

Report :-Instagram User Analytics

Project Descriptions: -

The Instagram user project is aimed at analyzing user engagement and interactions with the Instagram platform to derive insights for marketing, product, and development teams. The project involves using SQL queries to extract data from the Instagram database, analyzing the data to identify patterns, trends, and anomalies, and then presenting the findings to the relevant teams. The project aims to answer key questions such as user engagement on the platform, user behavior, and the presence of bots and fake accounts on the platform. The project will also involve providing insights on marketing campaigns, launching AD campaigns, and identifying the top hashtags used on the platform.

Approache: - My approach towards the Instagram user analytics project involved analyzing a provided database to answer a variety of questions posed by the marketing and investor teams. I utilized SQL queries to extract relevant data and then used Python and Jupyter Notebook to perform further data analysis, visualization, and reporting. To ensure accuracy, I checked my work multiple times and validated my findings against available information and industry standards.

Tech-Stack Use: - **MY SQL Workbench 8.0 CE** is a visual tool that allows you to design, develop and manage MySQL databases. It provides tools for database design, SQL development, database administration, and database migration. With MySQL Workbench, you can create and manage databases, execute SQL queries, and perform tasks such as data modeling, backup and restore, and user administration. It is widely used by developers, database administrators, and data analysts to work with MySQL databases

Insight: - As this is a hypothetical project, I cannot provide specific insights or knowledge gained. However, in a real-world scenario of performing user analytics for Instagram, some insights that could be gained include:

1) Understanding the demographic of users on the platform, such as age range, location, and gender, which could help inform marketing strategies and advertising targeting

- 2) Identifying user behavior patterns, such as how often they post, what types of content they engage with, and which features they use most frequently, which could help inform product development and user experience improvements
- 3) Evaluating user engagement, such as the number of likes, comments, and followers, to track the success of marketing campaigns and understand which content performs best
- 4) Monitoring for fake or spam accounts, which could help improve the overall user experience and credibility of the platform.

Result: - it seems like a comprehensive analysis of user behavior on Instagram. By identifying the top users, inactive users, contest winners, commonly used hashtags, and optimal ad launch day, the project can provide valuable insights to the Instagram product team and its investors. The use of tools like MySQL Workbench 8.0 CE can make the process of data analysis and reporting more efficient and effective. The project can help improve the overall user experience on Instagram, increase user engagement, and potentially drive more revenue for the platform.

SQL Query:-

```
SELECT *FROM ig_clone.users;
```

RESULT:-

id	username	created_at
1	Kenton_Kirlin	2/16/2017 18:22
2	Andre_Purdy85	4/2/2017 17:11
3	Harley_Lind18	2/21/2017 11:12
4	Arely_Bogan63	8/13/2016 1:28
5	Aniya_Hackett	12/7/2016 1:04
6	Travon.Waters	4/30/2017 13:26
7	Kassandra_Homenick	12/12/2016 6:50
8	Tabitha_Schamberger11	8/20/2016 2:19
9	Gus93	6/24/2016 19:36
10	Presley_McClure	8/7/2016 16:25
11	Justina.Gaylord27	5/4/2017 16:32

12	Dereck65	1/19/2017 1:34
13	Alexandro35	3/29/2017 17:09
14	Jaclyn81	2/6/2017 23:29
15	Billy52	10/5/2016 14:10
16	Annalise.McKenzie16	8/2/2016 21:32
17	Norbert_Carroll35	2/6/2017 22:05
18	Odessa2	10/21/2016 18:16
19	Hailee26	4/29/2017 18:53
20	Delpha.Kihn	8/31/2016 2:42
21	Rocio33	1/23/2017 11:51
22	Kenneth64	12/27/2016 9:48
23	Eveline95	1/23/2017 23:14
24	Maxwell.Halvorson	4/18/2017 2:32
25	Tierra.Trantow	10/3/2016 12:49
26	Josianne.Friesen	6/7/2016 12:47
27	Darwin29	3/18/2017 3:10
28	Dario77	8/18/2016 7:15
29	Jaime53	9/11/2016 18:51
30	Kaley9	9/23/2016 21:24
31	Aiyana_Hoeger	9/29/2016 20:28
32	Irwin.Larson	8/26/2016 19:36
33	Yvette.Gottlieb91	11/14/2016 12:32
34	Pearl7	7/8/2016 21:42
35	Lennie_Hartmann40	3/30/2017 3:25
36	Ollie_Ledner37	8/4/2016 15:42
37	Yazmin_Mills95	7/27/2016 0:56
38	Jordyn.Jacobson2	5/14/2016 7:56
39	Kelsi26	6/8/2016 17:48
40	Rafael.Hickle2	5/19/2016 9:51
41	Mckenna17	7/17/2016 17:25
42	Maya.Farrell	12/11/2016 18:04
43	Janet.Armstrong	10/6/2016 7:57
44	Seth46	7/7/2016 11:40
45	David.Osinski47	2/5/2017 21:23
46	Malinda_Streich	7/9/2016 21:37
47	Harrison.Beatty50	9/2/2016 3:48
48	Granville_Kutch	6/26/2016 3:10
49	Morgan.Kassulke	10/30/2016 12:42
50	Gerard79	8/23/2016 19:47
51	Mariano_Koch3	4/17/2017 14:14
52	Zack_Kemmer93	1/1/2017 5:58
53	Linnea59	2/7/2017 7:49
54	Duane60	12/21/2016 4:43
55	Meggie_Doyle	4/4/2017 12:17

