1.5

User Registration Analytics

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User Registration Analytics chart Registration Number of Days in week wise

creation_day	users_count
4	16
0	16
5	15
1	14
2	14
3	13
6	12

USER REGISTRATION ANALYTICS CHART REGISTRATION NUMBER OF DAYS IN WEEK WISE

16 14 14 13 16 15 12
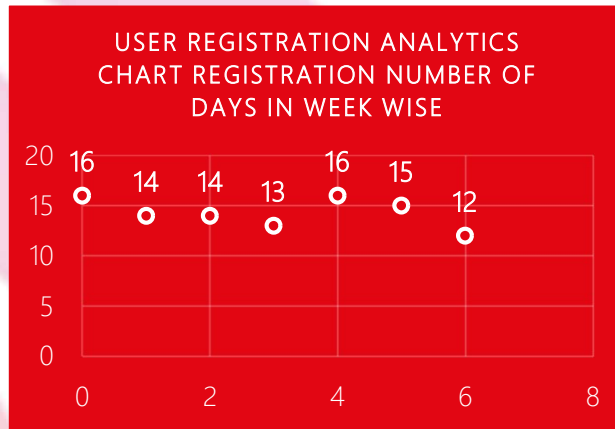
User Registration / Number of Days in week

User Registration Analytics chart Registration Days Name wise

registration_day	user_count
Thursday	16
Sunday	16
Friday	15
Monday	14
Tuesday	14
Wednesday	13
Saturday	12

User Registration Analytics chart Registration Days Name wise

16 16 15 14 14 13 12 — Thursday Sunday Friday Monday Tuesday Wednesday Saturday
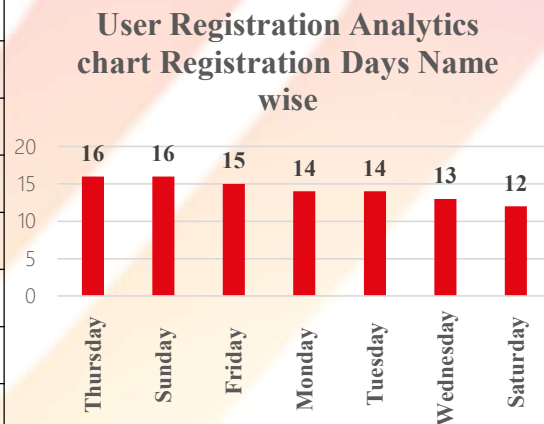
SQL QUERY TO FIND DAYS NAME:-

SELECT to_char(users.created_at, 'Day') AS Registration_Day,
COUNT(*) AS User_Count FROM users
GROUP BY Registration_Day
ORDER BY User_Count DESC;

SQL QUERY TO FIND NUMBER DAYs NAME:-

SELECT EXTRACT(DOW FROM created_at) AS Creation_Day,
COUNT(*) AS Users_Count FROM users
GROUP BY EXTRACT(DOW FROM created_at)
ORDER BY Users_Count DESC;

Insights :

Instagram Marketing Team,

I have generated a report which is published on this page. The report provides the data in both tabular and chart formats for easier comprehension. 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.

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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.

