

Description: The project is about tracking and analysing users' behaviour on Instagram.

Through this analysis, we will understand user behaviour and the engagement with the software, which will eventually help us to launch a new marketing campaign, decide on features to build for an app, track the success of the app by measuring user engagement.

The detailed analysis will help in finding everything right from most loyal users of Instagram to the best hashtags to finding the fake accounts on Instagram and many more related things.

Approach: The main objective is to understand user behaviour via analysis. To do this i analysed the data and concluded that certain optimisations can be done in product to tailor customer needs.

Tech stack used: I have used is db fiddle.com: MySQL v5.7 for analysis.

Report:

1) Rewarding Most loyal users:

```
SELECT * 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:

```
SELECT users.id,users.username,users.created_at
```

```
FROM users
```

```
LEFT JOIN photos
```

```
ON users.id = photos.user_id
```

```
WHERE photos.id IS NULL;
```

id	username	created_at
5	Aniya_Hackett	2016-12-07 01:04:39
7	Kasandra_Homenick	2016-12-12 06:50:08
14	Jaclyn81	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	Bethany20	2016-06-03 23:31:53

3) Declaring contest winner:

```

SELECT users.username,likes.photo_id,photos.image_url,count(*)as total_likes
from likes
join photos on photos.id=likes.photo_id

join users on users.id=likes.photo_id

group by photos.id

order by total_likes DESC

LIMIT 1;

```

Results

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Query #1 Execution time: 2ms

username	photo_id	image_url	total_likes
Jayson65	61	https://dejon.name	41

4) Hashtag Researching:

```
SELECT tags.tag_name,count (tag_name)as total_tags from tags
```

```
join photo_tags on tags.id=photo_tags.tag_id
```

```
group by tag_name
```

```
LIMIT 5;
```

Results

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Query #1 Execution time: 1ms

tag_name	total_tags
beach	42
beauty	20
concert	24
delicious	15
dreamy	20

5) Launch Ad campaign

```
SELECT DAYNAME (created_at) AS Week_day
```

```
COUNT(*) AS total_count
```

```
FROM users
```

```
GROUP by Week_day
```

```
ORDER by total_count DESC;
```

Query #1 Execution time: 1ms

Week_day	total_count
Thursday	16
Sunday	16
Friday	15
Tuesday	14
Monday	14
Wednesday	13
Saturday	12

Investor metrics:

- 1) **User Engagement:** `SELECT ROUND ((select Count(*) from photos) /(select Count(*) from users),2);`

Query #1 Execution time: 0ms

```
ROUND ((select Count(*) from photos) /(select Count(*) from users),2)
```

2.57

- 2) **Bot and Fake accounts-**

```
SELECT username,  
Count(*) AS total_user_likes FROM users
```

```
INNER JOIN likes
```

```
ON users.id = likes.user_id
```

```
GROUP BY likes.user_id
```

```
HAVING total_user_likes = (SELECT Count(*) FROM photos);
```

Query #1

Execution time: 9ms

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user_id	username	total_user_likes
5	Aniya_Hackett	257
14	Jaclyn81	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

- 6) **Insights:** With this detailed analysis we were able to gain insights into users' engagement and interaction with the Instagram software. This will help in optimizing and creating the better product as per user needs and which is right fit for market. Also, this will help us in creating offers and content as per the customers' requirements which will help in gaining customers loyalty.

Results: Overall this project has helped in learning analysis in more depth and personally me in improving problem solving and sql coding skills.