LOW LEVEL DESIGN (LLD) DOCUMENT
ANALYZING OF GOOGLE APP STORE

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Document Version Control:

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13th September,2021	1.0	First Version of Complete LLD	Dattatreya Thunuguntla

Contents:

1. Introduction

1.1 What is Low Level Design Document

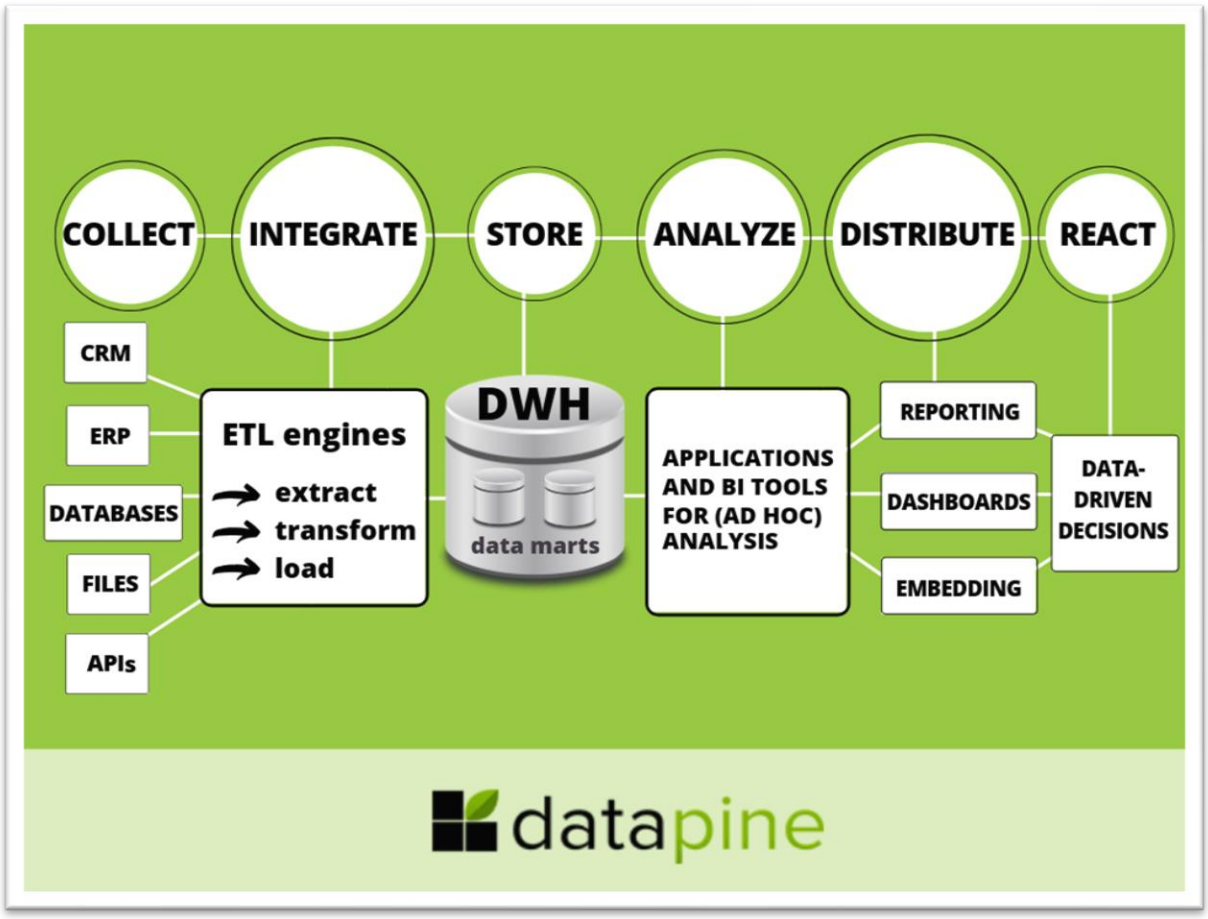
The goal of the LDD or Low-level design document (LLDD) is to give the internal logic design of the actual program code for the House Price Prediction dashboard. LDD describes the class diagrams with the methods and relations between classes and programs specs. It describes the modules so that the programmer can directly code the program from the document.

