

Tech Saksham

Case Study Report

Data Analytics with Power BI

“360-DEGREE BUSINESS ANALYSIS OF ONLINE DELIVERY APPS”

“VIDHYAA ARTS & SCIENCE COLLEGE”

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ABSTRACT

In the digital world, Online food ordering system is mainly designed primarily function for use in the food delivery industry. This system will allow hotels and restaurants to increase online food ordering such type of business. The customers can be selected food menu items just few minutes. In the modern food industries allows to quickly and easily delivery on customer place. Restaurant employees then use these orders through an easy to delivery on customer place easy find out navigate graphical interface for efficient processing.

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CHAPTER

1

INTRODU

CTION

- **Problem Statement:**

Different food delivery applications often provide different offers or discounts. Users are also not satisfied with their delivery time and random cancellations.

The current food delivery applications provide different discounts on the same item but in different platform. It is also seen that delivery time of an item is not same in all the applications. Adding all the discounts and

estimated delivery time of different food joints under a single interface will be economical and less time consuming.

- **Proposed Solution:**

The proposed solution is to develop a Power-BI dashboard that can analyze and visualize Business Analysis of food delivery App. It's time to create solutions for the problem. To understand their situation, I have to step into their shoes. Here are the ideas that I have thought of Bringing discounts and offers of different applications under a single interface. Comparing the delivery time of different apps together. Users will get an idea of the timings and they can choose accordingly. No cancellation guarantee should be provided before placing an order maybe in form of an icon which can be accessed by the restaurant manager and connected to their website.

- **Feature:**

- **Real-Time Order Tracking:** The dashboard will provide real-time order tracking of Hungry customers want their meals delivered fast.
- **Customer Segmentation:** It will segment customers based on perceptions about service quality, bargain hunter, impatient, interested in new innovations, etc.
- **Trend Analysis:** The dashboard will identify and display trends in customer behavior.
- **Predictive Analysis:** It will use historical data to predict future customer behavior.

- **Advantages:**
- **Time saving:** To save consumers' time by removing the need to go to restaurants in person or stand in queue for takeaway orders.
- **Promotions and Discounts:** To provide exclusive offers, discounts, and loyalty awards to draw in new clients and keep existing ones coming back.
- **Revenue Generation:** Bring money through delivery fees, commissions from affiliated eateries, and prospective advertising opportunities.

- **Scope**

Food delivery apps are third-party services that connect restaurants with customers, convenience stores, and more. In such a technological era, people find it difficult to visit restaurants. Most often, they are unable to manage time for picking up their order. Therefore, most of them like to use the food delivery app. They allow customers to order food from restaurants, compare prices, and see estimated delivery times. Food delivery apps also help restaurants improve customer satisfaction by reducing wait times and helping employees connect with customers.

CHAPTER 2

SERVICES AND TOOLS REQUIRED

- **Services Used:**

There are numerous benefits of online food delivery service, such as

- Audiences can make orders from anywhere else.
- The online delivery service saves time from the customer side.
- Restaurants can collect better customer data.
- Most restaurants offer online **food delivery 24 hours**.
That's why customers can make **late night food delivery orders**.

- **Tools and**

Software used Tools:

- **Power BI:** The main tool for this project is Power BI, which will be used to create interactive dashboards for real-time data visualization.
- **Power Query:** This is a data connection technology that enables you to discover, connect, combine, and refine data across a wide variety of sources.

Software Requirements:

