Instagram User Analytics

User analysis is 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.

 Here we find 5 oldest users, inactive users who have not posted a single photo, photo with maximum likes, top 5 trending hashtags ,most suitable day in a week to launch ad campaign for marketing team.

For Investor metrics ,we find user engagement to see an count of posts an average user post on Instagram and to check if there are any bot or fake accounts.

Approach : To begin with I created database in my sql using given commands. I saw the task to done for marketing and investor metrics team to increase their productivity and efficiency. Then I saw tables in the database and based on the task I did mind mapping like which tables to use for required task and later the same was used in MySQL.

Tech Stack Used : MySQL workbench 8.0 CE

Marketing Team:

1. Rewarding Most Loyal Users:

SELECT username

FROM ig_clone.users

order by created_at

limit 5

Result: The below table shows users who have been using Instagram from the early stages of Instagram.

username
Darby_Herzog
Emilio_Bernier52
Elenor88
Nicole71
Jordyn.Jacobson2

2. Remind Inactive Users to Start Posting

SELECT username

FROM photos

right join users

on photos.user_id=users.id

where photos.image_url is null

Result : The below table represents the users who have not posted a single photo on Instagram.

username
Aniya_Hackett
Bartholome.Bernhard
Bethany20
Darby_Herzog
David.Osinski47
Duane60
Esmeralda.Mraz57
Esther.Zulauf61
Franco_Keebler64
Hulda.Macejkovic
Jaclyn81
Janelle.Nikolaus81
Jessyca_West
Julien_Schmidt
Kasandra_Homenick
Leslie67
Linnea59
Maxwell.Halvorson
Mckenna17
Mike.Auer39
Morgan.Kassulke
Nia_Haag
Ollie_Ledner37
Pearl7
Rocio33
Tierra.Trantow

3. Declaring Contest Winner

SELECT photos.user_id, users.username, image_url, count(photos.id) as image_likes

FROM likes

inner join photos

on likes.photo_id=photos.id

inner join users

on photos.user_id=users.id

group by 1 ,3

order by image_likes desc

limit 1

Result : The below result gives the details of the user who got maximum likes for his post.

user_id	username	image_url	image_likes
52	Zack_Kemmer93	https://jarret.name	48

4. Hashtag Researching

SELECT photo_tags.tag_id,tags.tag_name, count(tag_id) as tagname_count

FROM tags

inner join photo_tags

on tags.id=photo_tags.tag_id

group by 1

order by tagname_count desc

limit 5

Result : The below tables gives the names of top 5 trending hashtag names.

tag_id	tag_name	tagname_count

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

5. Launch Ad Campaign

select dayname(created_at) as day_name,count(created_at) as day_count

 from

 users

 group by 1

 order by day_count desc

Result: The below table suggests that either Thursday or Sunday would be favourable day to launch ad campaign since many users register on that day of week.

day_name	day_count
Thursday	16
Sunday	16
Friday	15
Tuesday	14
Monday	14
Wednesday	13
Saturday	12

INVESTOR METRICS

1. User Engagement :

SELECT count(photos.id) as photo_count, count(users.id) as user_count, count(photos.id) /count(users.id) as average_user_post_count

FROM photos

right join users on photos.user_id=users.id

Result: The below table gives details about total photos count, top users count and average user post count on instagram

photo_count	user_count	average_user_post_count
257	283	0.9081

2. Bots & Fake Accounts:

SELECT users.id, users.username,count(*) as likes_per_user

FROM photos

inner join users

on photos.user_id=users.id

group by photos.user_id

order by 3 desc

Result : The below table suggests that there are no bots & fake accounts in the given Instagram dataset.

id	username	likes_per_user
23	Eveline95	12
88	Clint27	11
59	Cesar93	10
86	Delfina_VonRueden68	9
58	Aurelie71	8
29	Jaime53	8
77	Donald.Fritsch	6
33	Yvette.Gottlieb91	5
52	Zack_Kemmer93	5
47	Harrison.Beatty50	5
6	Travon.Waters	5
13	Alexandro35	5
51	Mariano_Koch3	5
78	Colten.Harris76	5
11	Justina.Gaylord27	5
1	Kenton_Kirlin	5
72	Kathryn80	5
65	Adelle96	5
43	Janet.Armstrong	5
64	Florence99	5
26	Josianne.Friesen	5
2	Andre_Purdy85	4
3	Harley_Lind18	4

9	Gus93	4
8	Tabitha_Schamberger11	4
46	Malinda_Streich	4
12	Dereck65	4
44	Seth46	4
63	Elenor88	4
32	Irwin.Larson	4
28	Dario77	4
16	Annalise.McKenzie16	4
15	Billy52	4
87	Rick29	4
4	Arely_Bogan63	3
10	Presley_McClure	3
50	Gerard79	3
67	Emilio_Bernier52	3
17	Norbert_Carroll35	3
42	Maya.Farrell	3
92	Frederik_Rice	3
96	Keenan.Schamberger60	3
99	Alek_Watsica	3
38	Jordyn.Jacobson2	2
100	Javonte83	2
82	Aracely.Johnston98	2
84	Alysa22	2
85	Milford_Gleichner42	2
60	Sam52	2
62	Ressie_Stanton46	2
19	Hailee26	2
93	Willie_Leuschke	2
95	Nicole71	2
30	Kaley9	2
97	Tomas.Beatty93	2
35	Lennie_Hartmann40	2
31	Aiyana_Hoeger	1
27	Darwin29	1
79	Katarina.Dibbert	1
40	Rafael.Hickle2	1
61	Jayson65	1
39	Kelsi26	1
22	Kenneth64	1
20	Delpha.Kihn	1
48	Granville_Kutch	1

18	Odessa2	1
37	Yazmin_Mills95	1
94	Damon35	1
69	Karley_Bosco	1
70	Erick5	1
55	Meggie_Doyle	1
98	Imani_Nicolas17	1
56	Peter.Stehr0	1
73	Jaylan.Lakin	1