

PROJECT-2

Instagram User Analytics

Project Description

This project involves analysing user interactions and engagement with the Instagram app to provide valuable business insights that can help the organisation grow.

The insights derived will help the marketing team to launch a new campaign, the product team to decide on new features to build, and the development team to improve the overall experience of the user.

It will also help in making informed decisions about the future direction of the Instagram app.

We, as a Data Analyst, will perform this analysis using certain techs producing certain results that will potentially influence the organisation in the coming time.

Approach

Our approach can be categorised in two(2) steps-

1. Creation of Database

In 'MY SQL Workbench', creation of database and values insertion is done using DDL & DML commands according to the instructions in the project.

2. Extraction of Data

In 'My SQL Workbench', the queries are run to get the results.

Tech-Stack Used

In this project, we used MySQL Workbench 8.0 CE as our tool to analyse Instagram user data and answer questions posed by the management team.

Also, Ms-Word was used to prepare the report.

Insights

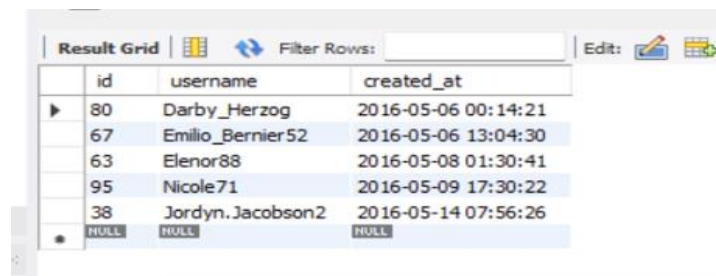
A. Marketing Analysis

1. **Loyal User Reward:** 5 oldest users on Instagram from the provided database.

Query-

```
created_at TIMESTAMP DEFAULT NOW()  
  
select * from users  
order by created_at limit 5 ;  
  
- );
```

Output-



The screenshot shows a database interface with a 'Result Grid' tab. It displays the results of a SQL query, showing the first 5 oldest users. The columns are 'id', 'username', and 'created_at'. The data is as follows:

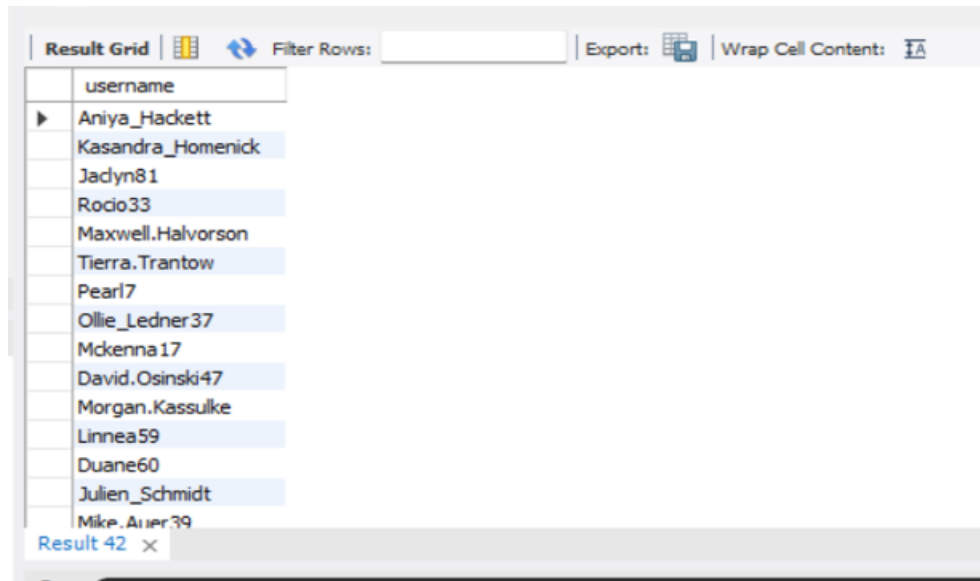
| | id | username | created_at |
|---|------|------------------|---------------------|
| ▶ | 80 | Darby_Herzog | 2016-05-06 00:14:21 |
| | 67 | Emilio_Bernier52 | 2016-05-06 13:04:30 |
| | 63 | Elenor88 | 2016-05-08 01:30:41 |
| | 95 | Nicole71 | 2016-05-09 17:30:22 |
| | 38 | Jordyn.Jacobson2 | 2016-05-14 07:56:26 |
| • | NULL | NULL | NULL |

2 **Inactive User Engagement:** Users who have never posted a single photo on Insta.

