

High Level Design

Analyzing Google App Store

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1 Introduction

1.1 Why this High-Level Design Document?

The purpose of this High-Level Design (HLD) Document is to add the necessary detail to the current project description to represent a suitable model for coding. This document is also intended to help detect contradictions prior to coding, and can be used as a reference manual for how the modules interact at a high level.

The HLD will:

- Present all of the design aspects and define them in detail
- Describe the user interface being implemented
- Describe the hardware and software interfaces
- Describe the performance requirements
- Include design features and the architecture of the project • describe the non-functional attributes like:
 - Security ○ Reliability ○ Maintainability ○ Portability ○ Reusability ○ Application compatibility ○ Resource utilization
 - Serviceability

1.2 Scope

The HLD documentation presents the structure of the system, such as the database architecture, application architecture (layers), application flow (Navigation), and technology architecture. The HLD uses non- technical to mildly-technical terms which should be understandable to the administrators of the system.

2 General Description

2.1 Problem Statement

Technology is the increasing need nowadays and used everywhere. One of the features of Technology is android. Which we all use in our daily life. Android is a mobile operating system based on a modified version of the Linux kernel and other open source software, designed primarily for touchscreen mobile devices such as smartphones and tablets.

Do ETL: Extract-Transform-Load the dataset and find for me some information from this large data. This is form of data mining.

What all information can be achieved by mining this data, would be brainstormed by the interns.

Find key metrics and factors and show the meaningful relationships between attributes.

Do your own research and come up with your findings.

2.2 Tools used

Business Intelligence tools and Python libraries works such as NumPy, Pandas, Excel, Power BI are used to build the whole framework.



