EXPLORING INSIGHTS FROM FOOD CHOICES OF COLLEGE GOING STUDENTS USING QLIK

Food choices and food preferences data gives the crucial and unique habits of student's food, health and diet habits. The data purely describes the preferences choices and interests of the sample data of 126 college going students.

A comprehensive analysis of Airline data is conducted using Qlik Sense, with a focus on deriving actionable insights. The project involves cleaning and modeling the food choices and food preferences of the students designing an interactive Qlik Sense dashboard Reports, and extracting visualizations.

TECHNICAL ARCHITECTURE:

PROJECT FLOW

To accomplish this, we have to complete all the activities listed below,

- **Define Problem / Problem Understanding**
    - o Specify the business problem
    - o Business requirements
    - o Literature Survey
- **Data Collection**
    - o Collect the dataset,
    - o Connect Data with Qlik Sense
- **Data Preparation**
    - o Prepare the Data for Visualization
- **Data Visualizations**
    - o Visualizations
- **Dashboard**
    - o Responsive and Design of Dashboard
- **Report**
    - o Report Creation
- **Performance Testing**
    - o Amount of Data Rendered to DB ‘
    - o Utilization of Data Filters
- **Project Demonstration & Documentation**
    - o Record explanation Video for project end to end solution

DEFINE PROBLEM / PROBLEM UNDERSTANDING

Activity 1: Specify the business problem

How important is nutrition information for today's college kids? Is their taste in food defined by their food preferences when they were children? Are kids of parents who cook more likely to make better food choices than others? Are these kids likely to have a different taste compared to others? There a number of open-ended questions included in this dataset such as: What is your favourite comfort food? What is your favourite cuisine? that could work well for natural language processing. To find the insights in choosing the type of food and habits regarding the health and nutrition.

Activity 2: Business requirements

The dataset comprises of diverse parameters relating to food choices and habits. The dataset prominently incorporates fields such as GPA, Gender, calories of (chicken, scone, turkey, tortilla, waffles.), types of food like(Indian, Italian, Persian, Greek, Thai), self-perception of (weight, health condition, life rewarding), food habits like(dine out, fruits consuming, veggie days, regular diet), physical habits like (type of sports interested, exercise), income earned, spending income on food, parents details like (father's education and profession, mother's education and profession)etc.. Researchers and nutritional experts can leverage this dataset to analyze trends in students' food behavior, optimize hazardous abnormalities in health.

Activity 3: Literature Survey

A literature survey on food choices of student's food habits such as balanced diet, food intake, all round development of a student health and nutrimental achievements. By reviewing the choices of student by nutritional experts suggesting the recommendations by proposed insights by researchers and identifying the best practices and guide future food habits and strategies in utilization of food choices for the advancement of health and nutrimental health of a student.

DATA COLLECTION & EXTRACTION FROM DATABASE

Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, evaluate outcomes and generate insights from the data.

Activity 1: Downloading the dataset

Please use the link to download the dataset: link

Activity 1.1: Understand the data

Data contains all the meta information regarding the columns described in the CSV files

Column Description of the Dataset:

GPA: Score in the form as GPA

GENDER: Describes the Gender as Male and Female.

BREAKFAST: Describes the student having the Breakfast as cereals or donuts.

CALORIES OF CHICKEN: Perception of calories of chicken.

CALORIES_SCONE: PERCEPTION OF CALOROES OF SCONE

There are few more columns present in the dataset these columns are described detailly**.** CLICK HERE

DATA PREPARATION

Activity 1: Prepare the Data for Visualization

Preparing the data for visualization involves cleaning the data to remove irrelevant or missing data, transforming the data into a format that can be easily visualized, exploring the data to identify patterns and trends, filtering the data to focus on specific subsets of data, preparing the data for visualization software, and ensuring the data is accurate and complete. This process helps to make the data easily understandable and ready for creating visualizations to gain insights into the performance and efficiency. Since the data is already cleaned, we can move to visualization.

