Insagram user analytics

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Project Description

User analysis is the process by which we track how users engage and interact with our digital product like software or mobile application in an attempt to drive business insights for marketing, product and development terms.

This insights are then use by teams across the business to launch a new marketing campaign decide on future to build for an app track the success of the app by measuring users engagement and improve the experience altogether while helping the business growth.

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

Approach

1. The   problems given by the management team marketing a product, user engagement, diluting the fake accounts, top user rewards
2. By verifying the data provided by the management team.i chose MySQL for analysis to get the insights.

Tech-Stack used

1. MySQL Server -8.0
2. MySQL shell - 8.0.31
3. MySQL WorkBench - 8.0CE

Insights

I.   Rewarding most loyal fans who are the members of instagram from beging

SQL Query : SELECT * FROM users order by created_at ASC LIMIT 5 ;

Output:

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

From the insights we get to know the 5 users where using insatagram from long time to get his output we analised he database like i selected all he columns from users and sorted them into ascending order so we get the users information who created the account oldest first and printed only first 5 .so we can say his 5 users are the oldes loyal users.

II.   Remind inactive users to start Posting

Here marketing team wants user who is inactive and not even posted single photo.

And they want o promote that user to pos for the first time .we use the following query to get the required users data.

SQL Query :

select users.username,users.id , photos.image_url from photos

right join users on users.id=photos.user_id where image_url is null ;

Output:

username	id	image_url
Aniya_Hackett	5	NULL
Kasandra_Homenick	7	NULL
Jaclyn81	14	NULL
Rocio33	21	NULL
Maxwell.Halvorson	24	NULL
Tierra.Trantow	25	NULL
Pearl7	34	NULL
Ollie_Ledner37	36	NULL
Mckenna17	41	NULL
David.Osinski47	45	NULL
Morgan.Kassulke	49	NULL
Linnea59	53	NULL
Duane60	54	NULL
Julien_Schmidt	57	NULL
Mike.Auer39	66	NULL
Franco_Keebler64	68	NULL
Nia_Haag	71	NULL
Hulda.Macejkovic	74	NULL
Leslie67	75	NULL
Janelle.Nikolaus81	76	NULL
Darby_Herzog	80	NULL
Esther.Zulauf61	81	NULL
Bartholome.Bernhard	83	NULL
Jessyca_West	89	NULL
Esmeralda.Mraz57	90	NULL
Bethany20	91	NULL

By the data we analyse username,user_id and image url by checking the column in photos imageurl and printed where imageurl is null of all he useridand usernames in users table.

III. Declaring contest winner

Marketing team wants to engage usersby conducting a contest for getting more likes. so the contest is the user who get highest number of likes they will be winner

SQL 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.photo_id

group by photos.id

order by total_likes desc

limit 1;

Output :

	username	id	image_url	total_likes
▶	Kaley9	30	http://kenny.com	41

we Join the tables (users,likes) to get phoo id of username.and join photo_id with likes_photo_id to match he photo in likes table and photos table then i group the photos.id to count all in likes and hen we get the likes per user.now sor the likes and limit the first one so we get highest liked photo and user details.

IV. Hashtag researching

A brand partner wants to know which hashtag to use to get higher reach for the post.

SQL Query :

select count(photo_id) as max_photo_id_per_tag,photo_tags.tag_id,tags.tag_name

from photo_tags

join tags

on photo_tags.tag_id=tags.id

group by photo_tags.tag_id

order by count(photo_id) desc limit 5;

Output :

max_photo_id_per_tag	tag_id	tag_name
59	21	smile
42	20	beach
39	17	party
38	13	fun
24	18	concert

By the insights we learn that the tag name is used maximum per photo are given to get this we join photos_tags and tags tables and count the photo_id sort them by descending order and given them .the above 5 tagnames are used in max number of postes.

V.   Launch AD campaign

Team want to run an ad campaign they don't know when to run. so they want it the data on which day the most users register on Instagram

 SQL Query :

select date_format(created_at,'%W') as days,count(*) as count_of_days

from users

group by days

order by count_of_days desc ;

Output :

days	count_of_days
Thursday	16
Sunday	16
Friday	15
Tuesday	14
Monday	14
Wednesday	13
Saturday	12

From the output we can say that on which day the mos no of users registeredor created on thursday and sunday.

From the given data i changed he date formate to days in week and i counted all days individually and added in new column count of days.

User Engagement: Are users still as active and post on Instagram or they are making fewer posts Your Task: Provide how many times does average user posts on Instagram. Also, provide the total number of photos on Instagram/total number of users

VI.   User Engagment

Are user still as active and post on Instagram for they are making few or post .

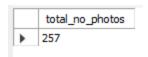how many times also provide the total number of post on Instagram ,Total number of users

SQL Query:

select round((SELECT count(*) FROM photos) /(SELECT count(*) FROM users)) as user_posts_on_Instagram
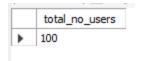
user_posts_on_Instagram
3

To have average postes per user we divide total number of photos divided total no of users .

SELECT count(*) total_no_photos FROM photos;

total_no_photos
257

We get to know the total number of photos in instagram .

SELECT count(*) as total_no_users FROM users;

total_no_users
100

We get to know the Total number of users in instagram.

VII.   Bots and fake accounts

investor   want to know that platform have any find of bots or fake account which

Liked all postes on the instagram.which is impossible to humans.

From the understanding we need to filters the accounts which liked each and every Posts.

SQL Query :

select user_id,users.username,count(photo_id) as total_photos_liked

 from likes

 join users on users.id=likes.user_id

 group by user_id having total_photos_liked= (select count(image_url) from photos);

Output

user_id	username	total_photos_liked
5	Aniya_Hackett	257
14	Jaclyn81	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

I collect all he userid from photos table by counting photoid which likes by the
 Userid as total likes if the no of photos increases like coin of that user also increases
And we mach he total likes of per user with total numbers od posts available .if it
Matches hen we get the account details who liked all the posts

Result

By doing this project i have learn how to apply analysis and filter the data as per the requirement.how to present the insights to managment and in an understandable way

How good we are presenting the insights and it should be help in business growth .

I have explored lot of new concepts in sql lots of in hand practice and more research