

INSTAGRAM USER ANALYSIS

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PROJECT OVERVIEW

In this project, we are supposed to provide a detailed report for the Marketing and Investor Metrics department. This analysis will help them make a decision based on different metrics and insights.

MARKETING

- **Rewarding most loyal users** : Find the 5 oldest users of the instagram from the database provided
- **Remind inactive users to start posting** : Find the users who have never posted a single photo on instagram
- **Declaring contest winner** : Identify the winner of the contest and provide their details to the team.
- **Hashtag researching** : Identify and suggest the top 5 most commonly used hashtags on the platform.
- **Launch ad campaign** : What day of the week do most users register on ? Provide insights on when to schedule an ad campaign.

INVESTOR METRICS



User Engagement:

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



Bots & Fake Accounts:

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).

REWARDING THE MOST LOYAL USERS

```
SELECT  
  *  
FROM  
  users  
ORDER BY created_at ASC  
LIMIT 5;
```

Result Grid			
Filter Rows:			
	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

REMIND INACTIVE USERS TO START POSTING

```
SELECT  
    *  
FROM  
    users  
    LEFT JOIN  
    photos ON users.id = photos.user_id  
WHERE  
    photos.user_id IS NULL;
```

Result Grid			
Filter Rows:			
	id	username	created_at
▶	5	Aniya_Hackett	2016-12-07 01:04:39
	7	Kasandra_Homenick	2016-12-12 06:50:08
	14	Jadyn81	2017-02-06 23:29:16
	21	Rocio33	2017-01-23 11:51:15
	24	Maxwell.Halvorson	2017-04-18 02:32:44
	25	Tierra.Trantow	2016-10-03 12:49:21
	34	Pearl7	2016-07-08 21:42:01
	36	Ollie_Ledner37	2016-08-04 15:42:20
	41	Mckenna17	2016-07-17 17:25:45
	45	David.Osinski47	2017-02-05 21:23:37
	49	Morgan.Kassulke	2016-10-30 12:42:31
	53	Linnea59	2017-02-07 07:49:34
	54	Duane60	2016-12-21 04:43:38
	57	Julien_Schmidt	2017-02-02 23:12:48
	66	Mike.Auer39	2016-07-01 17:36:15
	68	Franco_Keebler64	2016-11-13 20:09:27
	71	Nia_Haag	2016-05-14 15:38:50
	74	Hulda.Macejkovic	2017-01-25 17:17:28
	75	Leslie67	2016-09-21 05:14:01
	76	Janelle.Nikolaus81	2016-07-21 09:26:09
	80	Darby_Herzog	2016-05-06 00:14:21
	81	Esther.Zulauf61	2017-01-14 17:02:34
	83	Bartholome.Bernhard	2016-11-06 02:31:23
	89	Jessyca_West	2016-09-14 23:47:05
	90	Esmeralda.Mraz57	2017-03-03 11:52:27
	91	Patricia20	2016-06-03 22:31:52

DECLARING CONTEST WINNER

```
SELECT
  users.username,
  photos.id,
  photos.image_url,
  COUNT(likes.user_id) AS total_likes
FROM
  photos
  INNER JOIN
  likes ON likes.photo_id = photos.id
  INNER JOIN
  users ON photos.user_id = users.id
GROUP BY photos.id
ORDER BY total_likes DESC
LIMIT 1;
```

	username	id	image_url	total_likes
▶	Zack_Kemmer93	145	https://jarret.name	48

HASHTAG RESEARCHING

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

Result Grid			Filter Rows
	tag_name	total_tags	
▶	smile	59	
	beach	42	
	party	39	
	fun	38	
	concert	24	

LAUNCH AD CAMPAIGN

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

The best time to schedule an advertisement campaign is on Thursday

Result Grid			Filter Rows
	day	total_reg	
▶	Thursday	16	

USER ENGAGEMENT

```
SELECT
    AVG(photo_count) AS avg_posts_per_user
FROM
    (SELECT
        user_id, COUNT(id) AS photo_count
    FROM
        photos
    GROUP BY user_id) AS user_photos;
```

Result Grid		Filter
	avg_posts_per_user	
▶	3.4730	



USER ENGAGEMENT

```
SELECT  
    (SELECT  
        COUNT(*)  
    FROM  
        photos) / (SELECT  
        COUNT(*)  
    FROM  
        users) AS ratio;
```

Result Grid	
	ratio
▶	2.5700

BOTS & FAKE ACCOUNTS

```
SELECT
    u.id, u.username
FROM
    users u
WHERE
    NOT EXISTS( SELECT
        p.id
        FROM
            photos p
        WHERE
            p.id NOT IN (SELECT
                l.photo_id
                FROM
                    likes l
                WHERE
                    l.user_id = u.id));
```