3.1 DATA LOADING:

https://drive.google.com/file/d/1MSV8Jvhs7HDTAv6C3SHYIatd8wu5dOYY/view?usp=sharing

3.2 DATA CLEANING AND PRE-PROCESSING:

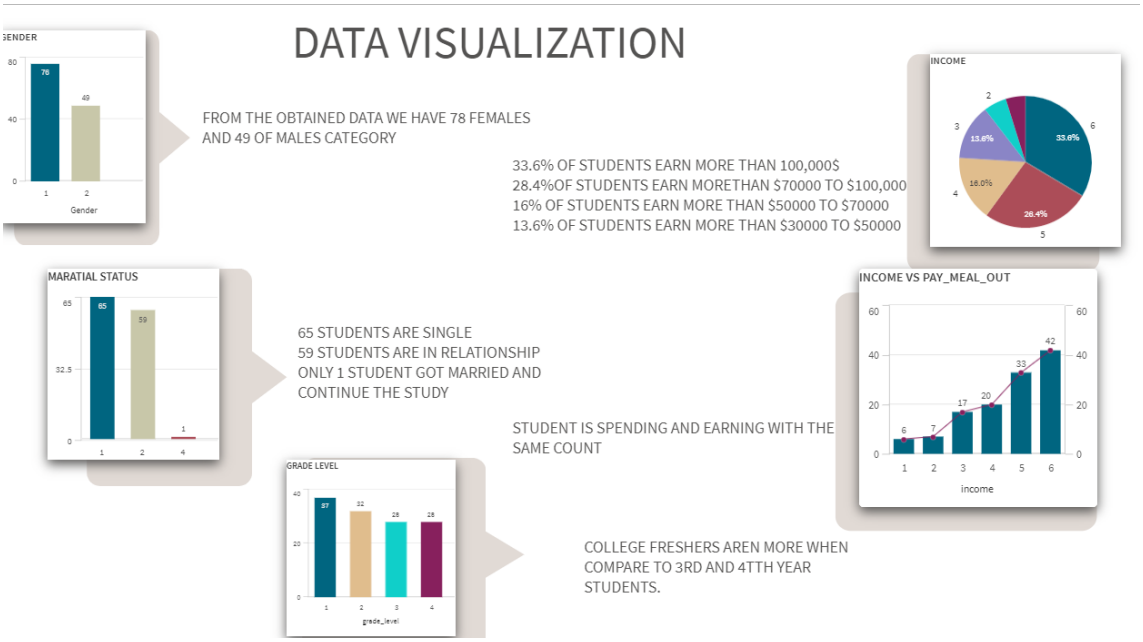
https://drive.google.com/file/d/1MSV8Jvhs7HDTAv6C3SHYIatd8wu5dOYY/view?usp=sharing

DATA VISUALIZATION

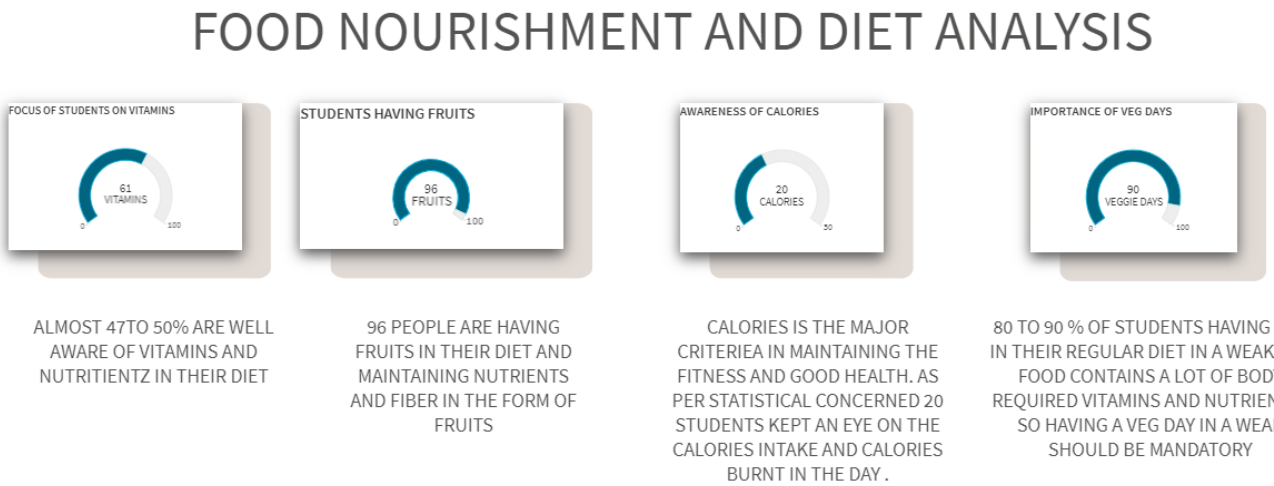
Data visualization is the process of creating graphical representations of data to help people understand and explore the information. The goal of data visualization is to make complex data sets more accessible, intuitive, and easier to interpret. By using visual elements such as charts, graphs, and maps, data visualizations can help people quickly identify patterns, trends, and outliers in the data.

