

A top-down view of a desk with a light beige background. On the left, there is a silver keyboard, a white mouse, a white AirPods case, and a small white succulent in a pot. In the bottom left, there is a brown spiral-bound notebook with an orange pencil resting on it. On the right side, there is a large, abstract, orange-colored shape that resembles a splash or a stylized figure. The title text is overlaid on this shape.

# **OPERATION ANALYTICS AND INVESTIGATING METRIC SPIKE**

**Trainity project by**

Pravan B

# **CONTENTS**

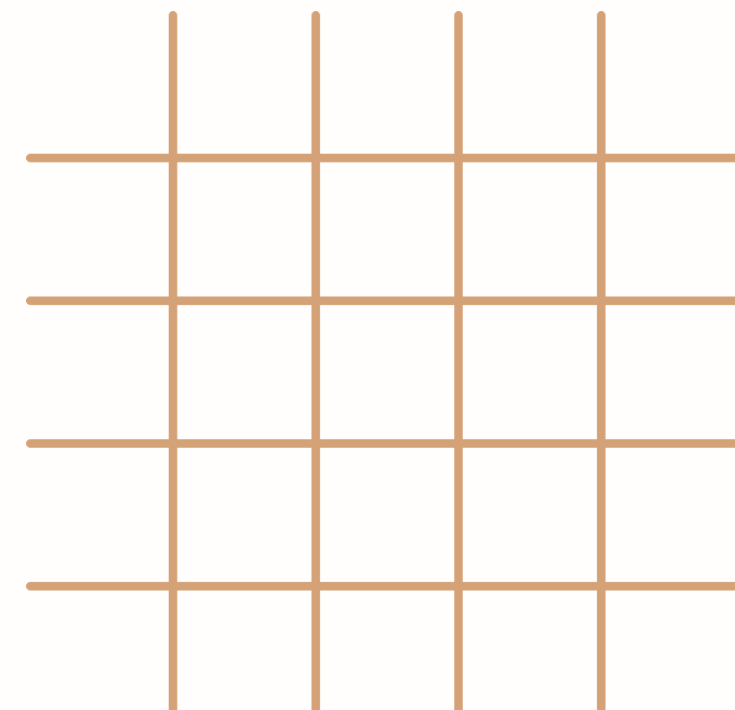
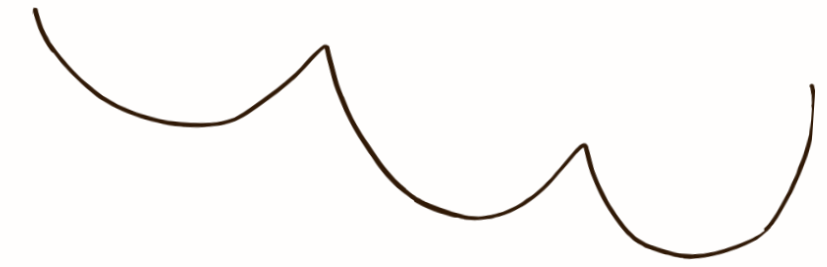
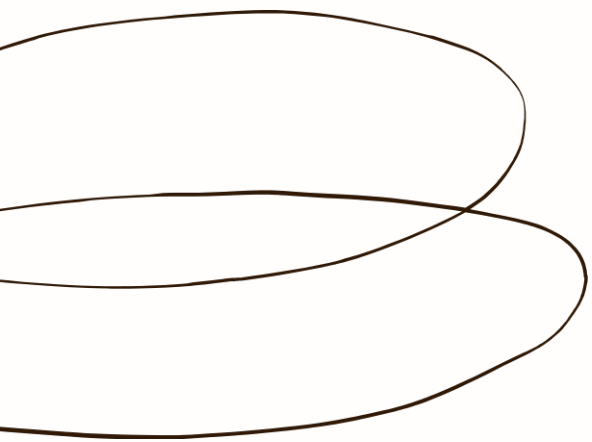
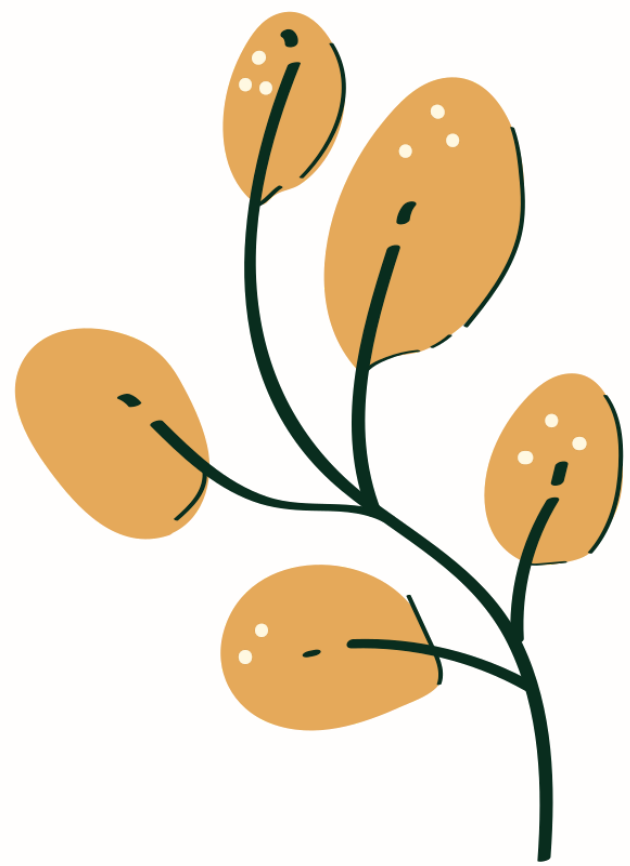
**INTRODUCTION**