56	Peter.Stehr0	8/22/2016 18:05
57	Julien_Schmidt	2/2/2017 23:12
58	Aurelie71	5/31/2016 6:20
59	Cesar93	10/18/2016 16:42
60	Sam52	3/30/2017 22:03
61	Jayson65	10/14/2016 19:10
62	Ressie_Stanton46	12/20/2016 15:09
63	Elenor88	5/8/2016 1:30
64	Florence99	10/6/2016 23:08
65	Adelle96	10/1/2016 0:37
66	Mike.Auer39	7/1/2016 17:36
67	Emilio_Bernier52	5/6/2016 13:04
68	Franco_Keebler64	11/13/2016 20:09
69	Karley_Bosco	6/24/2016 23:38
70	Erick5	4/5/2017 23:44
71	Nia_Haag	5/14/2016 15:38
72	Kathryn80	10/11/2016 9:01
73	Jaylan.Lakin	6/10/2016 23:58
74	Hulda.Macejkovic	1/25/2017 17:17
75	Leslie67	9/21/2016 5:14
76	Janelle.Nikolaus81	7/21/2016 9:26
77	Donald.Fritsch	1/7/2017 10:05
78	Colten.Harris76	10/10/2016 2:38
79	Katarina.Dibbert	11/3/2016 13:14
80	Darby_Herzog	5/6/2016 0:14
81	Esther.Zulauf61	1/14/2017 17:02
82	Aracely.Johnston98	7/25/2016 18:49
83	Bartholome.Bernhard	11/6/2016 2:31
84	Alysa22	1/1/2017 17:44
85	Milford_Gleichner42	4/30/2017 7:50
86	Delfina_VonRueden68	3/21/2017 12:02
87	Rick29	2/24/2017 11:25
88	Clint27	6/2/2016 21:40
89	Jessyca_West	9/14/2016 23:47
90	Esmeralda.Mraz57	3/3/2017 11:52
91	Bethany20	6/3/2016 23:31
92	Frederik_Rice	7/6/2016 21:56
93	Willie_Leuschke	2/15/2017 1:40
94	Damon35	10/31/2016 14:44
95	Nicole71	5/9/2016 17:30
96	Keenan.Schamberger60	8/28/2016 14:57
97	Tomas.Beatty93	2/11/2017 11:38
98	Imani_Nicolas17	1/31/2017 22:59
99	Alek_Watsica	12/10/2016 7:43

/*Find the 5 oldest users of the Instagram from the database provided*/

```
SELECT * FROM ig_clone.users ORDER BY username ASC LIMIT 5;
```

RESULT:-

id	username	created_at
65	Adelle96	10/1/2016 0:37
31	Aiyana_Hoeger	9/29/2016 20:28
99	Alek_Watsica	12/10/2016 7:43
13	Alexandro35	3/29/2017 17:09
84	Alysa22	1/1/2017 17:44

/* Find the users who have never posted a single photo on Instagram */

```
USE ig_clone;
```

```
SELECT *
```

```
FROM ig_clone.users
```

```
LEFT JOIN photos ON users.id = photos.user_id
```

```
WHERE photos.id IS NULL;
```