ACTIVITY1: FOOD CHOICES ANALYSIS:

ACTIVITY 1.1:



ACTIVITY 1.2:



ACTIVITY 1.3:

THAI FOOD LOVERS
37

THERE ARE 37 STUDENTS ARE FOND OF HAVING THE THAI FOOD AND CHOOSE THEIR DIET MORE THAI CENTRIC ITEMS.

36 PEOPLE HABITUATED WITH THE INDIAN FOOD AND MAINTAIN INDIAN SPICES IN THEIR REGULAR DIET

INDIAN FOOD LOVERS
36

PERSIAN FOOD LOVERS
23

PERSION FOOD ARE LEAST FASINATED CHOICE TO THEIR FOOD PREFERENCES WITH JUST 23 IN NUMBER

ITALIAN FOOD HAVE SPECIFIC SPICES AND UNIQUE TASTE SO LARGE NUMBER OF STUDENTS ARE FASINATED WITH THE ITALIAN FOOD AND THEIR SPECIES

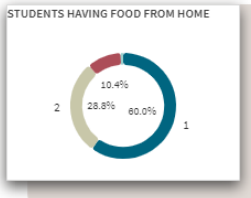
ITALIAN FOOD LOVERS
100

GREEK FOOD LOVERS
41

GREEK FOOD ARE SPECIAL WITH THEIR TENDER COOKING AND SPECIEST FOOD THAT STUDENTS ARE FOND TO TRY SO 20 TO 40% STUDENTS ARE INTERESTED IN DISCOVERING THE NEW TASTE AND SPECIES FROM GREECE.

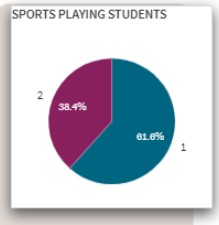
ACTIVITY 1.4:

PERCEPTIONAL ANALYSIS .....!



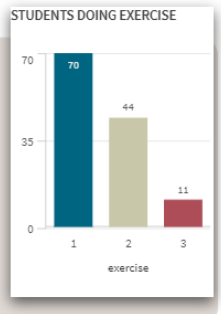
60% OF STUDE NTS HAVING FOOD FROM HOME REGULARLY. 40% OF STUDENTS ARE REGULARLY HAVING FOOD OUTSIDE.

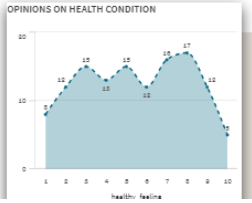
62% of students are actively participating in sports.



75-80 students estimate themself in a fit and correct weight category.

MOST OF THE STUDENTS ARE HEALTH CONCIOUS SO THEY DO EXERCISE DAILY OR THRICE A WEAK.





Opinions are the self-perceptions of their health aspect. most of the students have an opinion that they need to change their habit and food diets to be fit and healthy.

