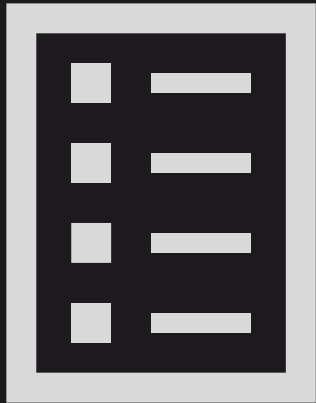


Instagram User Analytics

SQL Fundamentals

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Project Description

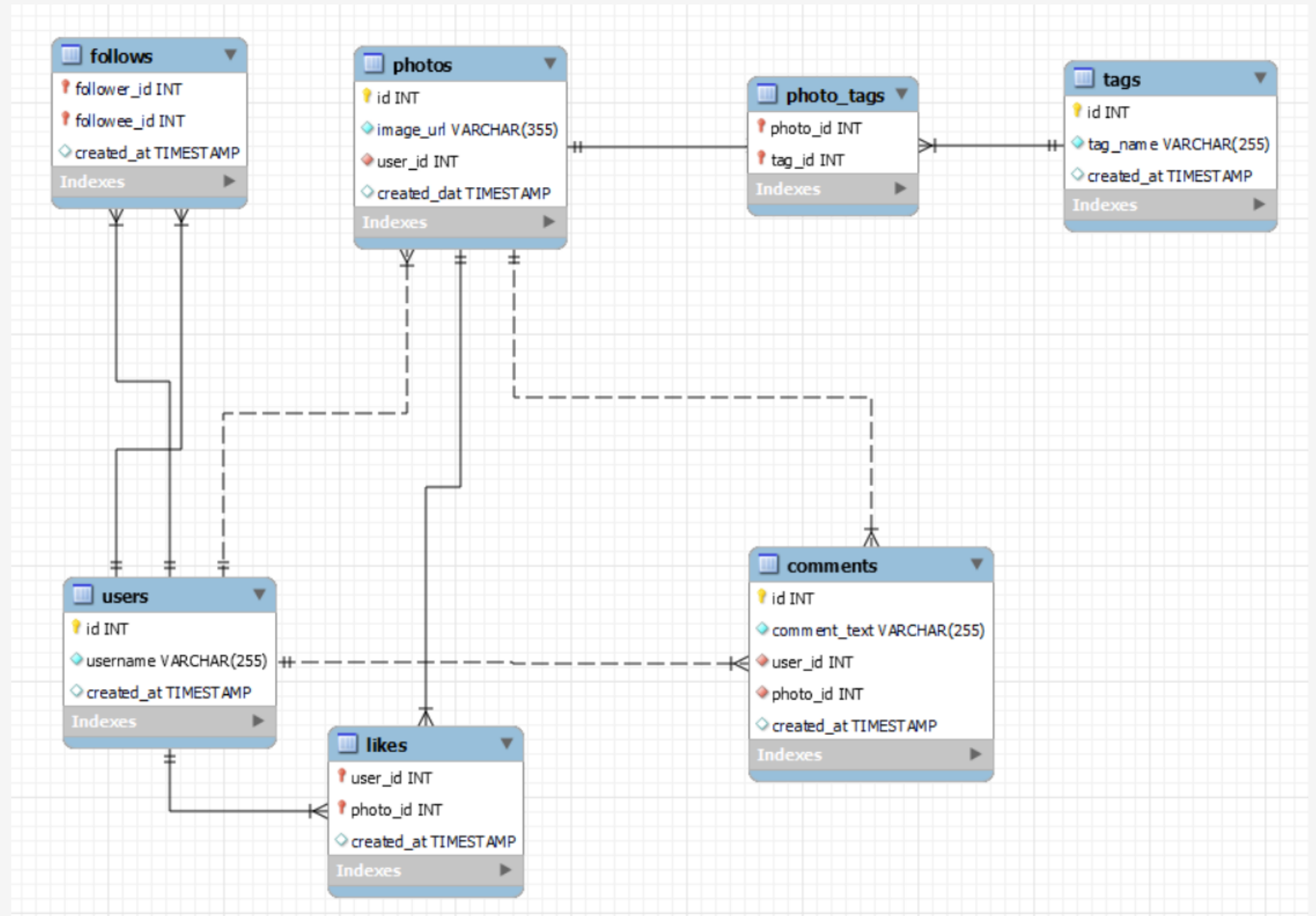


User analysis is the process by which we track how users engage and interact with our digital product (software or mobile application) in an attempt to derive business insights for marketing, product & development teams.

These insights are then 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.

The deliverables are – marketing and investor metrics to explore the data to find answers to the business problems.

ER diagram of the database



Generated in MySQL Workbench.