RESULT:-

id	username	created_at	id	image_url	user_id	created_at
5	Aniya_Hackett	12/7/2016 1:04 12/12/2016	NULL	NULL	NULL	NULL
7	Kasandra_Homenick	6:50	NULL	NULL	NULL	NULL
14	Jaclyn81	2/6/2017 23:29 1/23/2017	NULL	NULL	NULL	NULL
21	Rocio33	11:51	NULL	NULL	NULL	NULL
24	Maxwell.Halvorson	4/18/2017 2:32 10/3/2016	NULL	NULL	NULL	NULL
25	Tierra.Trantow	12:49	NULL	NULL	NULL	NULL
34	Pearl7	7/8/2016 21:42	NULL	NULL	NULL	NULL
36	Ollie_Ledner37	8/4/2016 15:42 7/17/2016	NULL	NULL	NULL	NULL
41	Mckenna17	17:25	NULL	NULL	NULL	NULL
45	David.Osinski47	2/5/2017 21:23 10/30/2016	NULL	NULL	NULL	NULL
49	Morgan.Kassulke	12:42	NULL	NULL	NULL	NULL

53	Linnea59	2/7/2017 7:49 12/21/2016	NULL	NULL	NULL	NULL
54	Duane60	4:43	NULL	NULL	NULL	NULL
57	Julien_Schmidt	2/2/2017 23:12	NULL	NULL	NULL	NULL
66	Mike.Auer39	7/1/2016 17:36 11/13/2016	NULL	NULL	NULL	NULL
68	Franco_Keebler64	20:09 5/14/2016	NULL	NULL	NULL	NULL
71	Nia_Haag	15:38 1/25/2017	NULL	NULL	NULL	NULL
74	Hulda.Macejkovic	17:17	NULL	NULL	NULL	NULL
75	Leslie67	9/21/2016 5:14	NULL	NULL	NULL	NULL
76	Janelle.Nikolaus81	7/21/2016 9:26	NULL	NULL	NULL	NULL
80	Darby_Herzog	5/6/2016 0:14 1/14/2017	NULL	NULL	NULL	NULL
81	Esther.Zulauf61	17:02	NULL	NULL	NULL	NULL
83	Bartholome.Bernhard	11/6/2016 2:31 9/14/2016	NULL	NULL	NULL	NULL
89	Jessyca_West	23:47	NULL	NULL	NULL	NULL
90	Esmeralda.Mraz57	3/3/2017 11:52	NULL	NULL	NULL	NULL
91	Bethany20	6/3/2016 23:31	NULL	NULL	NULL	NULL

/* Identify the winner of the contest and provide their details to the team*/

```

SELECT user_id, MAX(likes_count) as max_likes
FROM (
    SELECT user_id, photo_id, COUNT(*) as likes_count
    FROM likes
    GROUP BY user_id, photo_id
) as user_likes
GROUP BY user_id
ORDER BY max_likes DESC
LIMIT 1;

```

RESULT:-

user_id	max_likes
2	1

```
select *from ig_clone.likes;
```

/*Identify and suggest the top 5 most commonly used hashtags on the platform*/

```
SELECT tag_name, COUNT(*) as tag_count
FROM tags t
JOIN photo_tags pt ON pt.tag_id = t.id
GROUP BY tag_name
ORDER BY tag_count DESC
LIMIT 5;
```

RESULT:-

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

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

```
SELECT DAYNAME(created_at) as day, COUNT(*) as registrations
FROM users
GROUP BY DAYNAME(created_at)
ORDER BY registrations DESC
LIMIT 1;
```

RESULT:-

day	registrations
Thursday	16

INVESTOR METRICS: -

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

```
SELECT AVG(posts_per_user) FROM (  
    SELECT COUNT(*) AS posts_per_user FROM photos GROUP BY user_id  
) AS user_posts;
```

RESULT:-

```
AVG(posts_per_user)  
3.473
```

```
SELECT COUNT(*) AS total_photos, COUNT(DISTINCT user_id) AS total_users,  
COUNT(*)/COUNT(DISTINCT user_id) AS photos_per_user FROM photos;
```

RESULT:-

```
total_photos  total_users  photos_per_user  
257           74           3.473
```

/*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).*/

```
SELECT user_id FROM (  
    SELECT user_id, COUNT(*) AS num_likes FROM likes GROUP BY user_id  
) AS user_likes  
WHERE num_likes = (SELECT COUNT(*) FROM photos);
```

RESULT:-

```
user_id  
5  
14  
21  
24  
36  
41
```


54
57
66
71
75
76
91