Instagram User Analytics

Project Description:

Instagram wants to track how the users are engaging and interacting with their digital product in order to derive some business insights for teams handling the product like Marketing team, Development team, Product Management team.

Then those insights are used by different teams in order to launch a new marketing campaign, deciding the features for the digital product, track the success of the product by measuring user engagement and finding out whether the feature is good or can be improved by conducting surveys for the business growth.

My role is I am working with product team of instagram and I have been asked by my manager to provide insights on the questions asked by the management team.

Approach:

Step1: To run the given commands for creating the database to work on.

(the database that has been provided in the attachments)

Step2: Perform the analysis by answering the questions asked using the SQL queries.

Step3: Analysing the dataset, results and providing my insights based on results.

Tech Stack Used:

I have used the online editor - https://www.db-fiddle.com/ with MySQL database of Version 5.7 which is rather comfortable working with,which has a simple and easily setup interface.

Insights:

Based on the achieved results I can conclude the following things:

1. People really like the Instagram since they are all very active on Instagram.
2. I can say Instagram is not becoming redundant from the results of User Engagement.
3. There is a serious problem with the Bots & Fake Accounts, from the results of Investor Metrics and the issue should be solved by development team.

Results:

The detailed answers to the questions are below:

A) Marketing:

1.Rewarding Most Loyal Users: Find the 5 oldest users of the Instagram from the database provided?

Result: The 5 oldest users with usernames: Darby_Herzog,
Emilio_Bernier52,
Elenor88,
Nicole71,
Jordyn.Jacobson2

Query:
```
Select
        users.username
From
        users
        Order by created_at
        Limit 5
```

2.Remind Inactive Users to Start Posting: Find the users who have never posted a single photo on Instagram?

Result: 26 Users who haven't posted a single photo in Instagram with usernames:

Aniya_Hackett,
Kasandra_Homenick,
Jaclyn81,
Rocio33,
Maxwell.Halvorson,
Tierra.Trantow,
Pearl7,
Ollie_Ledner37,
Mckenna17,
David.Osinski47,
Morgan.Kassulke,
Linnea59,
Duane60,
Julien_Schmidt,
Mike.Auer39,
Franco.Keebler64,

Nia_Haag,

Hulda.Macejkovic,

Leslie67,

Janelle.Nikolaus81,

Darby_Herzog,

Esther.Zulauf61,

Bartholome.Bernhard,

Jessyca_West,

Esmeralda.Mraz57,

Bethany20

Query: Select

```
Users.username
From
Photos
Right outer join users
On photos.user_id = users.id
Where image_url is Null
```

3.Declaring Contest Winner: Identify the winner of the contest (User with most likes on a single photo)?

Result: User with 48 Likes on a single photo: Zack_Kemmer93

Query: Select

```
count(likes.user_id) as likes,
likes.photo_id,
users.username as Name
From
Likes
Left join photos on likes.photo_id = photos.id
Left join users on photos.user_id = users.id
Group by photo_id
Order by likes DESC
Limit 1
```

4.Hashtag Researching: Identify and suggest the top 5 most commonly used hashtags on the platform?

Result: Top 5 most used hashtags:

Smile (59 times),

Beach (42 times),

Party (39 times),

Fun (38 times),

Lol / food / hair (all of these are used 24 times)

Query:

```
Select
        count(tag_name) as num_of_tags,
        tag_name
From
        Tags
        Left join photo_tags on tags.id = photo_tags.tag_id
        Group by tag_name
        Order by count(tag_name) DESC
        LIMIT 5
```

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

Result: Thursday, Sunday are the days with most users (16) registered.

My insight is it's better to schedule an ad campaign on Sunday because it is a weekend and reaches far more people than on Thursday which is a workday.

Query:

```
Select
        Date_format(created_at,'%W') as Day,
        Count (*) as all_registrations
From
        Users
        Group by Day
        Order by all_registrations DESC
```

B) Investor Metrics:

1.User Engagement: How many times does average user posts on Instagram?

Result: 2.57 = (when Rounded off to zero decimals) 3 times an average user posts on instagram

Query:
```
Select
        Round (total_posts / total_users, 0)
From
        (Select
                (Select count(username) from users) as total_users,
                (Select count(image_url) from photos) as total_posts) as sub
```

2.Bots & Fake Accounts: Provide data on users (bots) who have liked every single photo on the site?

Result: Users who liked every single photo (257 likes):

Aniya_Hackett,
Jaclyn81,
Rocio33,
Maxwell.Halvorson,
Ollie_Ledner37,
Mckenna17,
Duane60,
Julien_Schmidt,
Mike.Auer39,
Nia_Haag,
Leslie67,
Janelle.Nikolaus81,
Bethany20

Query:
```
Select
        Likes.user_id,
        Users.username,
        Count(likes.user_id) as total_likes
From
        Likes
        Left join photos on likes.photo_id = photos.id
        Left join users on likes.user_id = users.id
        Group by likes.user_id
        Having total_likes = (select count(*) from photos)
```