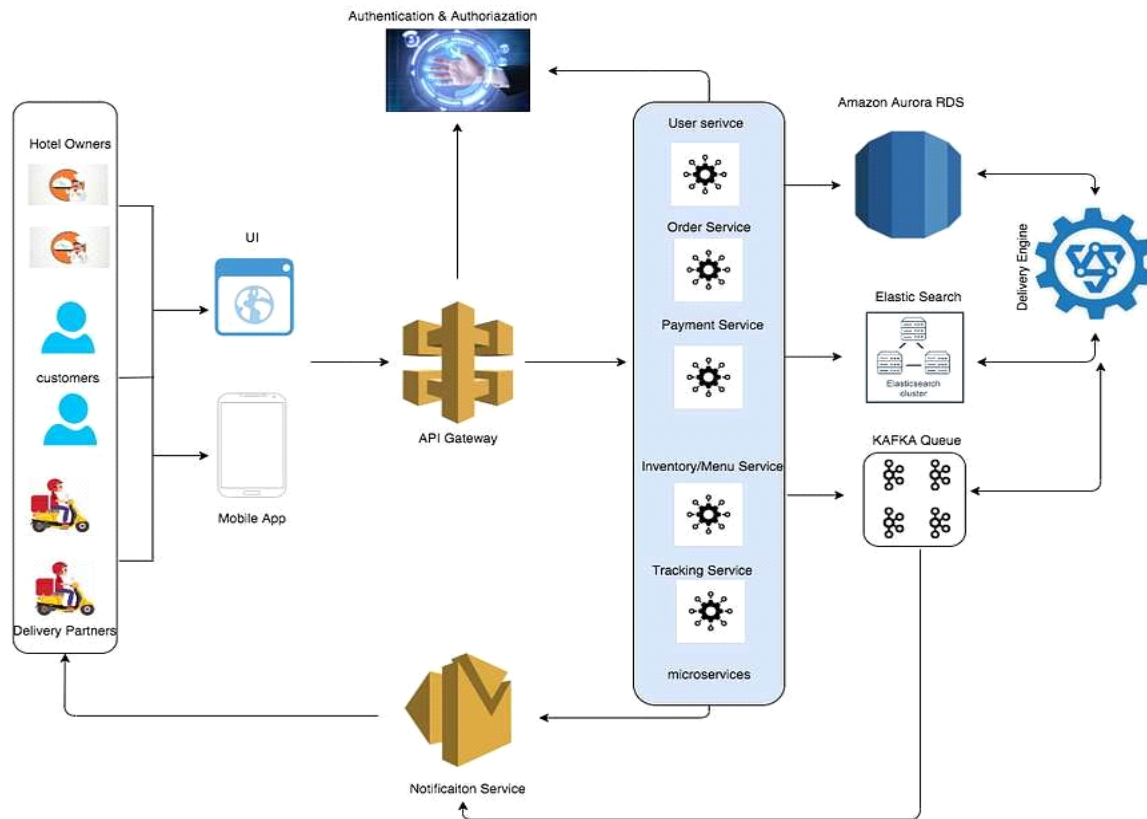
- **Power BI Desktop:** This is a Windows application that you can use to create reports and publish them to Power BI.
- **Power BI Service:** This is an online SaaS (Software as a Service) service that you use to publish reports, create new dashboards, and share insights.
- **Power BI Mobile:** This is a mobile application that you can use to access your reports and dashboards on the go.

CHAPTER 3

PROJECT

ARCHITECTURE

- **Architecture**



Here's a high-level architecture for the project:

- **Data Storage:** Food delivery apps use databases to store data about users, restaurants, orders, and more.
- **Data Processing:** Food delivery apps can use data to help improve customer satisfaction, build brand image, and increase sales.
- **Machine Learning:** Food delivery apps use machine learning to improve their algorithms, which can help users get a more personalized experience. For example, Zomato uses machine learning to automate menu digitization, create personalized restaurant listings, and predict food preparation times.
- **Data Visualization:** The processed data and the results from the predictive models are visualized in real-time using Power BI. Power BI allows you to create interactive dashboards that can provide valuable insights into the data.
- **Data Access:** The dashboards created in Power BI can be accessed through Power BI Desktop, Power BI Service (online), and Power BI Mobile.