1.2 Scope

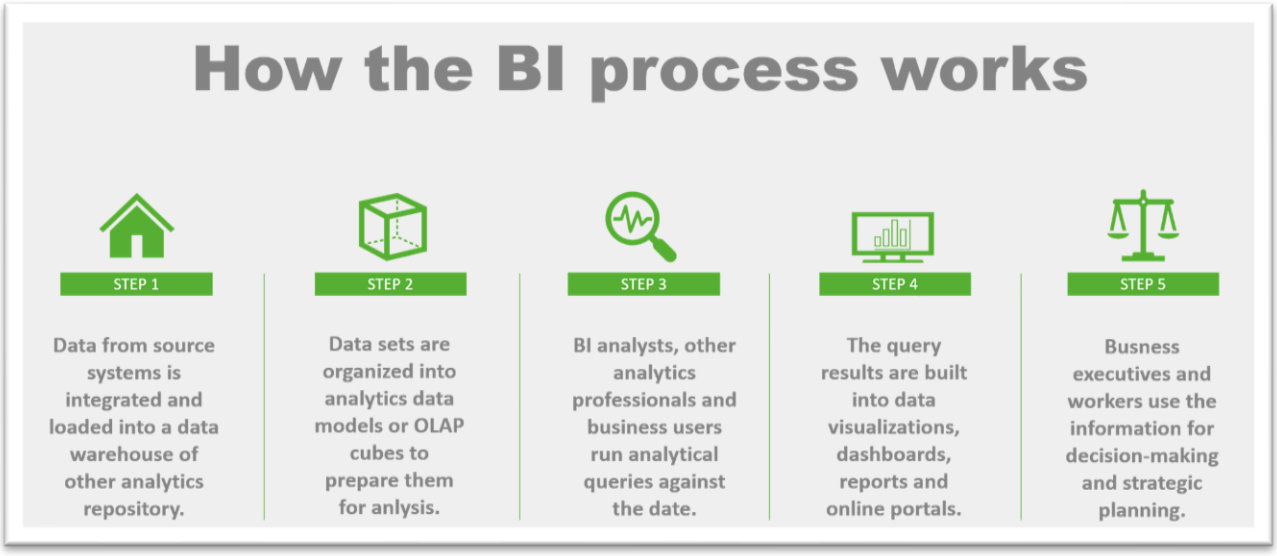
Low-level design (LLD) is a component-level design process that follows a step-by-step refinement process. The process can be used for designing data structures, required software architecture, source code and ultimately, performance algorithms. Overall, the data organization may be defined during requirement analysis and then refined during data design work.

2. Architecture:

2.1 Power BI Architecture:



Functional Architecture of Business Intelligence



3. Architecture Description:

3.1 Data Description:

The Google Play Store Data Set Contains several following columns.

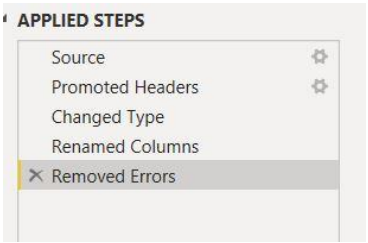
- Application Name: Name of the Application in Google Play Store
- Category: To which category does the Application belong
- Rating: Rating for the Application in Play Store
- Reviews: No. of Reviews given by the users downloaded the Application
- Size: Size of the Application available
- Installations: Total No. of Installations
- Type: Whether the Application is Free or Paid
- Price: If it is Paid how much does the Application costs
- Content Rating: Who can rate the Application whether Everyone, 18+ etc.
- Genres: To which Genre does the Application belong to
- Last Updated: When was the Application updated lastly
- Current Version: Current Version of the Application if it is updated.
- Android Version: Application supports to which of the Android Version

3.2 Web Scraping:

Web scraping is a technique to automatically extract content and data from websites using bots. It is also known as web data extraction or web harvesting. Web scrapping is made simple now days, many tools are used for web scrapping. Some of python libraries used for web scrapping are Beautiful Soup, Scrapy, Selenium, etc.

3.3 Data Transformation:

In the Transformation Process, we will convert our original datasets with other necessary attributes format. For the given Data Set names of the Columns have been changed and Null Values, Error Values have been removed from the Data Set.