User Engagement

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

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

Bots & Fake Accounts

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

User Engagement

Investor Metrics: 1.1

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

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

Investor Metrics: 1.1
User Engagement

total_photos	total_users	photo_per_users
257	100	2.57

User Activity PI Chart By There Post's On Instagrame

2.57
100
257

■ total_photos   ■ total_users   ■ photo_per_users
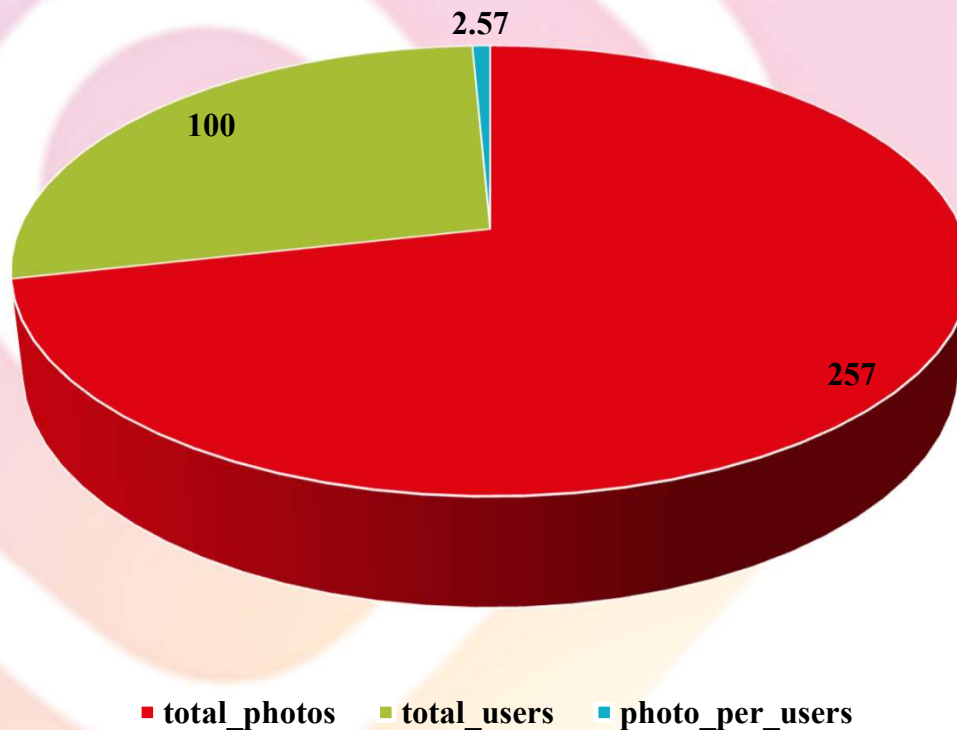
SQL QUERY:-

with T1 AS(
    SELECT u.id AS userid, COUNT(p.id) AS photoid
FROM users AS u
    LEFT JOIN photos AS p
    ON p.user_id = u.id
    GROUP BY u.id
)
    SELECT SUM(photoid) AS Total_Photos,
COUNT(userid) AS Total_Users, SUM(photoid)/COUNT(userid)
AS Photo_Per_Users FROM T1;

Insights :

Dear Investor,

    We delight to provide you with the information related to your query. 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(value given in tabular format). This will help us understand the frequency of usage of the Instagram application by registered users.

Thank you for your interest and support.

Data Analysis Team
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Bots & Fake Accounts 🤖

Investor Metrics: 1.2

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

Bots & Fake Accounts

SL	username	total_likes
1	Aniya_Hackett	257
2	Bethany20	257
3	Duane60	257
4	Jaclyn81	257
5	Janelle.Nikolaus81	257
6	Julien_Schmidt	257
7	Leslie67	257
8	Maxwell.Halvorson	257
9	Mckenna17	257
10	Mike.Auer39	257
11	Nia_Haag	257
12	Ollie_Ledner37	257
13	Rocio33	257

SQL QUERY:-

WITH T1 AS(
SELECT u.username, COUNT(l.photo_id) as Total_Likes From likes AS l
INNER JOIN users AS U
ON U.id = l.user_id
GROUP BY U.username)
SELECT username,Total_Likes from T1
WHERE Total_likes = (SELECT COUNT(*) FROM photos)
ORDER BY username

Insights :

Dear Investor,

We delight to provide you with the information related to your query. After analyzing the report, we have obtained clear figures regarding Bots & Fake Accounts who liked every Photos (value given in tabular format). This will help to find the Bots & Fake Accounts on Instagram for further action.

Thank you for your interest and support.

Data Analysis Team
Instagram
Trainity

Thank You

Achievements and Project Impact (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:

✓ Rewarding Most Loyal Users
✓ Remind Inactive Users to Start Posting
✓ Declaring Contest Winner
✓ Hashtag Researching
✓ Launch AD Campaign
✓ User Engagement
✓ Bots & Fake Accounts

- Abhishek Shukla