This architecture provides a comprehensive solution for real-time analysis of food delivery apps. However, it's important to note that the specific architecture may vary depending on the

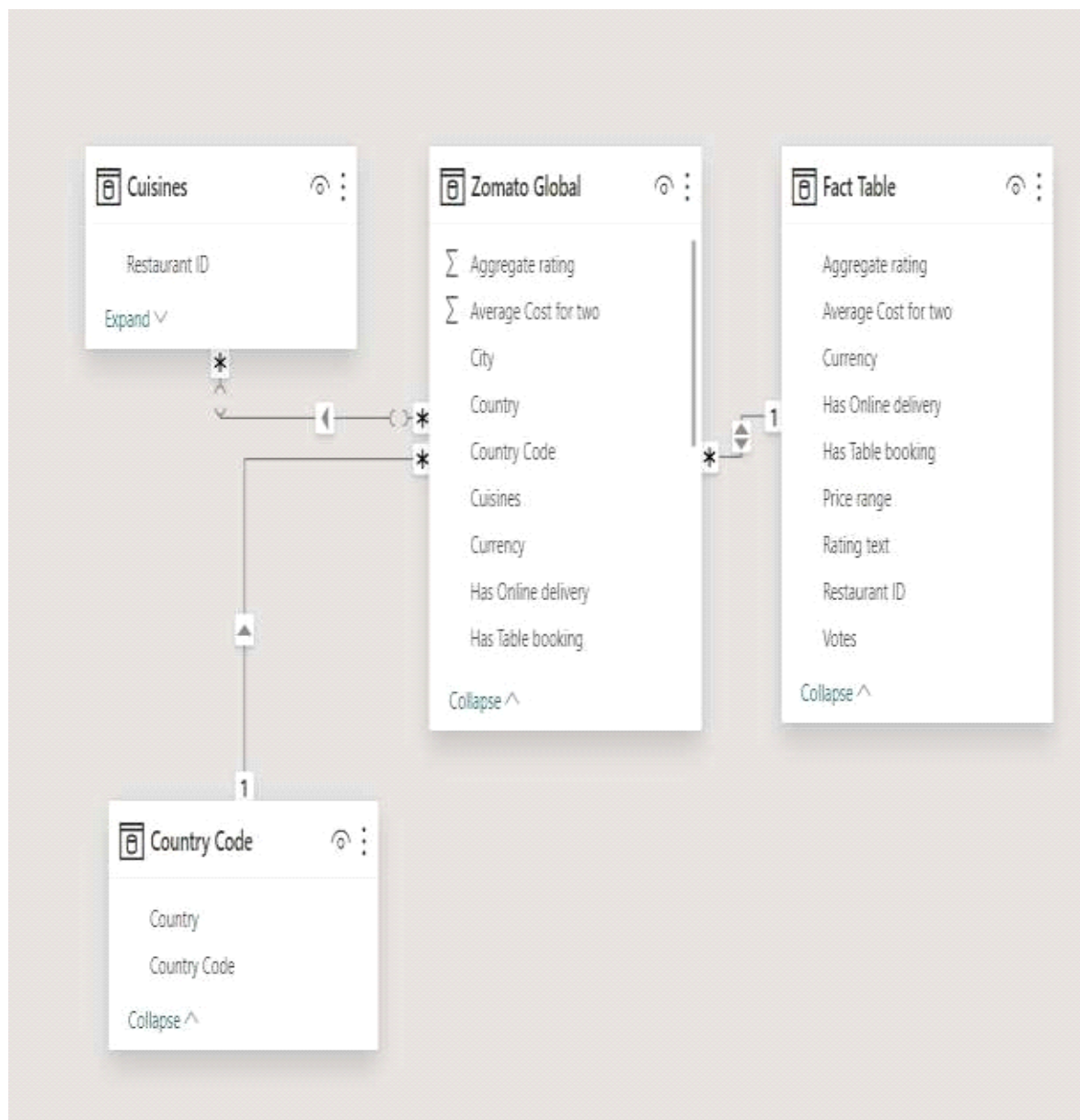
food delivery connection, specific requirements, and budget. It's also important to ensure that all tools and services comply with relevant data privacy and security regulations.