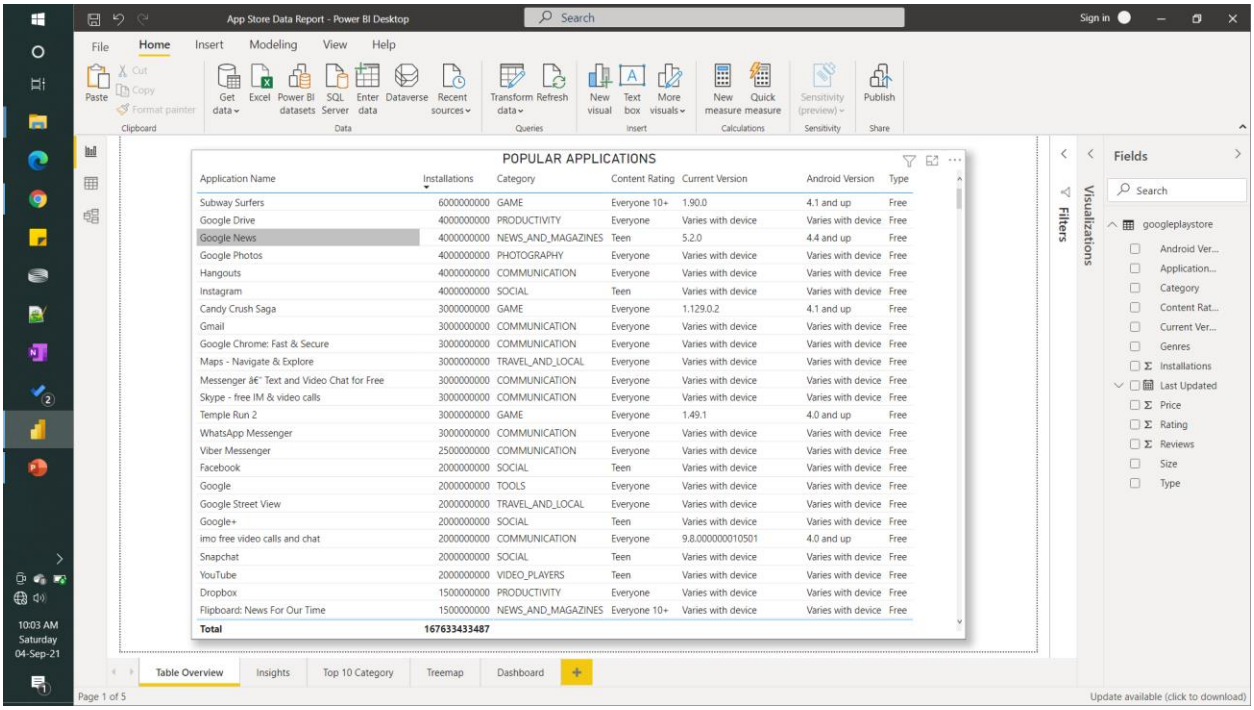


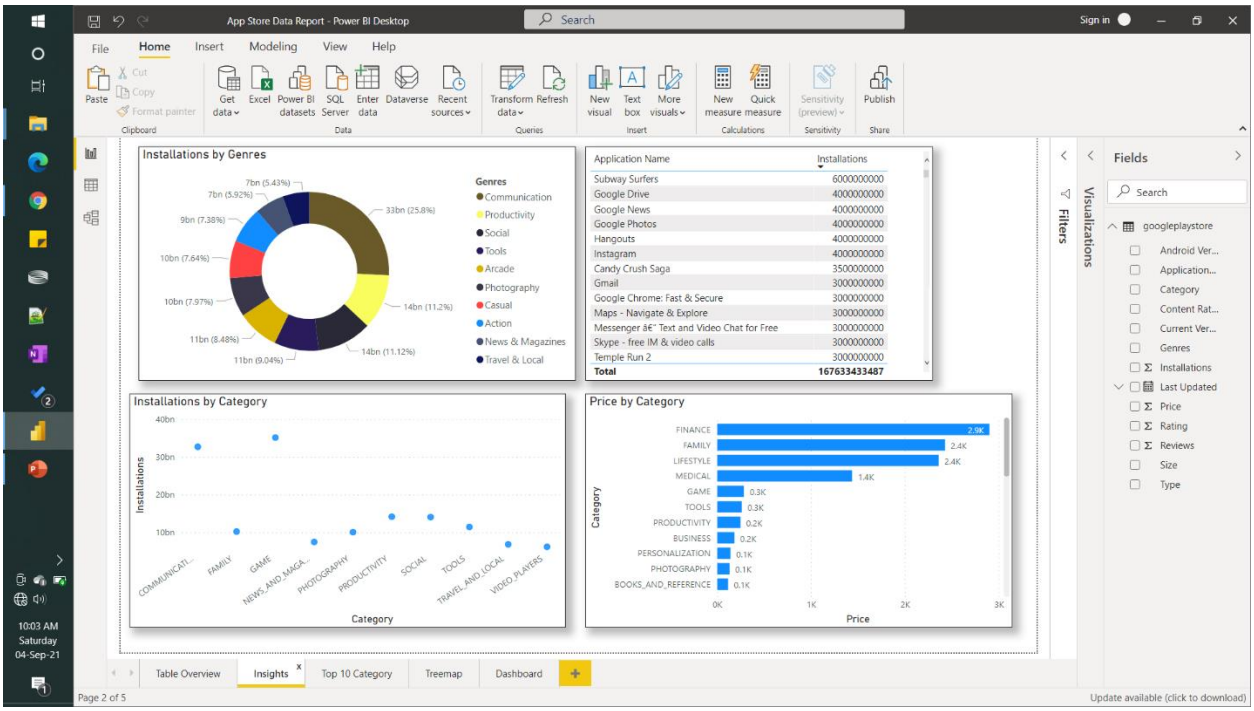
3.4 Creating relations between Parameters.