**ANALYSIS – OPERATIONS**

**INVESTIGATING METRIC SPIKE**

**SUMMARY**





# Introduction

**IN THIS PROJECT, WE ARE SUPPOSED TO PROVIDE A DETAILED REPORT FOR THE OPERATIONS TEAM. THIS ANALYSIS IS USED TO PREDICT A COMPANY'S GROWTH OR DECLINE AND IMPROVE AUTOMATION, WORKFLOWS, AND COLLABORATION AMONG TEAMS. INVESTIGATING METRIC SPIKES IS ESSENTIAL TO ANSWER DAILY QUESTIONS ABOUT ENGAGEMENT AND SALES**



## **CASE STUDY 1 (JOB DATA)**

**01**

### **NUMBER OF JOBS REVIEWED**

Calculate the number of jobs reviewed per hour per day for November 2020?

**02**

### **THROUGHPUT**

Calculate 7-day rolling average of throughput. For throughput, do you prefer daily metric or 7-day rolling and why?

**03**

### **PERCENTAGE SHARE OF EACH LANGUAGE**

Calculate the percentage share of each language in the last 30 days?

**04**

### **DUPLICATE ROWS**

Let's say you see some duplicate rows in the data. How will you display duplicates from the table?

# Approach

01

02

03

**PREPARE &  
ANALYZE**

Here the data prepared and analyzed using SQL. Various SQL functions like SELECT, WHERE, GROUP BY, JOIN, etc. to extract useful insights

**IDENTIFYING  
KPI'S**

KPI(Key Performance Indicators)-identifying them which include Throughput, User Retention etc.....

**VISUALIZATION**

Creating visuals to indentify any patterns or trends

**I will be exporting the result from  
mysql query to excel to perform basic  
visualization for better understanding**



## **TECH-STACK USED**

**performing some quick queries and  
generating valuable insights**

The MySQL logo is located in the bottom left corner. It features the word 'MySQL' in a stylized font, with 'My' in blue and 'SQL' in orange. A small 'TM' trademark symbol is at the end. A blue hand-drawn arrow points from the 'TECH-STACK USED' box towards the MySQL logo.

**MySQL™**



# NUMBER OF JOBS REVIEWED

dates	jobs_Reviewed
2020-11-30	180
2020-11-29	180
2020-11-28	218
2020-11-27	35
2020-11-26	64
2020-11-25	80

## INSIGHTS

- On the date **28 November 2020** maximum number of jobs has been reviewed that os **28**
- On an average 126 jobs were reviewed per hour in november month.