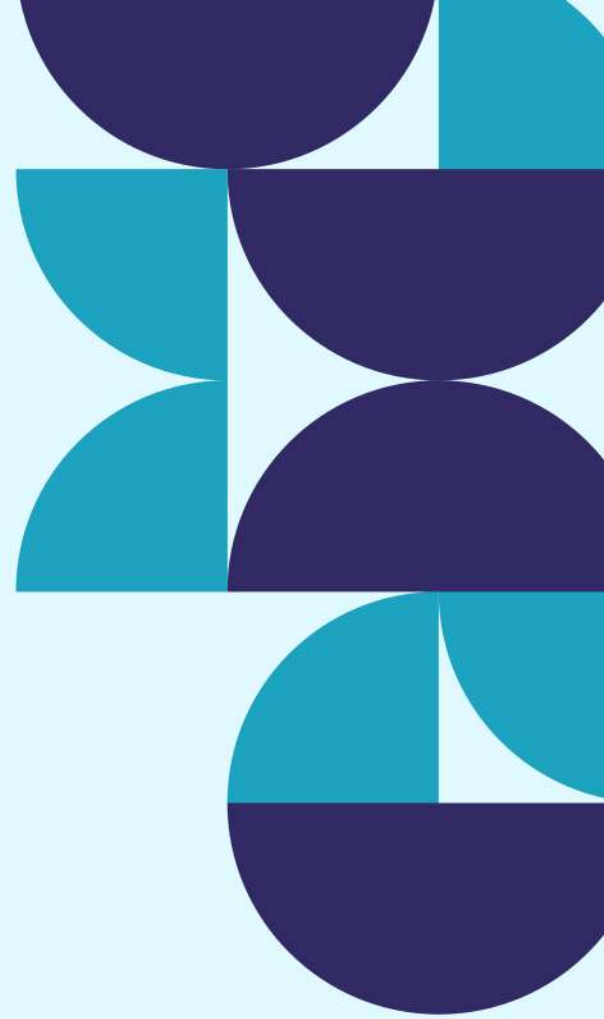
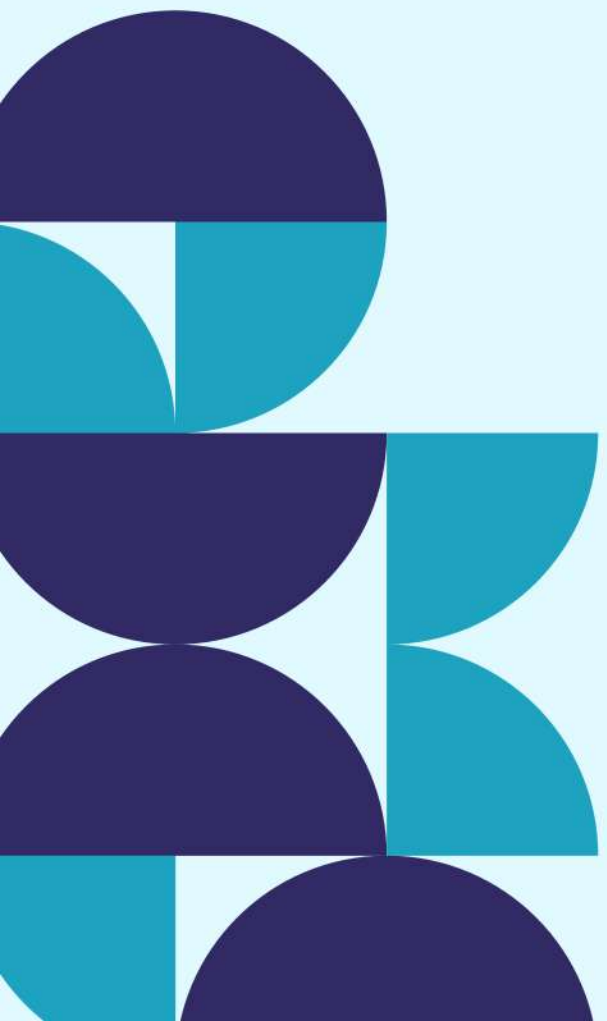
Result Grid   Filter Rows:		
	id	username
▶	5	Aniya_Hackett
	14	Jadyn81
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	41	Mckenna17
	54	Duane60
	57	Julien_Schmidt
	66	Mike.Auer39
	71	Nia_Haag
	75	Leslie67
	76	Janelle.Nikolaus81
	91	Bethany20

APPROACH

- For this project, I have used MySQL to extract the required data from the given database using the join function, subqueries, aggregation, where condition, group by, distinct and other functions required.
- Keeping the primary key and foreign key in consideration provided all the reports asked by the marketing department and investor metric department.
- I have used canva for making this presentation as it contains required elements, graphs, images which made this project more attractive.

INSIGHTS & RESULTS

- From this project, I got an idea about how as a business analyst or data analyst we work on real-time data to take data-driven decisions.
- One thing I infer about this project is the dataset provided was very limited and small in respect of rows and columns. But still, it was a very good experience working on such kind of project.
- It helped me a lot to understand the analysis process well, and to provide insights for the best decision possible.



**THANK
YOU**