DASHBOARD

A dashboard is a graphical user interface (GUI) that displays information and data in an organized, easy-to-read format. Dashboards are often used to provide real-time monitoring and analysis of data and are typically designed for a specific purpose or use case. Dashboards can be used in a variety of settings, such as business, finance, manufacturing, healthcare, and many other industries. They can be used to track key performance indicators (KPIs), monitor performance metrics, and display data in the form of charts, graphs, and tables.

Activity 1- Responsive and Design of Dashboard

Explanation video link of dashboard 1: Click Here

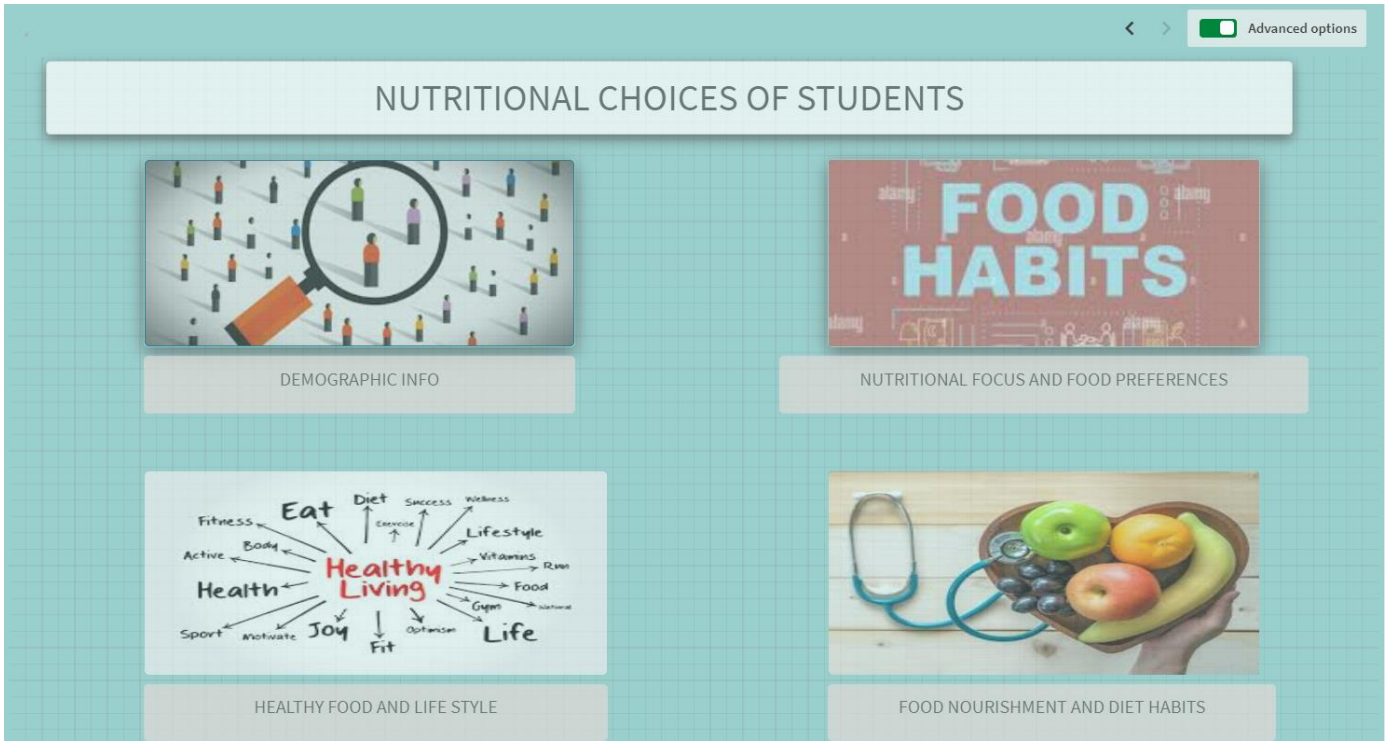
Explanation video link of dashboard 2: Click Here