In this Project we had used many types of Visualizations like

1. Table
2. Donut Chart
3. Scatter Chart
4. Stacked Bar Chart
5. Stacked Column Chart
6. Line and Stacked Column Chart
7. Pie Chart
8. Treemap
9. Slicer
10. Card
11. Gauge

With the use of all the available parameters we had plotted visualizations.




App Store Data Report - Power BI Desktop
Installations by Genres
Application Name
Installations
Subway Surfers 6000000000
Google Drive 4000000000
Google News 4000000000
Google Photos 4000000000
Hangouts 4000000000
Instagram 4000000000
Candy Crush Saga 3500000000
Gmail 3000000000
Google Chrome: Fast & Secure 3000000000
Maps - Navigate & Explore 3000000000
Messenger â€" Text and Video Chat for Free 3000000000
Skype - free IM & video calls 3000000000
Temple Run 2 3000000000
Total 167633433487
Installations by Category
Price by Category
Fields
Table Overview
Insights
Top 10 Category
Treemap
Dashboard
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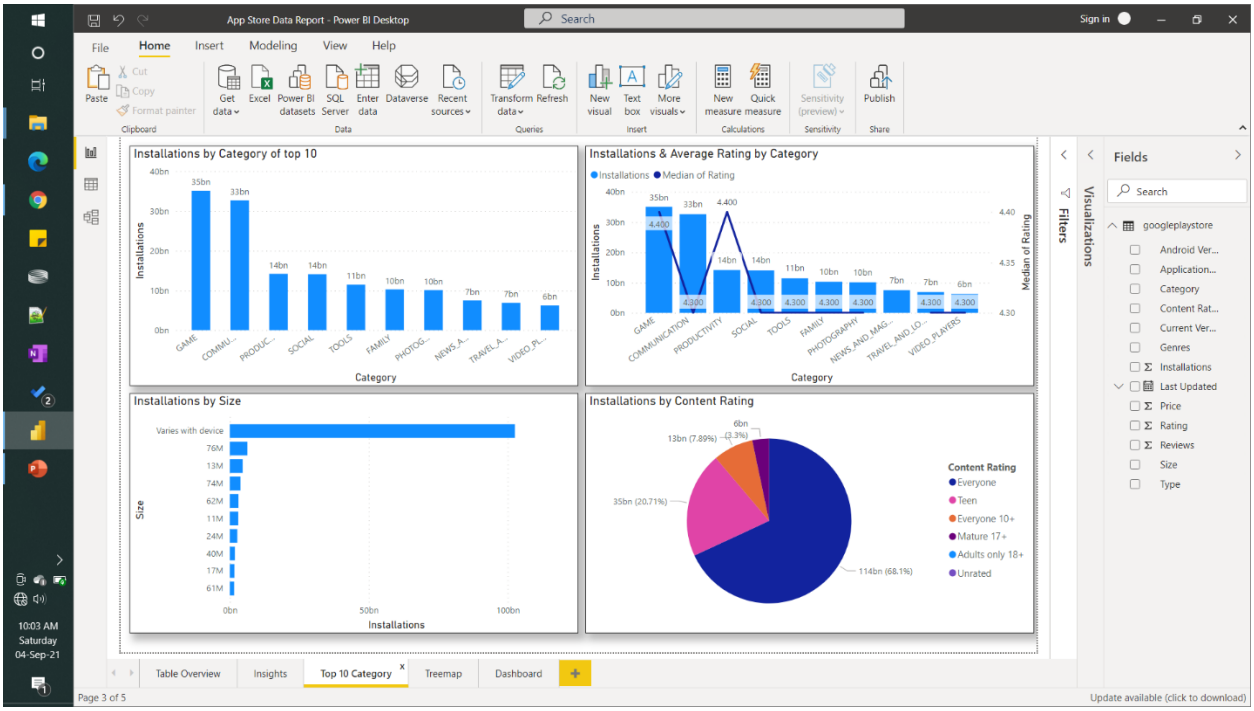
App Store Data Report - Power BI Desktop
Installations by Category of top 10
Installations & Average Rating by Category
Installations by Size
Installations by Content Rating
Fields
Table Overview
Insights
Top 10 Category
Treemap
Dashboard