NumPy



pandas



3 Design Details

3.1 Functional Architecture

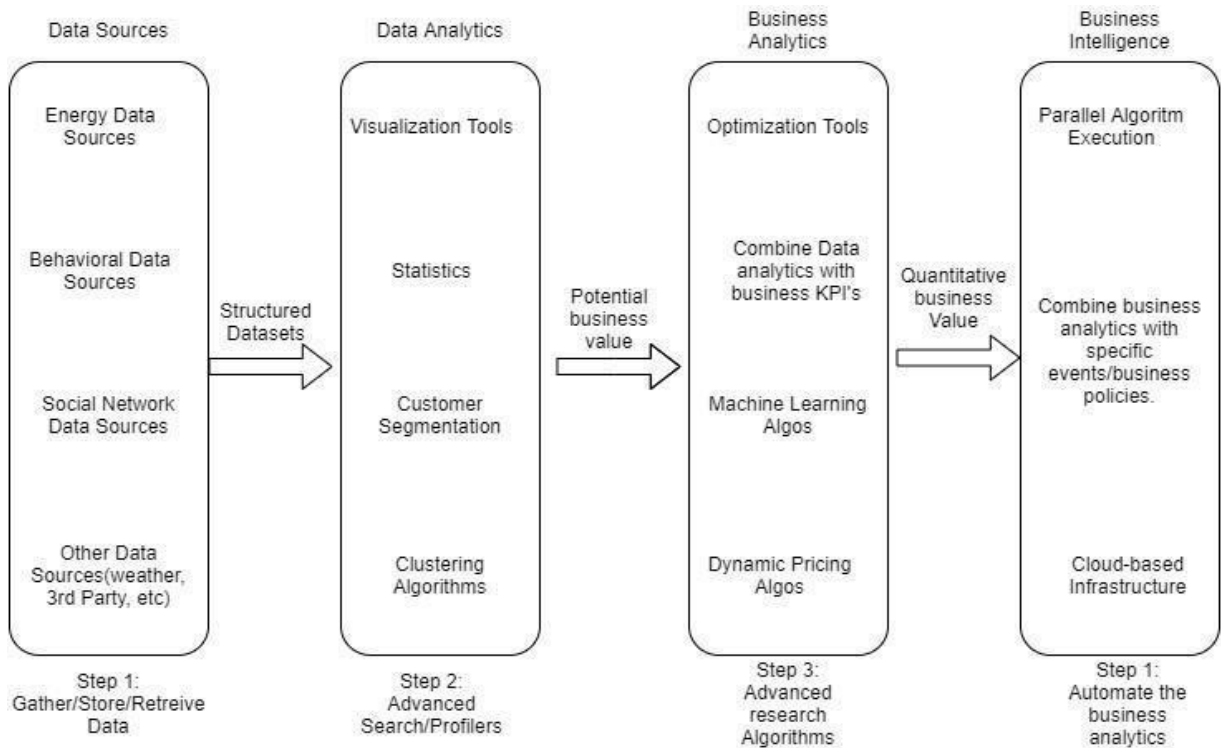
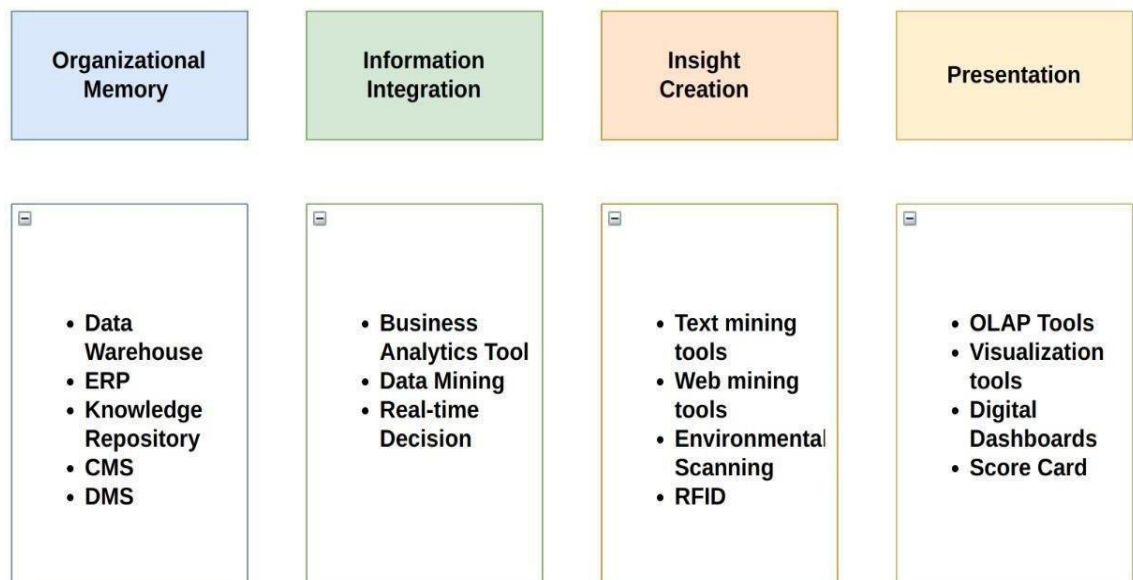


Figure 1: Functional Architecture of Business Intelligence

How BI Really Works



3.2 Optimization

Your data strategy drives performance

- Minimize the number of fields
- Minimize the number of records
- Optimize extracts to speed up future queries by materializing calculations, removing columns and the use of accelerated views

Reduce the marks (data points) in your view

- Practice guided analytics. There's no need to fit everything you plan to show in a single view. Compile related views and connect them with action filters to travel from overview to highly-granular views at the speed of thought.
- Remove unneeded dimensions from the detail shelf.
- Explore. Try displaying your data in different types of views.

4 KPIs

KPI stands for key performance indicator, a quantifiable measure of performance over time for a specific objective. KPIs provide targets for teams to shoot for, milestones to gauge progress, and insights that help people across the organization make better decisions. From finance and HR to marketing and sales, key performance indicators help every area of the business move forward at the strategic level.

4.1 KPIs (Key Performance Indicators)

Key indicators displaying a summary of the apps attributes and its relationship with users reviews to understand the sentiment of the users.

- ☐ The data reveals that games have the highest number of installations compared to other categories, while the family category generates higher revenue in comparison.

High-Level Design (HLD)

This suggests that although games may be more popular and widely installed, the family category apps have a greater ability to generate revenue.