CHAPTER 4

MODELING AND RESULT

Manage relationship

The "cuisines" file will be used as the main connector as it contains most key identifier (Restaurant ID, Fact table and Zomato global) which can be used to relate the 4 data files together. The "country code" file is used to link the client profile geographically with "Zomato global"



Country Code	Country
94	Indonesia
191	Sri Lanka
214	UAE
1	India
30	Brazil
14	Australia
208	Turkey
189	South Africa
216	United States
215	United Kingdom
162	Philippines
166	Qatar
37	Canada
148	New Zealand
184	Singapore

Restaurant ID	Country Code	City	Restaurant Name	Restaurant Address	Locality	Locality Verbose	Longitude	Latitude	Cuisine	Average Cost for two	Currency
19433852										300	Indian Rupee(Rs.)
19433853										300	Indian Rupee(Rs.)
19433854										300	Indian Rupee(Rs.)
19433855										300	Indian Rupee(Rs.)
19433856										300	Indian Rupee(Rs.)
19433857										300	Indian Rupee(Rs.)
19433858										300	Indian Rupee(Rs.)
19433859										300	Indian Rupee(Rs.)
19433860										300	Indian Rupee(Rs.)
19433861										300	Indian Rupee(Rs.)
19433862										300	Indian Rupee(Rs.)
19433863										300	Indian Rupee(Rs.)
19433864										300	Indian Rupee(Rs.)
19433865										300	Indian Rupee(Rs.)
19433866										300	Indian Rupee(Rs.)
19433867										300	Indian Rupee(Rs.)
19433868										300	Indian Rupee(Rs.)
19433869										300	Indian Rupee(Rs.)
19433870										300	Indian Rupee(Rs.)
19433871										300	Indian Rupee(Rs.)
19433872										300	Indian Rupee(Rs.)
19433873										300	Indian Rupee(Rs.)
19433874										300	Indian Rupee(Rs.)
19433875										300	Indian Rupee(Rs.)
19433876										300	Indian Rupee(Rs.)
19433877										300	Indian Rupee(Rs.)
19433878										300	Indian Rupee(Rs.)
19433879										300	Indian Rupee(Rs.)
19433880										300	Indian Rupee(Rs.)
19433881										300	Indian Rupee(Rs.)
19433882										300	Indian Rupee(Rs.)
19433883										300	Indian Rupee(Rs.)
19433884										300	Indian Rupee(Rs.)
19433885										300	Indian Rupee(Rs.)
19433886										300	Indian Rupee(Rs.)
19433887										300	Indian Rupee(Rs.)
19433888										300	Indian Rupee(Rs.)
19433889										300	Indian Rupee(Rs.)
19433890										300	Indian Rupee(Rs.)
19433891										300	Indian Rupee(Rs.)
19433892										300	Indian Rupee(Rs.)
19433893										300	Indian Rupee(Rs.)
19433894										300	Indian Rupee(Rs.)
19433895										300	Indian Rupee(Rs.)
19433896										300	Indian Rupee(Rs.)
19433897										300	Indian Rupee(Rs.)
19433898										300	Indian Rupee(Rs.)
19433899										300	Indian Rupee(Rs.)
19433900										300	Indian Rupee(Rs.)

Country Code	Country	Continent
94	Indonesia	Asia
191	Sri Lanka	Asia
214	UAE	Asia
3	India	Asia
30	Brazil	Asia
74	Australia	Oceania
208	Turkey	Asia
199	South Africa	Africa
216	United States	SAM
215	United Kingdom	Europe
162	Philippines	Asia
166	Qatar	Asia
37	Canada	NAM
148	New Zealand	Oceania
184	Singapore	Asia

Modelling for Gender and Age data

Restaurant ID	Average Cost for two	Currency	Has Table booking	Has Online delivery	Price range	Aggregate rating	Rating text	Votes	Rating color
19433852	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433853	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433854	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433855	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433856	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433857	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433858	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433859	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433860	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433861	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433862	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433863	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433864	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433865	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433866	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433867	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433868	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433869	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433870	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433871	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433872	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433873	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433874	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433875	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433876	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433877	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433878	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433879	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433880	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433881	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433882	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433883	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433884	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433885	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433886	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433887	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433888	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433889	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433890	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433891	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433892	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433893	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433894	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433895	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433896	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433897	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433898	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433899	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated
19433900	300	Indian Rupee(Rs.)	No	No	?	?	Not rated	?	Not Rated

Notice that the Gender and age of the client are missing from the data.