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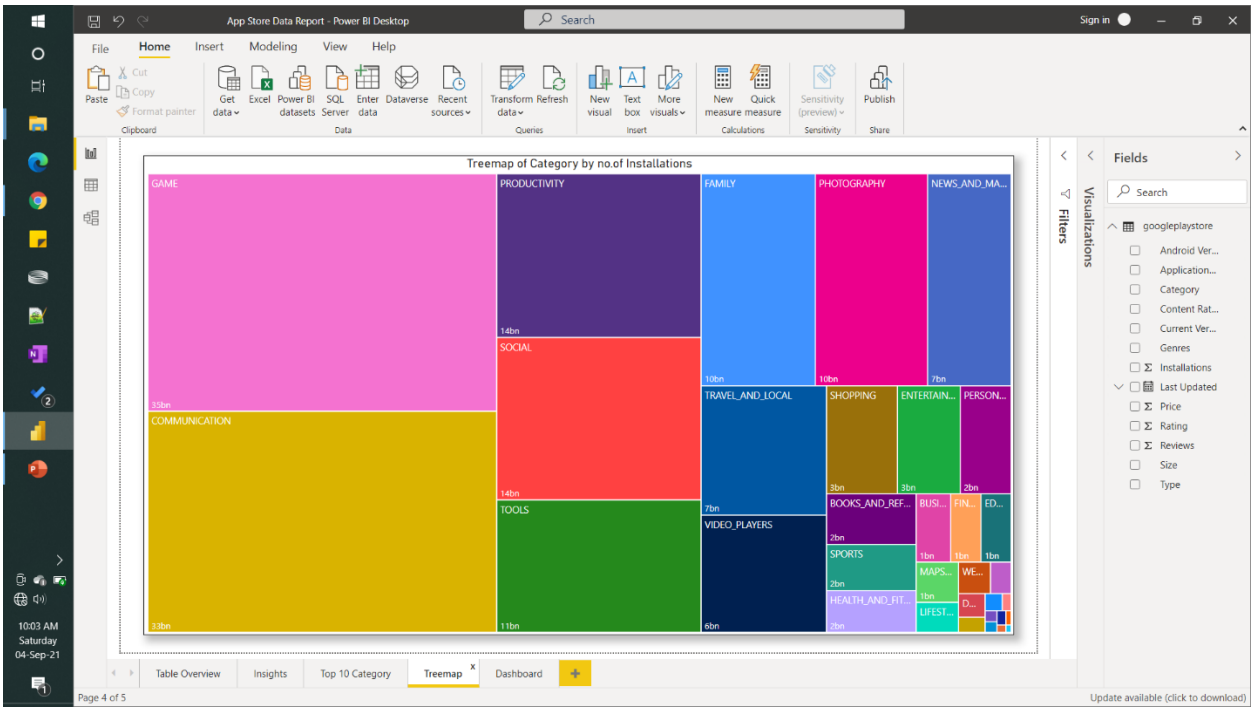
App Store Data Report - Power BI Desktop
Search
Sign in
File
Home
Insert
Modeling
View
Help
Treemap of Category by no.of Installations
GAME
PRODUCTIVITY
FAMILY
PHOTOGRAPHY
NEWS_AND_MA...
SOCIAL
COMMUNICATION
TRAVEL_AND_LOCAL
SHOPPING
ENTERTAIN...
PERSON...
TOOLS
VIDEO_PLAYERS
BOOKS_AND_REF...
SPORTS
HEALTH_AND_FIT...
Fields
Search
googleplaystore
Android Ver...
Application...
Category
Content Rat...
Current Ver...
Genres
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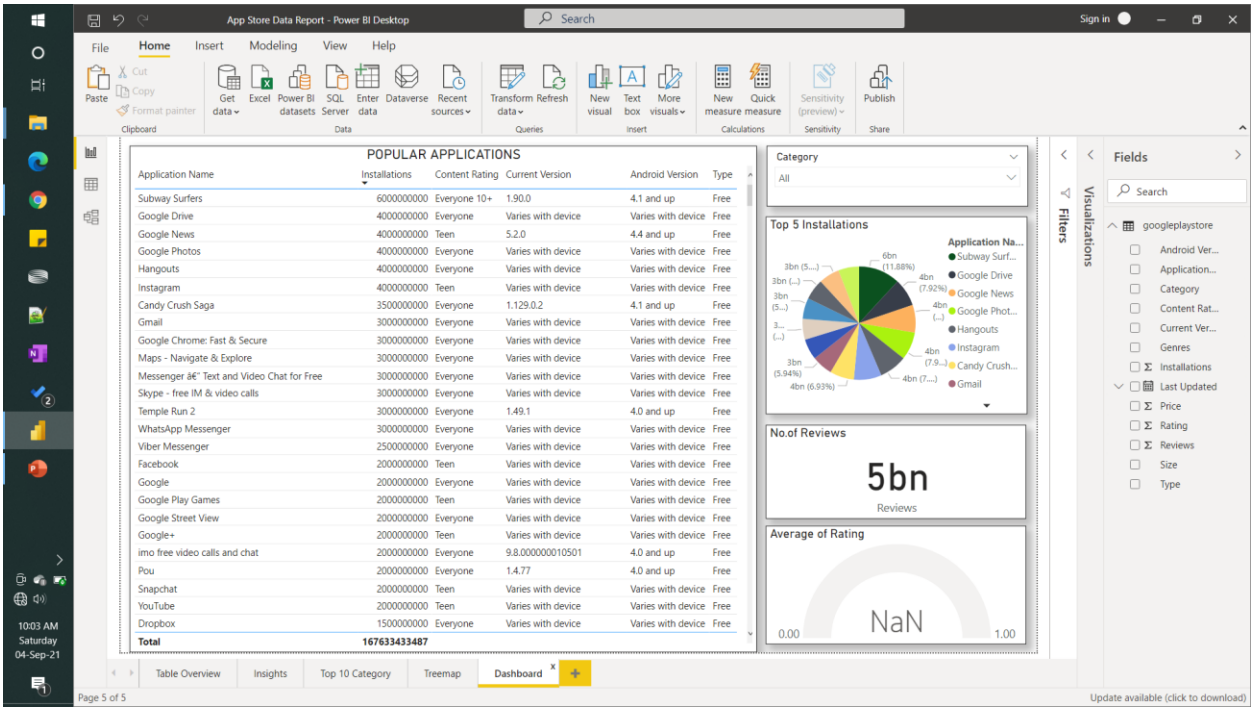
Update available (click to download)