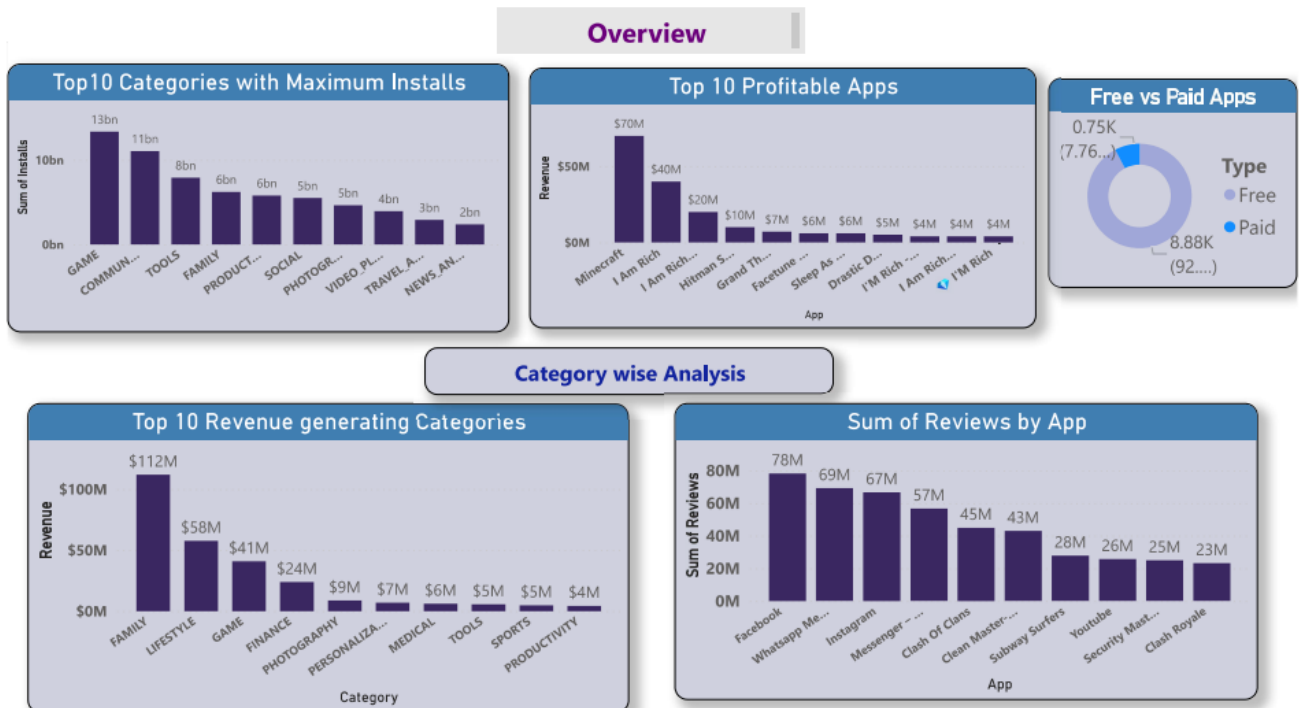
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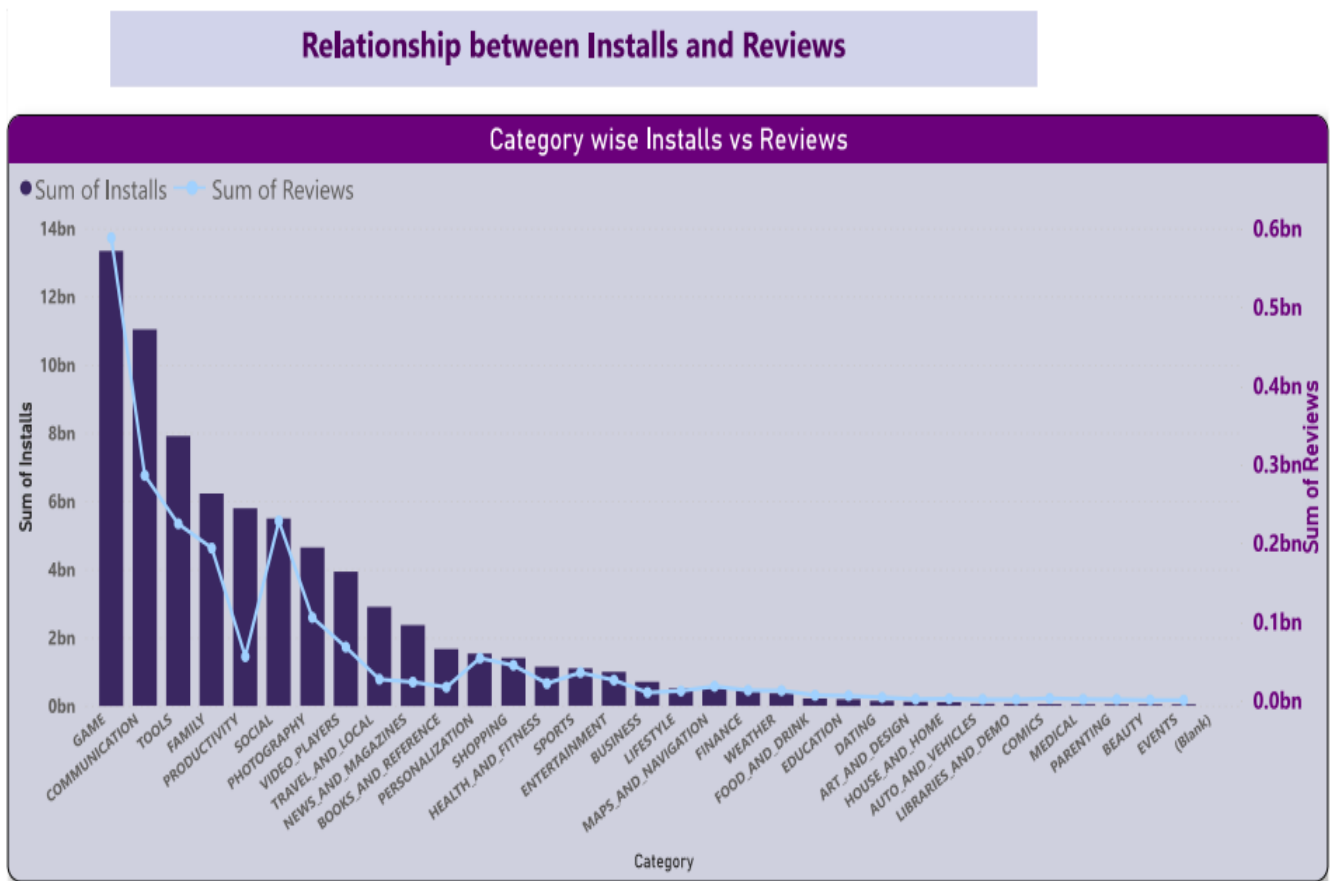
CONCLUSION:-

