INSTAGRAM DATA ANALYTICS
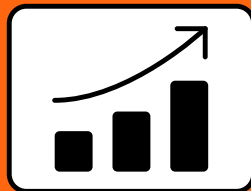
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Agenda

Discussion topics for today

01
Project Description

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PROJECT DESCRIPTION

Finding business insights that can be used by teams across the business to launch a new marketing campaign, decide on features to build for an app, track the success of the app by measuring user engagement and improve the experience altogether while helping the business grow.

APPROACH

- **DATA CREATION:**
Created and inserted the values in the database using the DDL, DML SQL queries provided by the product manager in the MySQL database using MySQL Workbench

- **EXTRACTION OF INSIGHTS:**
After creating the database insights are generated from the database tables by running SQL queries.

TECH-STACK USED:
Used MySQL Workbench 8.0 CE is used. MySQL Workbench provides a visual console to easily administer MySQL environments and gain better visibility into databases.

INSIGHTS:

MARKETING

1.Rewarding Most Loyal Users: People who have been using the platform for the longest time.

```sql
/*Rewarding Most loyal users*/
SELECT
    id, username, created_at
FROM
    users
ORDER BY created_at
LIMIT 5;
```

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

2.Remind Inactive Users to Start Posting: By sending them promotional emails to post their 1st photo.

```sql
/*Remind Inactive users to start posting*/

SELECT
    username, users.id AS users_id
FROM
    users
        LEFT JOIN
    photos ON users.id = photos.user_id
WHERE
    photos.id IS NULL;
```

username	users_id
Aniya_Hackett	5
Kasandra_Homenick	7
Jaclyn81	14
Rocio33	21
Maxwell.Halvorson	24
Tierra.Trantow	25
Pearl7	34
Ollie_Ledner37	36
Mckenna17	41
David.Osinski47	45
Morgan.Kassulke	49
Linnea59	53
Duane60	54
Julien_Schmidt	57
Mike.Auer39	66
Franco_Keebler64	68
Nia_Haag	71
Hulda.Macejkovic	74
Leslie67	75
Janelle.Nikolaus81	76
Darby_Herzog	80
Esther.Zulauf61	81
Bartholome.Bernhard	83
Jessyca_West	89
Esmeralda.Mraz57	90
Bethany20	91

3.Declaring Contest Winner: The team started a contest and the user who gets the most likes on a single photo will win the contest now they wish to declare the winner.

```sql
/*Declaring contest winners:*/
SELECT
    users.id,
    users.username,
    photos.id AS photo_id_,
    COUNT(*) AS total
FROM
    photos
        INNER JOIN
    likes ON photos.id = likes.photo_id
        INNER JOIN
    users ON users.id = photos.user_id
GROUP BY photos.id
ORDER BY total DESC
LIMIT 1;
```

id	username	photo_id_	total
52	Zack_Kemmer93	145	48

```
/*Hashtag Researching:*/
SELECT
    tags.id,
    tag_name AS name_of_hashtag,
    COUNT(*) AS no_of_times_hashtag_used
FROM
    tags
        INNER JOIN
    photo_tags ON tags.id = photo_tags.tag_id
GROUP BY tag_id
ORDER BY no_of_times_hashtag_used DESC
LIMIT 5;
```

| id	name_of_hashtag	no_of_times_hashtag_used
21	smile	59
20	beach	42
17	party	39
13	fun	38
18	concert	24