App Store Data Report - Power BI Desktop
Search
Sign in
POPULAR APPLICATIONS
Application Name
Installations
Content Rating
Current Version
Android Version
Type
Subway Surfers 6000000000 Everyone 10+ 1.90.0 4.1 and up Free
Google Drive 4000000000 Everyone Varies with device Varies with device Free
Google News 4000000000 Teen 5.2.0 4.4 and up Free
Google Photos 4000000000 Everyone Varies with device Varies with device Free
Hangouts 4000000000 Everyone Varies with device Varies with device Free
Instagram 4000000000 Teen Varies with device Varies with device Free
Candy Crush Saga 3500000000 Everyone 1.129.0.2 4.1 and up Free
Gmail 3000000000 Everyone Varies with device Varies with device Free
Google Chrome: Fast & Secure 3000000000 Everyone Varies with device Varies with device Free
Maps - Navigate & Explore 3000000000 Everyone Varies with device Varies with device Free
Messenger â€" Text and Video Chat for Free 3000000000 Everyone Varies with device Varies with device Free
Skype - free IM & video calls 3000000000 Everyone Varies with device Varies with device Free
Temple Run 2 3000000000 Everyone 1.49.1 4.0 and up Free
WhatsApp Messenger 3000000000 Everyone Varies with device Varies with device Free
Viber Messenger 2500000000 Everyone Varies with device Varies with device Free
Facebook 2000000000 Teen Varies with device Varies with device Free
Google 2000000000 Everyone Varies with device Varies with device Free
Google Play Games 2000000000 Teen Varies with device Varies with device Free
Google Street View 2000000000 Everyone Varies with device Varies with device Free
Google+ 2000000000 Teen Varies with device Varies with device Free
imo free video calls and chat 2000000000 Everyone 9.8.000000010501 4.0 and up Free