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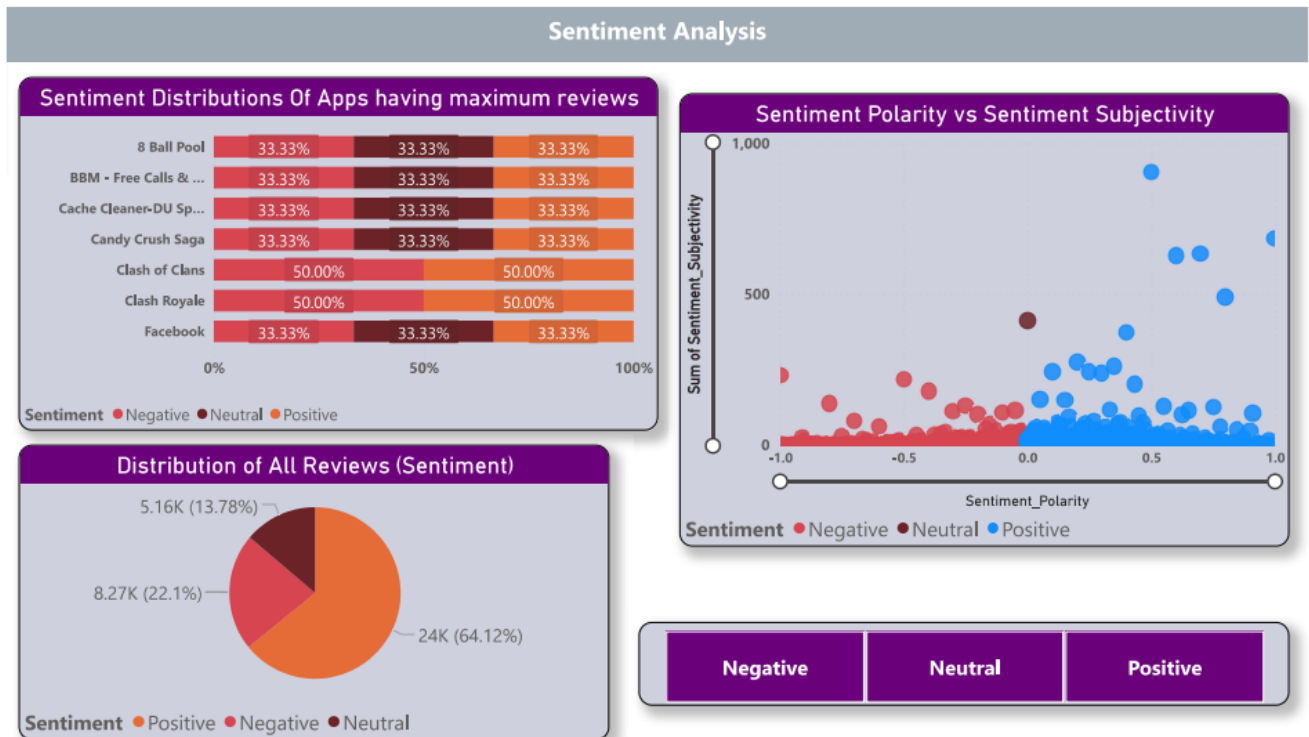
The conclusion drawn from this information is that the family category includes a higher proportion of paid apps, contributing to its higher revenue, while games consist largely of unpaid or free apps.