Explanation video link of dashboard 3: Click Here

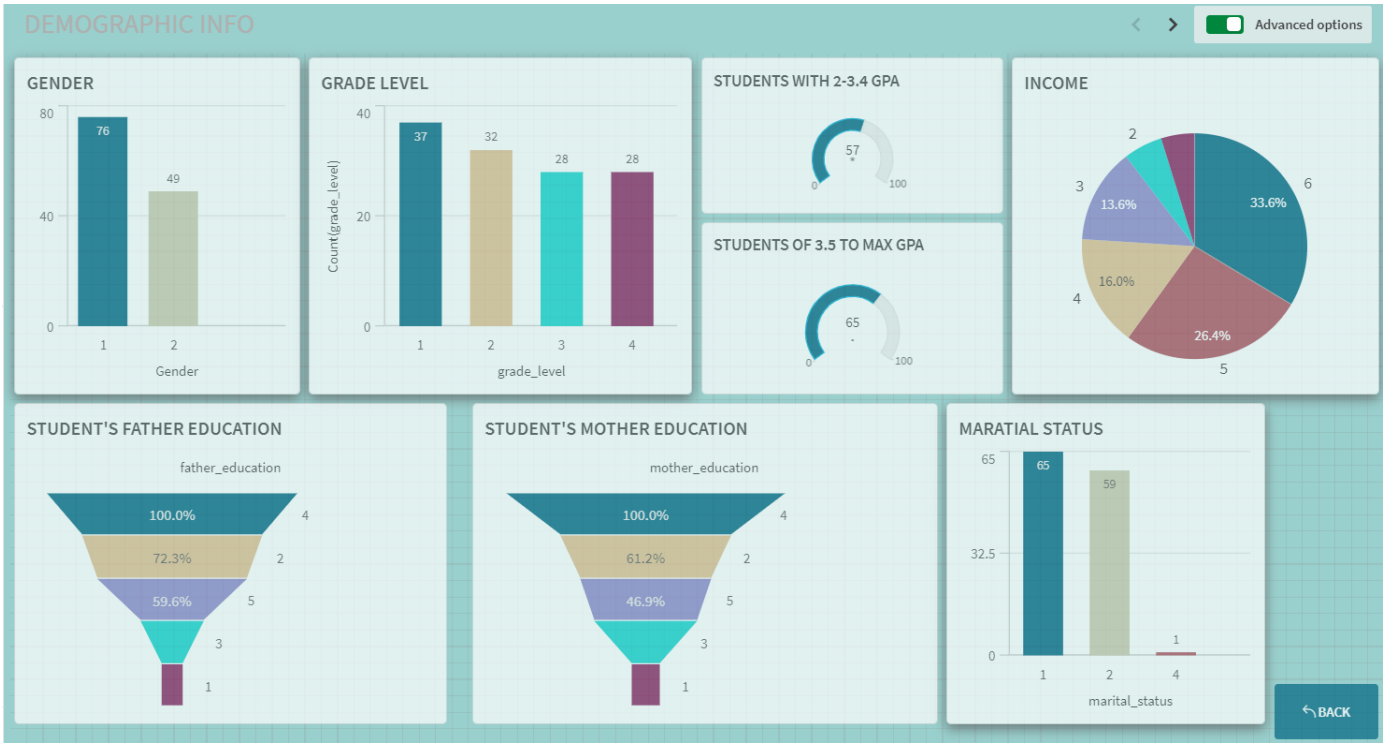
Explanation video link of dashboard 4: Click Here

Explanation video link of dashboard 5: Click Here

DASHBOARD 1: **FOOD CHOICES OF STUDENTS**



DASHBOARD 2: **DEMOGRAPHIC INFO**



DASHBOARD 3: **NUTRITIONAL FOCUS AND FOOD PREFERENCES**

DASHBOARD 4: **HEALTH AND LIFESTYLE**

DASHBOARD 5: **FOOD NOURISHMENT AND DIET HABITS**

STORY:

A data story is a way of presenting data and analysis in a narrative format, with the goal of making the information more engaging and easier to understand. A data story typically includes a clear introduction that sets the stage and explains the context for the data, a body that presents the data and analysis in a logical and systematic way, and a conclusion that summarizes the key findings and highlights their implications. Data stories can be told using a variety of mediums, such as reports, presentations, interactive visualizations, and videos.