Query-

```
select username from users left join photos on users.id = photos.user_id  
where photos.id is null;
```

Output-



A screenshot of a database query result grid. The grid has a header row with the column 'username'. Below the header, there is a list of usernames: Aniya_Hackett, Kasandra_Homenick, Jadyn81, Rocio33, Maxwell.Halvorson, Tierra.Trantow, Pearl7, Ollie_Ledner37, Mckenna17, David.Osinski47, Morgan.Kassulke, Linnea59, Duane60, Julien_Schmidt, and Mike_Auer39. The grid is titled 'Result 42' and has a 'Filter Rows' button and an 'Export' button.

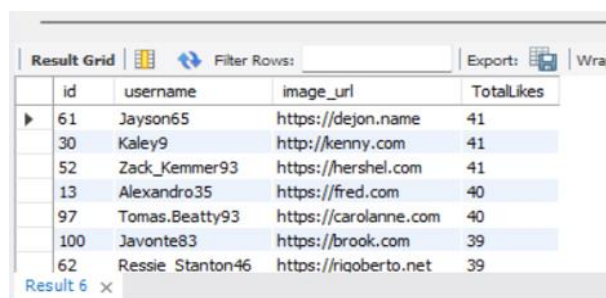
| username |
|-------------------|
| Aniya_Hackett |
| Kasandra_Homenick |
| Jadyn81 |
| Rocio33 |
| Maxwell.Halvorson |
| Tierra.Trantow |
| Pearl7 |
| Ollie_Ledner37 |
| Mckenna17 |
| David.Osinski47 |
| Morgan.Kassulke |
| Linnea59 |
| Duane60 |
| Julien_Schmidt |
| Mike_Auer39 |

3. Contest Winner Declaration: Details of the winner of the contest - user with the most likes on single photo wins.

Query-

```
select users.id,users.username,photos.image_url, count(*) as TotalLikes
from likes
join photos
on photos.id = likes.photo_id
join users
on users.id = likes.photo_id
group by photos.id
order by TotalLikes desc
;
```

Output-



A screenshot of a database query result grid. The grid has a header row with columns 'id', 'username', 'image_url', and 'TotalLikes'. Below the header, there is a list of users with their IDs, usernames, image URLs, and total likes: 61 Jayson65 https://dejon.name 41, 30 Kaley9 http://kenny.com 41, 52 Zack_Kemmer93 https://hershel.com 41, 13 Alexandro35 https://fred.com 40, 97 Tomas.Beatty93 https://carolanne.com 40, 100 Javonte83 https://brook.com 39, and 62 Ressie Stanton46 https://riqoberto.net 39. The grid is titled 'Result 6' and has a 'Filter Rows' button and an 'Export' button.

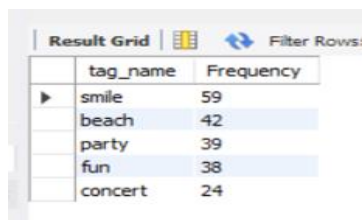
| id | username | image_url | TotalLikes |
|-----|------------------|-----------------------|------------|
| 61 | Jayson65 | https://dejon.name | 41 |
| 30 | Kaley9 | http://kenny.com | 41 |
| 52 | Zack_Kemmer93 | https://hershel.com | 41 |
| 13 | Alexandro35 | https://fred.com | 40 |
| 97 | Tomas.Beatty93 | https://carolanne.com | 40 |
| 100 | Javonte83 | https://brook.com | 39 |
| 62 | Ressie Stanton46 | https://riqoberto.net | 39 |