# THROUGHPUT

weekly_Throughput
0.03

WEEKLY  
THROUGHPUT

date	daily_Throughput
2020-11-30	0.05
2020-11-29	0.05
2020-11-28	0.06
2020-11-27	0.01
2020-11-26	0.02
2020-11-25	0.02

DAILY  
THROUGHPUT

For the 7-day rolling metric, it provides a more stable and consistent view of throughput over time, as it takes into account fluctuations in throughput that may occur on specific days

I PREFER 7-DAY  
ROLLING METRIC

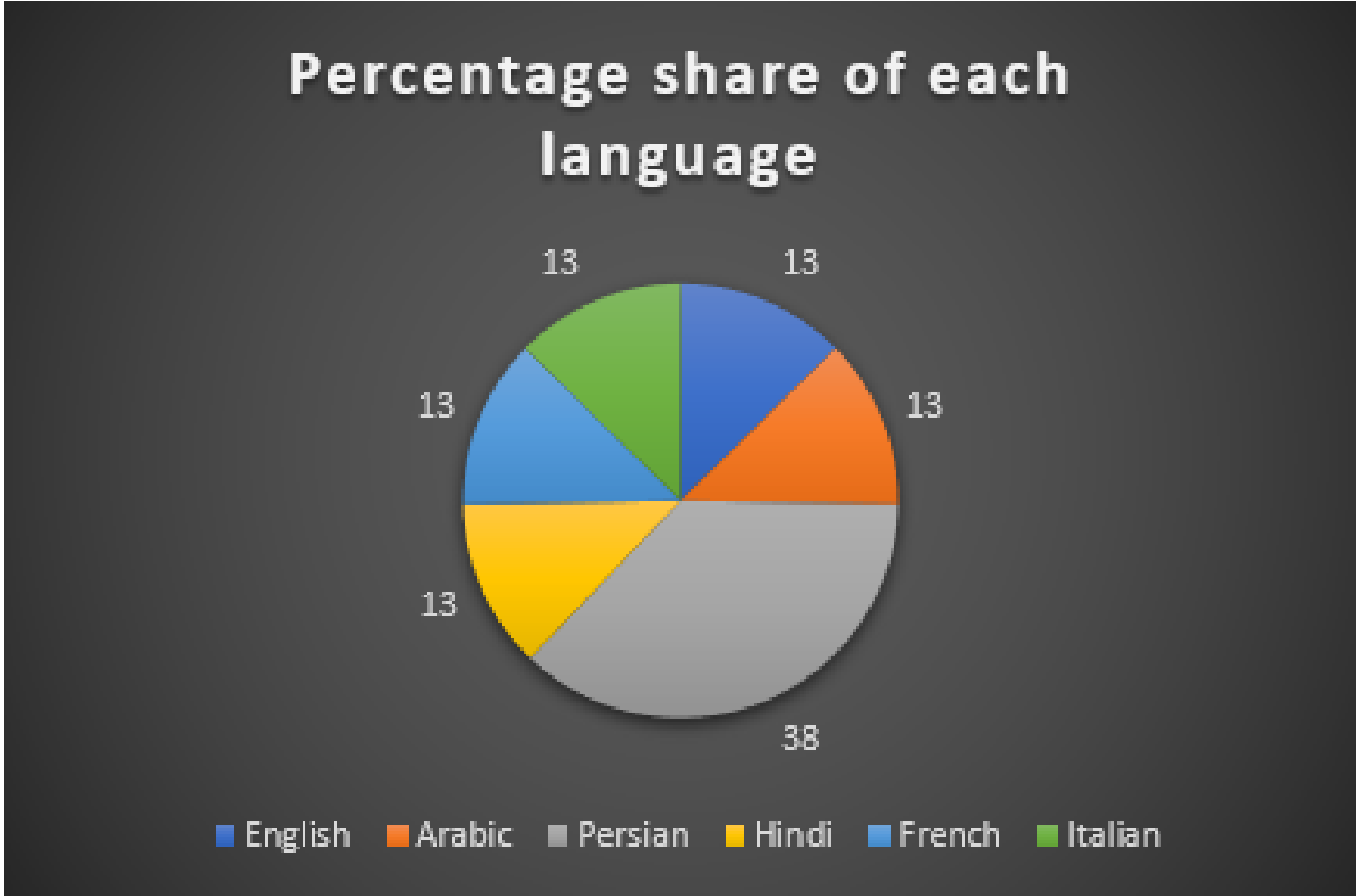
## INSIGHTS:

- The weekly throughput is **0.03**
- On the date **2020-11-28**, the throughput is highest which is **0.06**



# PERCENTAGE SHARE OF EACH LANGUAGE

languages	percentage_share
English	13.00
Arabic	13.00
Persian	38.00
Hindi	13.00
French	13.00
Italian	13.00



## INSIGHTS :

Persian language highest  
with 38% total share

# DUPLICATE ROWS

actor_id	duplicates
1003	2

## INSIGHTS:

Actor ID 1003 has duplicate rows



# Case Study 2 : Investigating metric spike

---

1

## User Engagement :

- Calculate the weekly user engagement?

2

## User Growth:

- Calculate the user growth for product.

3

## Weekly Retention:

- Calculate the weekly retention of the users-sign-up cohort.

4

## Weekly Engagement:

- Calculate the weekly engagement per device.

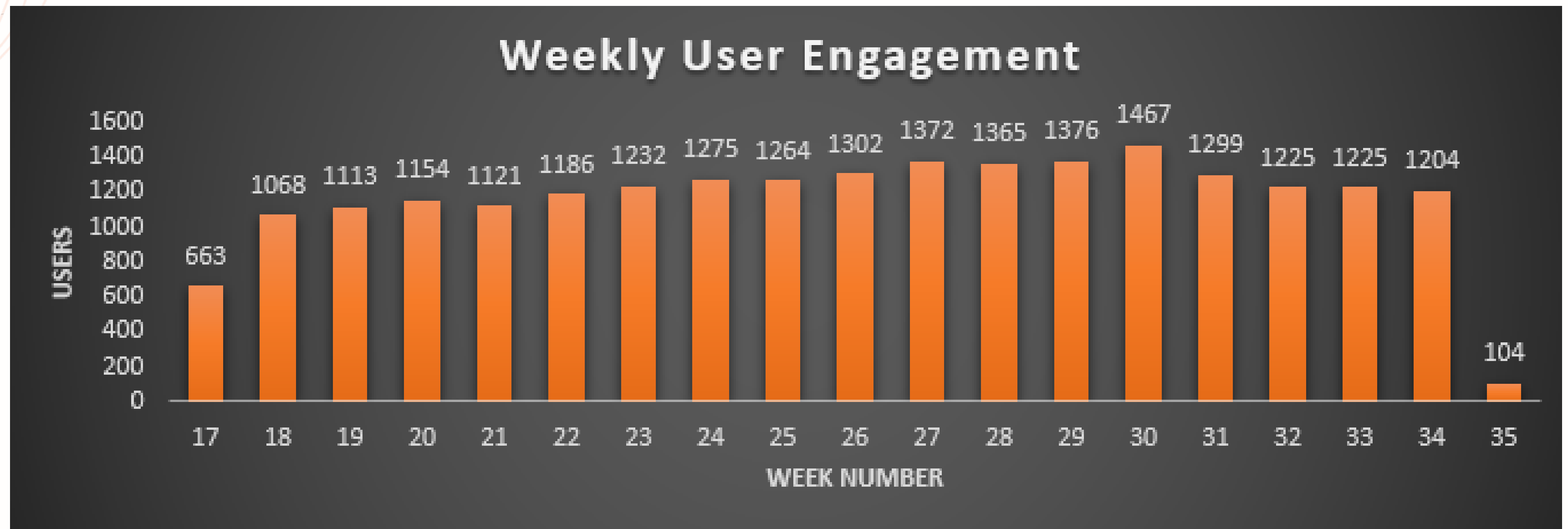
5

## Email Engagement:

- Calculate the email engagement metrics?