Activity 1- Design of Story

EXPLANTION LINK OF STORY 1: Click Here

EXPLANTION LINK OF STORY 2: Click Here

EXPLANTION LINK OF STORY 3: Click Here

EXPLANTION LINK OF STORY 4: Click Here

Performance Testing

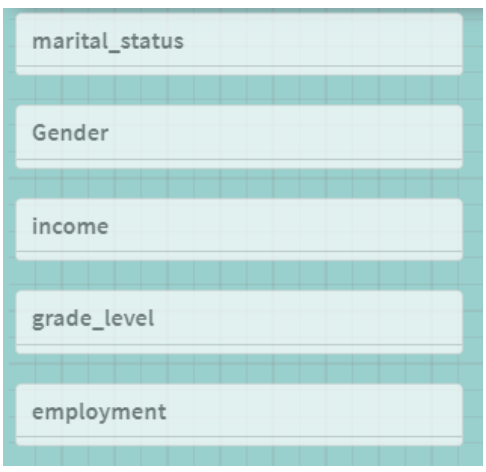
Activity 1: Amount of Data Loaded

breakfast
calories_chicken
Abc calories_day
calories_scone
coffee
Abc comfort_food
Abc comfort_food_reasons
comfort_food_reasons_coded
cook
cuisine
Abc diet_current
diet_current_coded
drink
Abc eating_changes
eating_changes_coded
eating_changes_coded1
eating_out
employment
ethnic_food

exercise
father_education
Abc father_profession
Abc fav_cuisine
fav_cuisine_coded
fav_food
Abc food_childhood
fries
fruit_day
Gender
Abc GPA
grade_level
greek_food
healthy_feeling
Abc healthy_meal
Abc ideal_diet
ideal_diet_coded
income
indian_food
italian_food

marital_status
Abc meals_dinner_friend
mother_education
Abc mother_profession
nutritional_check
on_off_campus
parents_cook
pay_meal_out
persian_food
self_perception_weight
soup
sports
thai_food
tortilla_calories
turkey_calories
Abc type_sports
veggies_day
vitamins
waffle_calories
Abc weight

Activity 2: Utilization of Filters



Activity 3: No of Visualizations/ Graphs

1. Classifications of students based on gender (Bar chart)
2. Classification of students based on grade (Bar graph)
3. Classification of students based on Martial status (Bar graph)
4. Classification of students based on Income (Pie chart)
5. Classification of students based on GPA (Guage)
6. Classification of students based on fathers and mothers Education (funnel)
7. Calories of scone, chicken (Bar graph)
8. Calories of waffles, tortilla, coffee and turkey (Bar chart)
9. Classification of students based on food preference of Greek, Italian, Indian, Thai and Persian food (KPI)
10. filters for Martial status, education, grade, Gender and Income.
11. Combinational charts for soap and fries, Drink and Breakfast.
12. Students having food from home (Donut chart)
13. Self-perception of weight (Histogram)
14. Ideal diet fixed by students (line chart)
15. Sports playing students (Pie chart)
16. Combinational part between income and pay_meal_out.
17. Students doing exercise (Bar graph)
18. Opinion on health condition (Area line chart).
19. Guage chart for ethnic food lovers, importance of veggie days, having homely food, awareness of calories, importance of fruits, focus of students in vitamins.
20. Diet intake (Pie chart).
21. Buttons for renavigation to main dashboard.
22. Buttons for
    a. Demographic info
    b. Nutritional focus and food preferences
    c. Healthy food and life style
    d. Food Nourishments and Diet Habits.

Project DEMONSTRATION & DOCUMENTATION

Activity 1: - **Record explanation Video for the project's end-to-end solution**

https://drive.google.com/file/d/1kb7hwUP5ivJ_xxQQWQ54V7RlCpVXf7mm/view?usp=sharing