4. Hashtag Research: Top five most commonly used hashtags on the platform.

Query-

```
select tag_name, count(tag_name) as Frequency from tags
left join photo_tags
on tags.id = photo_tags.tag_id
group by id
order by Frequency desc limit 5 ;
```

Output-



The screenshot shows a 'Result Grid' with two columns: 'tag_name' and 'Frequency'. The data is as follows:


| tag_name | Frequency |
|----------|-----------|
| smile | 59 |
| beach | 42 |
| party | 39 |
| fun | 38 |
| concert | 24 |

5. Ad Campaign Launch: That day of the week when most users register on Insta.

Query-

```
select Dayname(created_at) as DAY , count(created_at) as no_of_reg from users
group by DAY
order by no_of_reg desc;
```

Output-



The screenshot shows a 'Result Grid' with two columns: 'DAY' and 'no_of_reg'. The data is as follows:

| DAY | no_of_reg |
|----------|-----------|
| Thursday | 16 |
| Sunday | 16 |
| Friday | 15 |
| Tuesday | 14 |
| Monday | 14 |

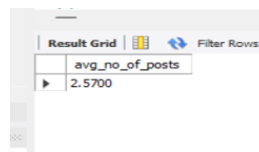
B. Investor Metrics

1 User Engagement: Calculating the total number of photos on Instagram divided by the total number of users.

Query-

```
select (select count(image_url) from photos)/ (select count(id) from users) as avg_no_of_posts;  
as avg_posts;  
);
```

Output-



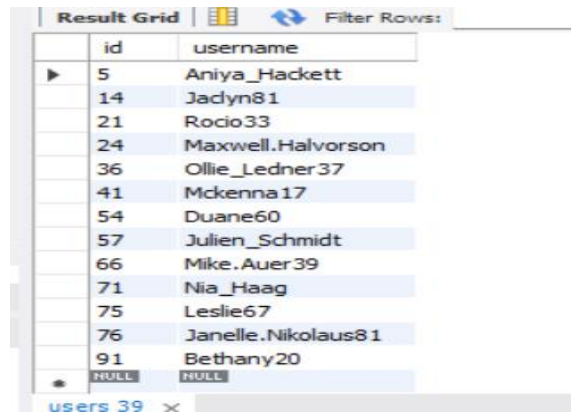
| avg_no_of_posts |
|-----------------|
| 2.5700 |

2. Bots & Fake Accounts: Identify users (potential bots) who have liked every single photo on the site, as this is not typically possible for a normal user.

Query-

```
--  
62 • select id,  
63     username  
64     from users  
65     where id in ( select user_id  
66                   from likes  
67                   group by user_id  
68                   having count(user_id) = (select count(image_url) from photos)  
69           );  
70
```

Output-



| | id | username |
|---|------|--------------------|
| ▶ | 5 | Aniya_Hackett |
| | 14 | Jadyn81 |
| | 21 | Rocio33 |
| | 24 | Maxwell.Halvorson |
| | 36 | Ollie_Ledner37 |
| | 41 | Mckenna17 |
| | 54 | Duane60 |
| | 57 | Julien_Schmidt |
| | 66 | Mike.Auer39 |
| | 71 | Nia_Haag |
| | 75 | Leslie67 |
| | 76 | Janelle.Nikolaus81 |
| | 91 | Bethany20 |
| • | NULL | NULL |

users 39 x

Result

By the end of this project i.e.; after extraction using SQL queries we obtain various insights regarding the usage, inactivity, search, trends, loyal users, bots and fake account and also the best time for ad campaign.

- ✓ By gaining the insights of the user engagement one can track the growth of the company
- ✓ Fake accounts and bots can be removed and banned.
- ✓ Better targeting of the audience can be done.
- ✓ Enhanced promotion and discriminated offers can be provided.

Submitted by -

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