Instagram User Analysis

SQL Fundamentals Project Report

Description

Instagram User Analysis on the basis of marketing and Investor metrics with basics and fundamentals of SQL (Structured Query Language).

Approach

We have created a database on Instagram having various data tables like users, photos, likes, followers, comments, and tags along with a junction table like photo_tags. Using basic SQL we have Insight for conclusions on two bases i.e. Marketing and Investor Metrics like Loyal Users, Reminders to Inactive users, Declaring Contest Winners, Hashtag Researching, Launch AD Campaign, User Engagement, and Bots & Fake Accounts.

Tech Stack Used

Online Platform - DB Fiddle (https://db-fiddle.com)
Database - MySQL v5.7

Insights & Results

- **Marketing**

1. Five most loyal i.e. **Oldest Users.**

SQL Query

```
SELECT id, username, created_at
FROM users
ORDER BY created_at ASC LIMIT 5
```

Result

id	username	created_at
80	Darby_Herzog	2016-05-06 0:14:21
67	Emilio_Bernier52	2016-05-06 13:04:30
63	Elenor88	2016-05-08 1:30:41
95	Nicole71	2016-05-09 17:30:22
38	Jordyn.Jacobson2	2016-05-14 7:56:26

2. The list users should get a promotional email for their **First Post Reminder.**

SQL Query

```
SELECT id, username
FROM users
WHERE id NOT IN(SELECT user_id FROM photos)
```

Result

id	username
5	Aniya_Hackett
7	Kasandra_Homenick
14	Jaclyn81
21	Rocio33
24	Maxwell.Halvorson
25	Tierra.Trantow
34	Pearl7
36	Ollie_Ledner37
41	Mckenna17
45	David.Osinski47
49	Morgan.Kassulke
53	Linnea59
54	Duane60
57	Julien_Schmidt
66	Mike.Auer39
68	Franco_Keebler64
71	Nia_Haag
74	Hulda.Macejkovic
75	Leslie67
76	Janelle.Nikolaus81

80	Darby_Herzog
81	Esther.Zulauf61
83	Bartholome.Bernhard
89	Jessyca_West
90	Esmeralda.Mraz57
91	Bethany20

3. Five Common Searching - **Most Used Hashtags.**

SQL Query

```
SELECT tag_id, COUNT(tag_id),
(SELECT tag_name
 FROM tags
 WHERE id=tag_id) AS 'Most Common Hashtags'
FROM photo_tags
GROUP BY tag_id
ORDER BY COUNT(*) DESC LIMIT 5
```

Result

tag_id	COUNT(tag_id)	Most Common Hashtags
21	59	smile
20	42	beach
17	39	party
13	38	fun
18	24	concert

4. Most Liked Photo - **Contest Winner.**

SQL Query

```
SELECT photo_id, COUNT(photo_id),
(SELECT
 (SELECT username
  FROM users
  WHERE id=user_id)
 FROM photos
 WHERE id=photo_id)
AS 'User Of Most Liked Photo'
FROM likes
```

```
GROUP BY photo_id
ORDER BY COUNT(*) DESC LIMIT 3
```

Result

photo_id	COUNT(photo_id)	User Of Most Liked Photo
145	48	Zack_Kemmer93
182	43	Adelle96
127	43	Malinda_Streich

5. Launch Date for Ad Campaign - **Most Users Registered Day.**

SQL Query

```
SELECT COUNT(DAYOFWEEK(created_at)), DAYOFWEEK(created_at)
FROM users
GROUP BY DAYOFWEEK(created_at)
ORDER BY COUNT(*) DESC LIMIT 3
```

Result

COUNT(DAYOFWEEK(created_at))	DAYOFWEEK(created_at)
16	5
16	1
15	6

- **Investor metrics**

1. Average Instagram User Posts and Photos on Instagram/Total no. of users- **Users Engagements.**

SQL Query

- ```
  SELECT COUNT(id) / COUNT(user_id)
  FROM photos
  ```
- ```
  SELECT COUNT(id) / (SELECT COUNT(id) FROM photos)
  FROM users
  ```

Result

COUNT(id) / COUNT(user_id)	COUNT(id) / (SELECT COUNT(id) FROM photos)
1	0.3891

2. Users who liked every single photo - **Bots and Fake Accounts**

SQL Query

```
SELECT COUNT(user_id) / (SELECT COUNT(id) FROM photos), user_id,
(SELECT username
 FROM users
 WHERE id=user_id)
AS 'Username'
FROM likes
GROUP BY user_id
ORDER BY COUNT(*) DESC
```

Result

COUNT(user_id) / (SELECT COUNT(id) FROM photos)	Username	user_id
1	Nia_Haag	71
1	Rocio33	21
1	Mckenna17	41
1	Aniya_Hackett	5
1	Jaclyn81	14
1	Duane60	54
1	Leslie67	75
1	Bethany20	91
1	Maxwell.Halvorson	24
1	Mike.Auer39	66
1	Janelle.Nikolaus81	76
1	Ollie_Ledner37	36
1	Julien_Schmidt	57