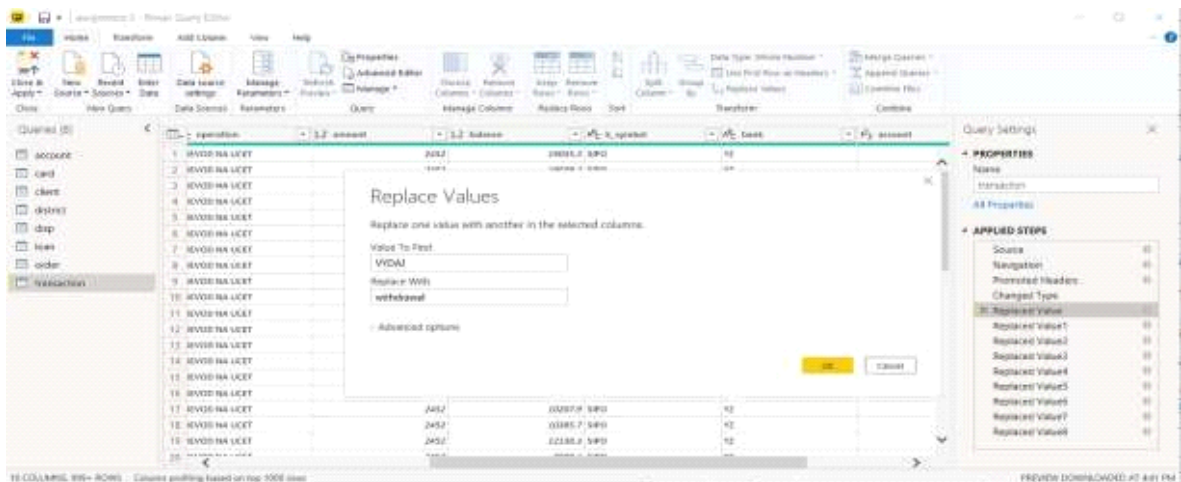
These can be formulated from the birth number YYMMDD where at months (the 3rd and 4th digits) greater than 50 means that client is a Female. We can create a column for Gender.

For birthday, we need to reduce the birth month of the female by 50 and then change the date format to DD/MM/YYYY adding 1900 to the year.

1 age = 1999 -RIGHT(client[Birthday],4)						
client_id	birth_number	district_id	Gender	Birthday	age	age (groups)
2	450204	1	M	04/02/1945	54	36 -54 Baby Boomers

For Age, we shall assume it is year 1999 as explain previously and use it to minus from the birth year.

Replacing values



Set some fields to English for easy understanding, we replace values to English with the Power Query Editor.

Changing the order of Region name at Power Query

	A ^B region	t ₂₃ no_of_inhabitants	t ₂₃ avg_salary	A ^B region - Copy.2	A ^B region - Copy.1
3	central Bohemia	75232	8980	Bohemia	central
4	central Bohemia	149893	9753	Bohemia	central

	A ^B C region - Copy.2	A ^B C region - Copy.1	A ^B C REGION dir
	null	Prague	Prague
7	Bohemia	central	Bohemia central
7	Bohemia	central	Bohemia central
7	Bohemia	central	Bohemia central
7	Bohemia	central	Bohemia central
5	Bohemia	central	Bohemia central
7	Bohemia	central	Bohemia central
7	Bohemia	central	Bohemia central
9	Bohemia	central	Bohemia central
1	Bohemia	central	Bohemia central
2	Bohemia	central	Bohemia central
1	Bohemia	central	Bohemia central
3	Bohemia	central	Bohemia central
5	Bohemia	south	Bohemia south