# User Engagement

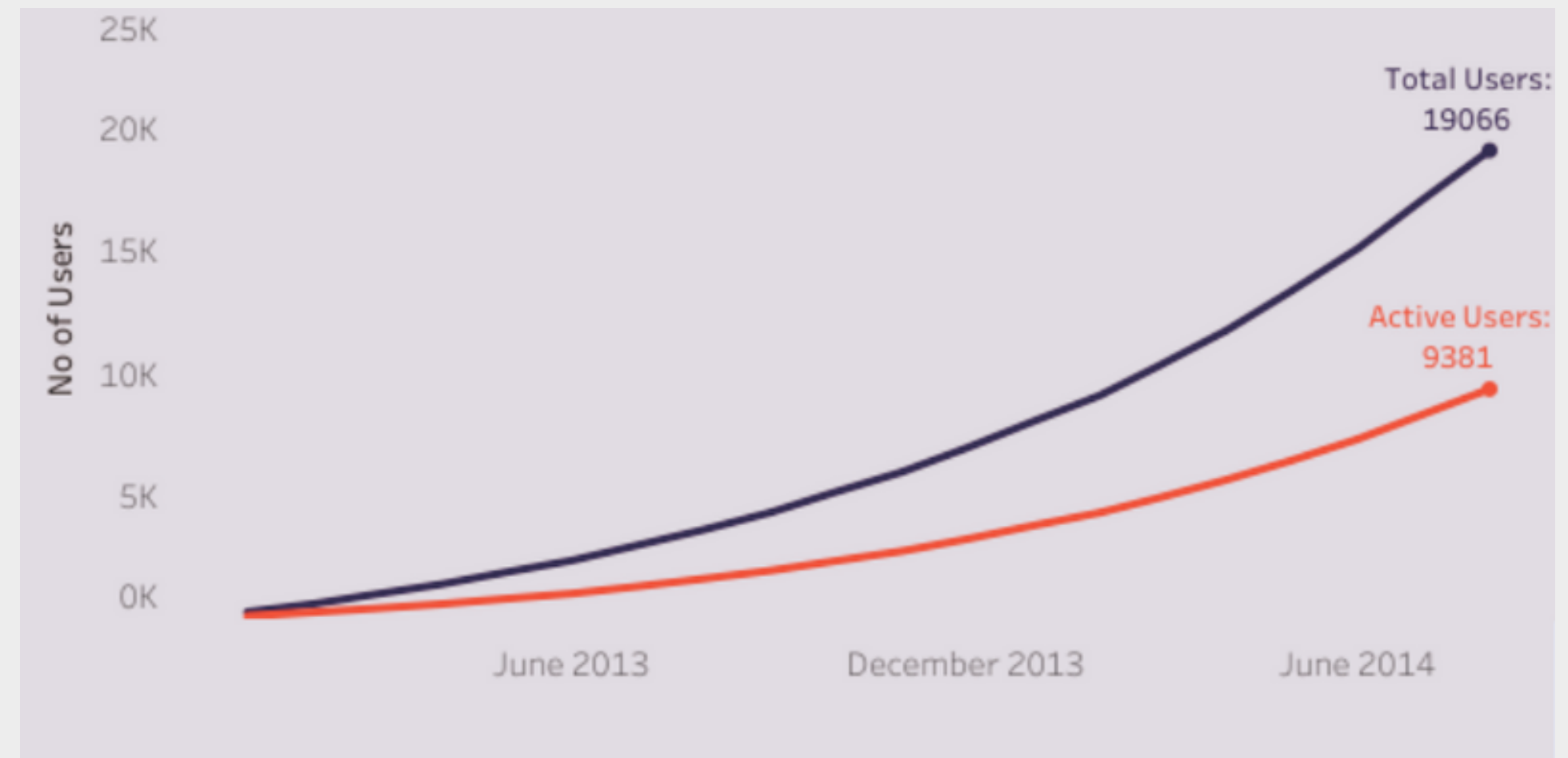
- The average weekly user engagement is 1349.
- The highest was recorded on week number 30 i.e 1467





# User growth over time

- User growth = number of active users per week
- There are total of 9381 active users from 1st week of 2013 to the 35th week of 2014