- According to the data, Microsoft secures the first position in the list of the top 10 profitable apps. This indicates that Microsoft's apps are highly successful in generating profits, surpassing other apps in terms of revenue. On the other hand, Facebook stands out for receiving high reviews compared to other apps. This implies that users have expressed positive opinions and feedback about Facebook's apps, indicating a high level of user satisfaction. In summary, Microsoft's apps demonstrate exceptional profitability, while Facebook's apps receive notable acclaim in terms of user reviews.



- The relationship between installations and reviews in categories reveals that games have the highest number of installations compared to other categories. This suggests that games are extremely popular and widely installed by users. Additionally, game categories tend to accumulate a significant number of reviews, indicating a high level of user engagement and interaction with these games. The combination of high installations and substantial reviews highlights the strong appeal and popularity of game categories among users.



Sentiment distribution plays a significant role in impacting installations and category reviews. The sentiment of users towards an app or a particular category can greatly influence its success and user engagement.

sentiment distribution significantly influences installations and category reviews. Positive sentiment drives higher installations, favourable reviews, increased user engagement, and better discoverability. Conversely, negative sentiment can have the opposite effect, impacting user interest and engagement with apps and categories. App developers and category managers should prioritize user satisfaction and continuously strive to improve the sentiment surrounding their apps to drive positive outcomes in terms of installations and user reviews.

10 High-Level Design (HLD)

- All the social media apps including Facebook, WhatsApp Messenger, Instagram and Messenger contributed the most to the number of reviews. They accounted for 12.9% of the total reviews.
- 59.86% of the ratings received were between 4 and 5. The ratings between 4 and 5 was 11,424 % higher than the ratings received between 1 and 2.

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- The Category FAMILY accounted for 39.29 % of the total revenue generated which is the highest among all the Categories.

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- The Apps with Sentiment Subjectivity between 0 and 0.3 account for only 2.83 % of the total. It means there are few users who have given reviews based on the personal opinions. Most of the users have given reviews based on factual information.

Most of the reviews either good or bad are based majorly on their experiences of the users after using the app.

We can observe through the outliers that there are a lot of free apps having extremely negative sentiment polarity. This may indicate that free apps are not suited to users as much as paid apps. The median sentimental polarity for paid apps is little higher.

5. Deployment

Prioritizing data and analytics couldn't come at a better time. Your company, no matter what size, is already collecting data and most likely analyzing just a portion of it to solve business problems, gain competitive advantages, and drive enterprise transformation. With the explosive growth of enterprise data, database technologies, and the high demand for analytical skills, today's most effective IT organizations have shifted their focus to enabling self-service by deploying various BI tool.