Query Settings

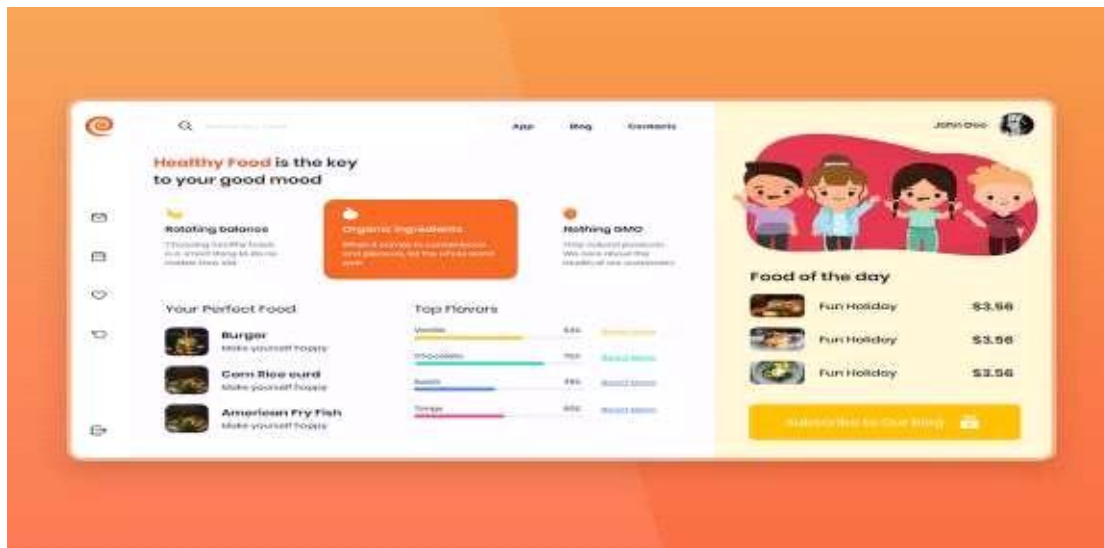
- PROPERTIES
- APPLIED STEPS
 - Source
 - Navigation
 - Promoted Headers
 - Changed Type
 - Duplicated Column
 - Split Column by Delimiter
 - Changed Type1
 - Reordered Columns
 - Inserted Merged Column
 - Inserted Merged Column1
 - Renamed Columns
 - Removed Columns

Grouping of age by ranges

The silent Generations some are working and retired, living on pensions. The greatest Generation, retired elderly living on pensions.

And District name have been categorized as place to be use for the map to show the sum of the inhabitants in each region.

Dashboard



CONCLUSION

Nowadays, the traditional way of going to a restaurant and eating has reduced considerably. It's a new age where technology dominates human life. With the software and technological devices, exceptions are reduced and even terminated. Also, people prefer easy, quick and safe access to everything. This project is designed to meet the requirements of a restaurant. The Online Food Ordering System provides a simple way to store details of the customer, food items available and to generate the bill. It is an interface that allows the customer to order the desired food which he/she can relish within a span of forty-five minutes.

The project is designed in such a way that the user can modify the primary information required to manage their profile successfully such as the information about the deliver address and contact number. With this platform we developed, we are hoping to reduce time wasting, avoid misunderstandings, provide easy data flow, customer pleasure, and less hard work. We believe that we have accomplished our goals and satisfied with the code we developed.

FUTURE SCOPE

The future scope of this project is vast. with the advent of advanced analytics and machine learning, power BI can be leveraged to predict the future trends based on historical data. Integrating these predictive analytics into the project could enable the bank to anticipate

customer needs and proactively offer solutions. Furthermore, power BI's capability to integrate with various data sources opens up the possibility of incorporating more diverse datasets for a more holistic view of customers. As data privacy and security becomes increasingly important, future iterations of this project should focus on implementing robust data governance strategies. This would ensure the secure handling of sensitive customer data while complying with data protection regulations. Additionally, the project could explore the integration of real-time data streams to provide even more timely and relevant insights. This could potentially transform the way banks interact with their customers, leading to improved customer satisfaction and loyalty.

REFERENCES

- <https://cuzegbu.medium.com/ux-case-study-food-delivery-app-design-2a001c78db96>
- <https://bootcamp.uxdesign.cc/ux-case-study-online-food-delivery-aac10a67d2e>

LINK

<https://github.com/Abhitha22/360-degree-business-analysis-of-Food-Delivery-Apps> HYPERLINK
"https://github.com/Abhitha22/360-degree-business-analysis-of-Food-Delivery-Apps" Apps