# User Retention Cohort Analysis

**The average retention rate after 1st week of sign-up is 72.5%**

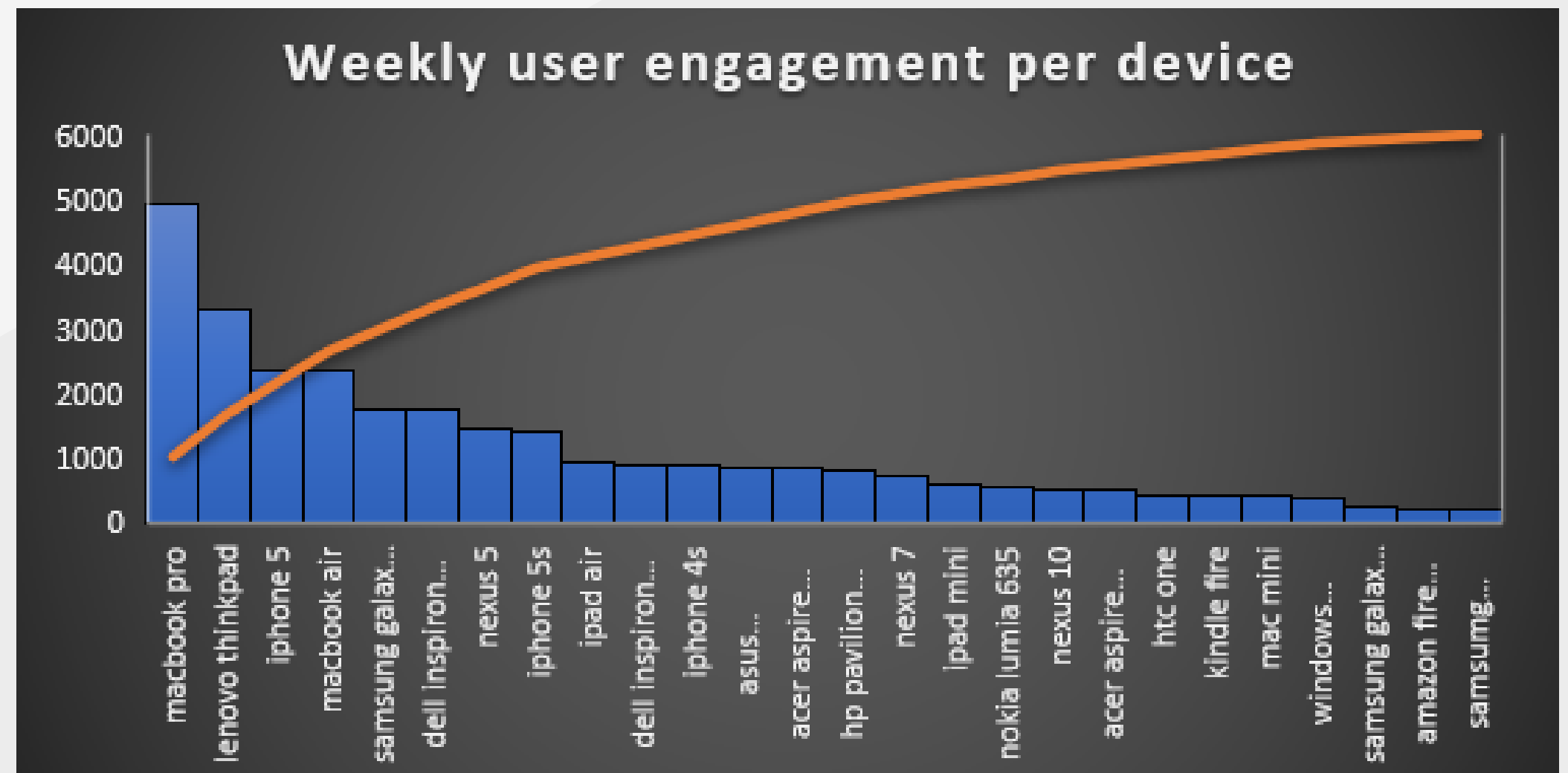
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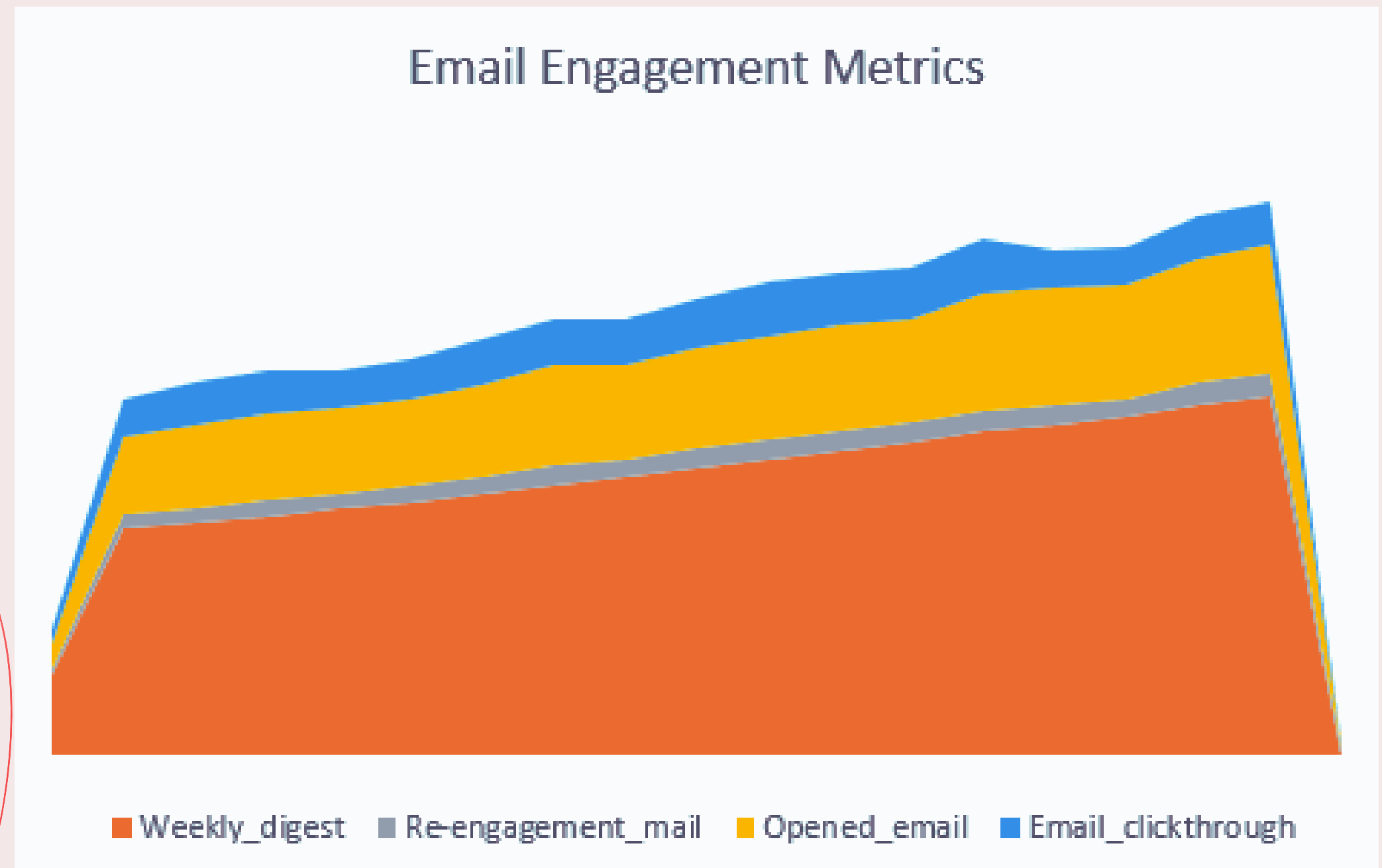
# WEEKLY ENGAGEMENT PER DEVICE

The device with highest weekly engagement is **macbook** pro with an average of **307**



# Email Engagement

- On an average **1117** users open the Emails.
- **Weekly digest** has the highest weekly engagement with an average of **3181**





# CONTACT US

Link to the sql queries and outputs:

**CLICK HERE**



# THANK YOU

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