Pou 2000000000 Everyone 1.4.77 4.0 and up Free
Snapchat 2000000000 Teen Varies with device Varies with device Free
YouTube 2000000000 Teen Varies with device Varies with device Free
Dropbox 1500000000 Everyone Varies with device Varies with device Free
Total 167633433487
Category
All
Top 5 Installations
Application Na...
Subway Surf...
Google Drive
Google News
Google Phot...
Hangouts
Instagram
Candy Crush...
Gmail
No.of Reviews
5bn
Reviews
Average of Rating
NaN
0.00
1.00
Fields
Search
googleplaystore
Table Overview
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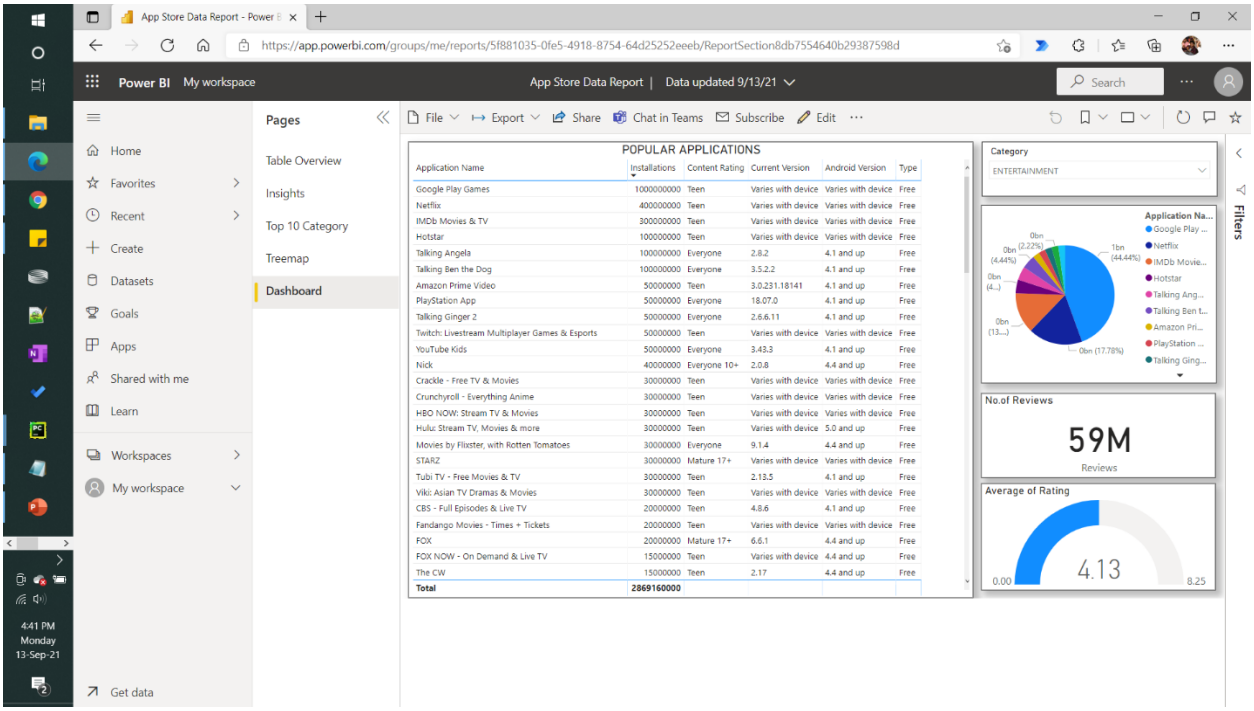
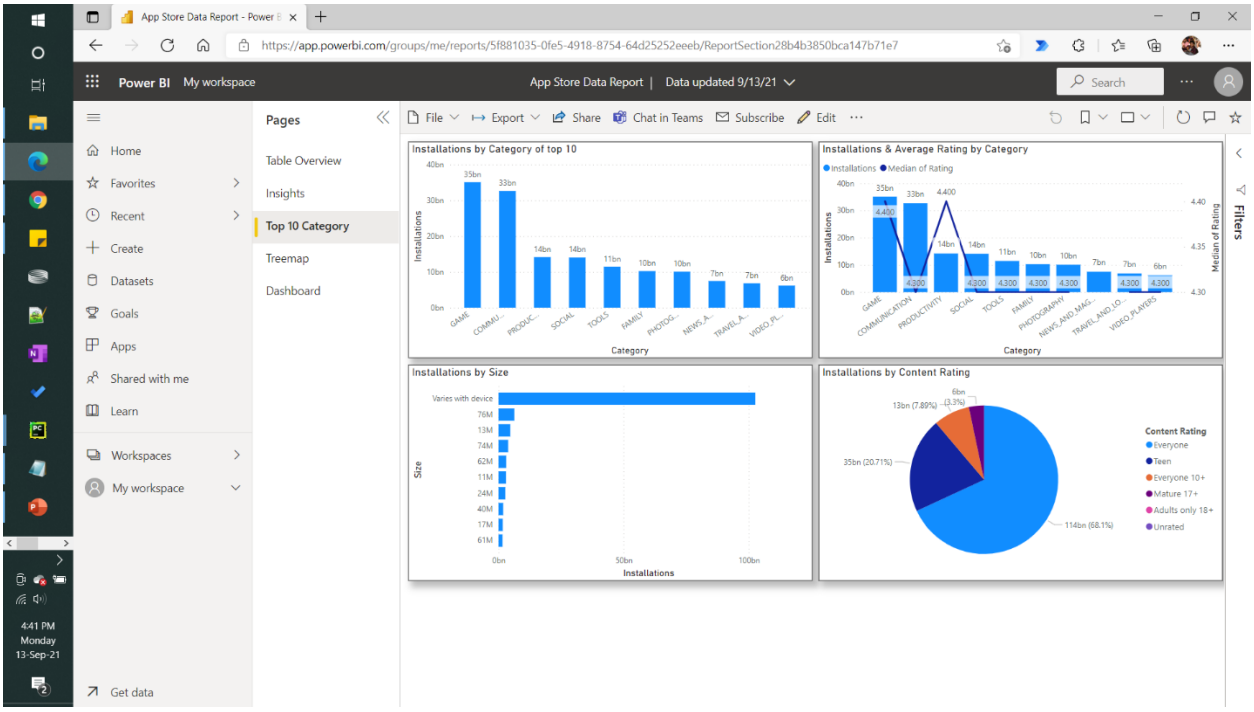
Update available (click to download)

3.5 Deployment:

We can deploy the report in Power BI Service and can share the report to others if you have valid license of Power BI pro. Here we had successfully deployed the report to Power BI Service. We have Publish option in the Power BI Desktop from which we can deploy to Power BI Service online portal.





4. Unit Test Cases:

S. No	Test Case Description	Expected Results
1	Selecting the Game as category in the Slicer in Dashboard Page	Top applications are shown based on highest no of Installations.
2	Average rating of the Application	After Selecting the Category if we select any application, we get Average rating of it.
3	Total No of Reviews	No. of reviews are shown using a Card in the Dashboard
4	Treemap of Category vs No of Installations	We get a Treemap with respect to no. of Installations done
5	Average rating and No. of Installations	With the help of Line and Stacked Column Chart we get the average rating and No of Installations
6	Who can rate the Application	With Pie Chart we get the type of percentage of users rated the Application.