5.Launch AD Campaign: The team wants to know, which day would be the best day to launch ADs.

```
/*Launch AD Campaign:*/
SELECT
    DAYNAME(created_at) AS day_of_week, COUNT(*) AS Total
FROM
    users
GROUP BY day_of_week
ORDER BY Total DESC;
```
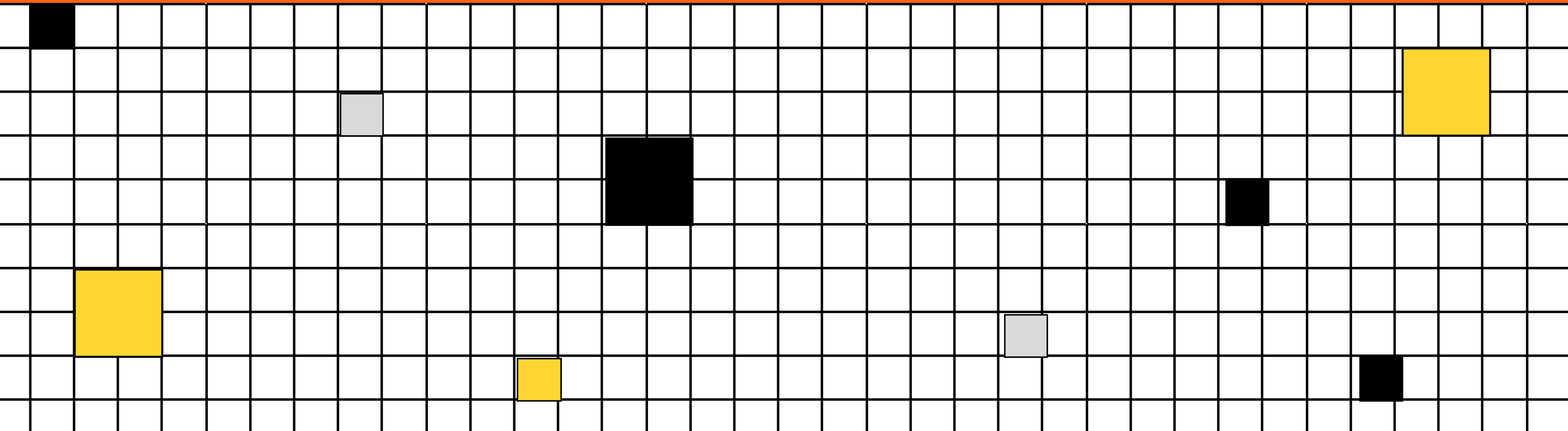
day_of_week	Total
► Thursday	16
Sunday	16
Friday	15
Tuesday	14
Monday	14
Wednesday	13
Saturday	12