Approach

First I installed MySQL workbench and Server on my system. After creating the database and inserting data into it by the given commands, I went ahead and generated the ER diagram of the database to better understand the relationships between the tables. Then I studied the business statement and understood the deliverables and started to work on them using SQL commands learned from the learning videos and contents given and applied my knowledge as per the instructions to derive the insights wanted by the company.

Tech stack used

- MySQL Workbench
- MySQL Server
- SQL – for writing queries
- MS Powerpoint – to create report

Insights and Results of the deliverables

Marketing Metrics

1. Rewarding Most Loyal Users : People who have been using the platform for the longest time. Top 5 oldest users -

```
select username, created_at  
from users  
order by created_at  
limit 5;
```

username	created_at
Darby_Herzog	2016-05-06 00:14:21
Emilio_Bernier52	2016-05-06 13:04:30
Elenor88	2016-05-08 01:30:41
Nicole71	2016-05-09 17:30:22
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 who have never posted

```
select users.username  
from users  
left join photos  
on users.id = photos.user_id  
group by users.id  
having count(photos.id)=0;
```



username
Aniya_Hackett
Kassandra_Homenick
Jacyn81
Rocio33
Maxwell.Halvorson
Tierra.Trantow
Pearl7
Ollie_Ledner37
Mckenna17
David.Osinski47
Morgan.Kassulke
Linnea59
Duane60
Julien_Schmidt
Mike_Auer39
Franco_Keebler64
Nia_Haag
Hilda.Macejkovic
Leslie67
Janelle.Nikolaus81
Darby_Herzog
Esther.Zulauf61
Bartholome.Bernhard
Jessyca_West
Esmeralda.Mraz57
Bethany20

Insights and Results of the deliverables

Marketing Metrics

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.

```
select users.username, photos.id
from users
inner join photos
on users.id = photos.user_id
where photos.id = (
    select photo_id from likes
    group by photo_id
    order by count(*) desc
    limit 1);
```

Result Grid   Filter Rows: <input type="text"/>	
username	id
Zack_Kemmer93	145

4. Hashtag Researching: A partner brand wants to know, which hashtags to use in the post to reach the most people on the platform the top 5 are -

```
select tags.tag_name, count(photo_tags.tag_id)
from tags, photo_tags
where tags.id=photo_tags.tag_id
group by tags.tag_name
order by count(photo_tags.tag_id) desc
limit 5;
```

tag_name	count(photo_tags.tag_id)
smile	59
beach	42
party	39
fun	38
concert	24

Insights and Results of the deliverables

Marketing Metrics

5. Launch AD Campaign: The team wants to know, which day would be the best day to launch ADs. What day of the week do most users register on? Provide insights on when to schedule an ad campaign

```
SELECT dayname(created_at) 'Day Name', count(id) 'Count'  
from users  
group by dayname(created_at)  
order by count(id) desc;
```

Day Name	Count
Thursday	16
Sunday	16
Friday	15
Tuesday	14
Monday	14
Wednesday	13
Saturday	12

Thursdays and Sundays are the best days to launch AD campaigns as most of the people register on those days only. Sunday being the weekend and Thursday being the nearing weekend, next in the line is Friday the weekend starting. But another thing to notice is the lowest count is of Saturday despite being a weekend.

Insights and Results of the deliverables

Investor Metrics

1. User Engagement: Are users still as active and post on Instagram or they are making fewer posts. How many times does average user posts on Instagram? – *3 posts on average per user*

```
116 • select count(id) 'No of photos' from photos;
<
Result Grid | Filter Rows: | Export: | Wra
No of photos
▶ 257

119 • select count(id) 'No of users' from users;
<
Result Grid | Filter Rows: | Export: | Wra
No of users
▶ 100

121 • select ceil(
122   (select count(photos.id) from photos) /
123   (select count(id) 'No of users' from users))
124   'Average user post';
<
Result Grid | Filter Rows: | Export: | Wra
Average user post
▶ 3
```


Insights and Results of the deliverables

Investor Metrics

2. Bots & Fake Accounts : The investors want to know if the platform is crowded with fake and dummy accounts. Users (bots) who have liked every single photo on the site (since any normal user would not be able to do this).

```
126 • select users.id , users.username , count(likes.photo_id) 'Likes on photos'
127     from users
128     inner join likes
129     on users.id = likes.user_id
130     group by users.id
131     having count(likes.photo_id) = 257;
```

	id	username	Likes on photos
▶	5	Aniya_Hackett	257
	14	Jadyn81	257
	21	Rocio33	257
	24	Maxwell.Halvorson	257
	36	Ollie_Ledner37	257
	41	Mckenna17	257
	54	Duane60	257
	57	Julien_Schmidt	257
	66	Mike.Auer39	257
	71	Nia_Haag	257
	75	Leslie67	257
	76	Janelle.Nikolaus81	257
	91	Bethany20	257



Thank you.

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