Lauch AD Campain
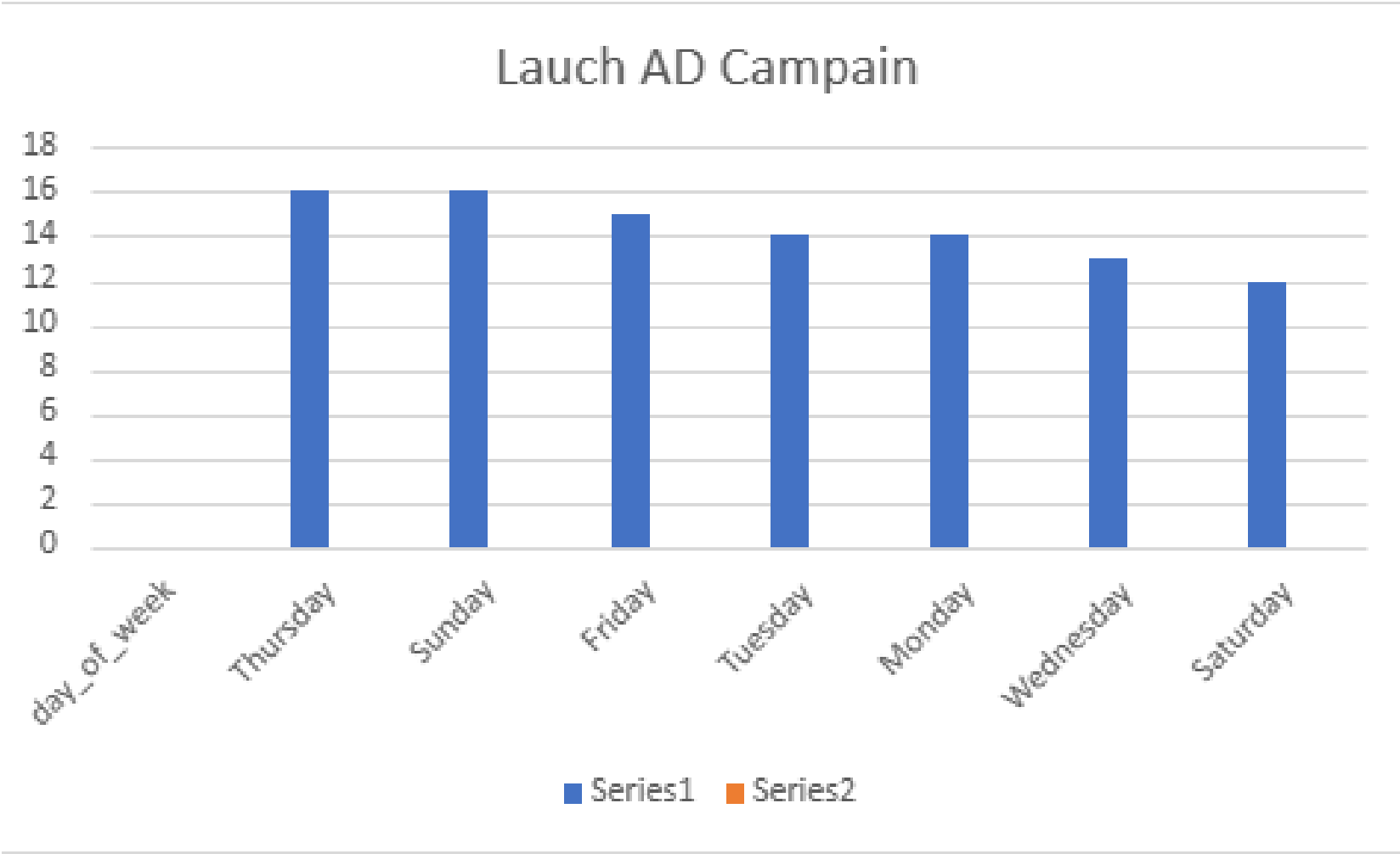
Investor Metrics

1.User Engagement: Are users still as active and post on Instagram or they are making fewer posts

- *The total number of photos on Instagram/total number of users*

```sql
• SELECT
    (SELECT
        COUNT(*)
    FROM
        photos) / (SELECT
        COUNT(*)
    FROM
        users) AS Ratio_Of_Total_Photos_Per_Total_User;
```

Ratio_Of_Total_Photos_Per_Total_User
▶ 2.5700

- *No. of times does average user posts on Instagram.*

```sql
• SELECT
    user_id,
    COUNT(*) AS total_post_per_user,
    (SELECT
        COUNT(id)
    FROM
        photos) / (SELECT
        COUNT(DISTINCT user_id)
    FROM
        photos) AS Average_post_by_user
FROM
    photos
GROUP BY user_id
ORDER BY total_post_per_user DESC;
```

User Engagement: OUTPUT

user_id	total_post_per_user	Average_post_by_user
23	12	3.4730
88	11	3.4730
59	10	3.4730
86	9	3.4730
58	8	3.4730
29	8	3.4730
77	6	3.4730
33	5	3.4730
52	5	3.4730
47	5	3.4730
6	5	3.4730
13	5	3.4730
51	5	3.4730
78	5	3.4730
11	5	3.4730
1	5	3.4730
72	5	3.4730
65	5	3.4730
43	5	3.4730
64	5	3.4730

user_id	total_post_per_user	Average_post_by_user
26	5	3.4730
2	4	3.4730
3	4	3.4730
9	4	3.4730
8	4	3.4730
46	4	3.4730
12	4	3.4730
44	4	3.4730
63	4	3.4730
32	4	3.4730
28	4	3.4730
16	4	3.4730
15	4	3.4730
87	4	3.4730
4	3	3.4730
10	3	3.4730
50	3	3.4730
67	3	3.4730
17	3	3.4730
42	3	3.4730

user_id	total_post_per_user	Average_post_by_user
92	3	3.4730
96	3	3.4730
99	3	3.4730
38	2	3.4730
100	2	3.4730
82	2	3.4730
84	2	3.4730
85	2	3.4730
60	2	3.4730
62	2	3.4730
19	2	3.4730
93	2	3.4730
95	2	3.4730
30	2	3.4730
97	2	3.4730
35	2	3.4730
31	1	3.4730
27	1	3.4730
79	1	3.4730
40	1	3.4730

Bots & Fake Accounts: The investors want to know if the platform is crowded with fake and dummy accounts

```sql
/*Bots & Fake Accounts:*/
SELECT
    id, username
FROM
    users
WHERE
    id IN (SELECT
            user_id
        FROM
            likes
        GROUP BY user_id
        HAVING COUNT(user_id) = (SELECT
                COUNT(id)
            FROM
                photos));
```

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

RESULTS

- *Marketing team can reward the most loyal customers and send promotional emails to inactive users and use popular hashtags and most active day for brand promotions.*
- *User management can be very useful growth success metric for the company.*
- *Company can remove the bots & fake accounts from the platform to enhance the user experience.*