**Restaurant Ordering/Rating System**

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**Done by:**

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**BONAFIDE CERTIFICATE**

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at

Chennai.

Date

Examiner Seal

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**Introduction**

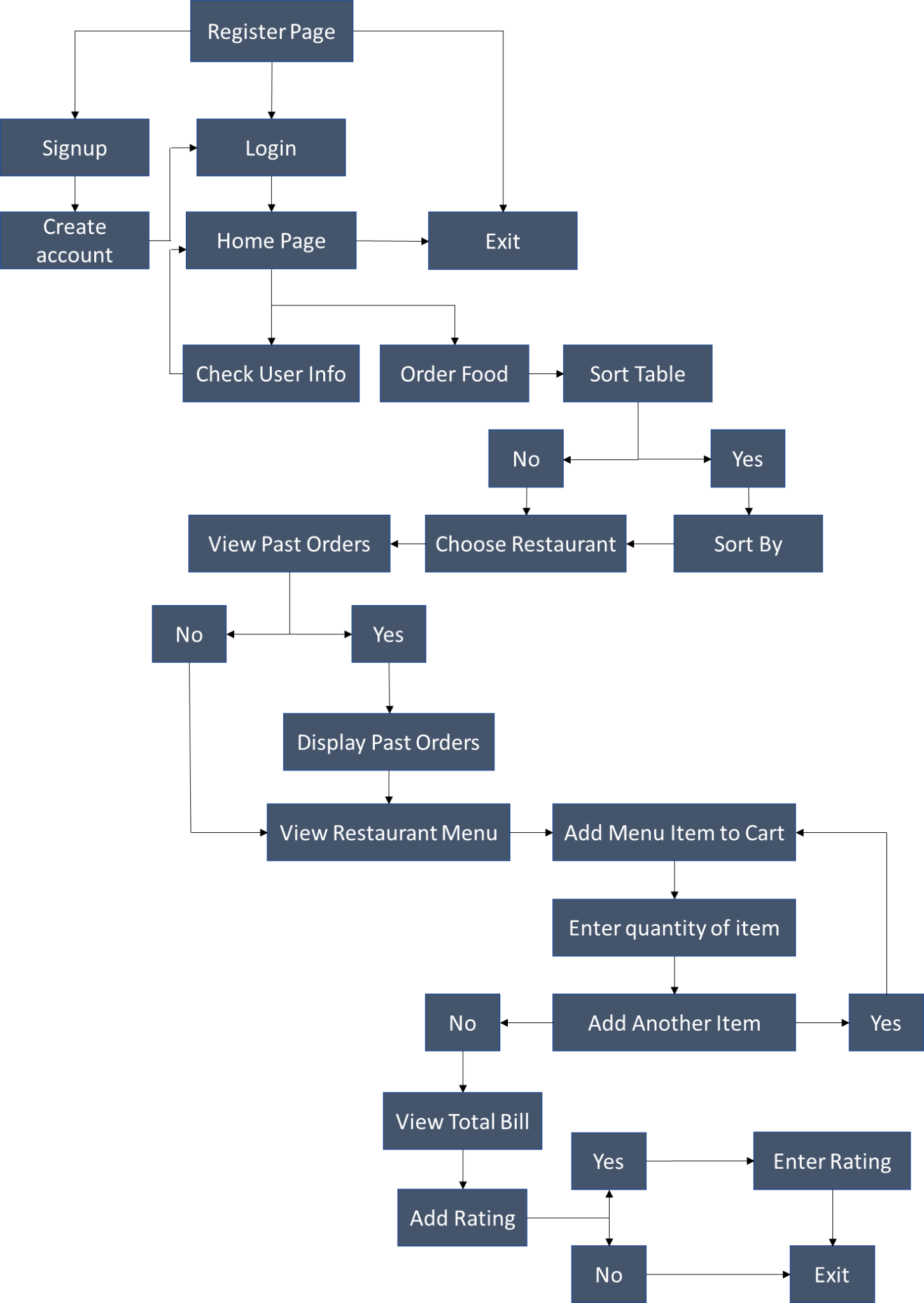
What is one common thing every human shares? Food. Food is a universal language and necessity for the human race to survive. An average adult consumes about 2 kilograms of food and if we multiply that by 8 billion, we can say that around 16 billion kilograms of food are consumed each and every day. However, preparing and cooking food is not an easy task. It takes long hours and tedious preparation for someone to make a meal that will get consumed in under half an hour. People saw this task of cooking a meal as a nuisance. This however gave birth to the restaurant and food service industry. People started paying someone else to cook food which would be consumed by them shortly.

Up till the 20th century this was mainly done in restaurants. A person had to go to a restaurant and physically order the food for consumption. After analyzing the problem further, they came up with the idea of delivery systems. A person could just send a message or call the restaurant and place the order which would then be prepared and delivered right to their doorstep. This was huge as someone who has just come home from a long day of work, or someone who feels tired or unmotivated would prefer to relax at home and enjoy a cooked meal delivered right to them rather than making their own food. This system was a huge success. But as time passed we could see some of the problems with the same. This process of calling and placing your orders had a few downsides. Firstly, multiple people are not able to call the restaurant and place an order at the same time. Therefore a person has to wait until the receiver is free to place their order. Secondly, this system requires a human interface at the receivers end to receive and note these orders down and pass it on to the chefs. This system hence allowed for human error to take place. A busy day might entail hundreds of orders, each one different from the former. It is a tedious job to keep track of these orders and note each one of them correctly. In an age of technological revelation and digitalization, the people get busier and these new technological devices and applications make lives easier. The On set of the 21th century has brought about many changes in our lifestyle and most of these have been for the better, making our lives much easier. After analyzing the problem with the current delivery system, people started to make online websites and applications where a person could easily choose a restaurant, pick their favorite dishes and these will be delivered to their doorstep within minutes. Everyone nowadays has phones and computers to access the internet and place an order. This was the coming of a new age of digital food service. This system was perfect, It had no human interaction so the room was error was very minimal. A person is able to clearly see what their options are and choose from a wide variety of them. And best of all, it requires absolutely minimal effort, just 3 clicks and their food is on the way. We saw the advantages that this system has and hence this was the inspiration behind our application. By removing unnecessary human intervention at every turn. We have made the process of having food delivered from restaurants much easier and a stress free task that anyone can do anywhere with the press of a few buttons.

**Objective and Scope**

The main objective of our product was to improve quality of life. We want to make the task of enjoying an exquisite meal at home something one can do with little to no effort. Our project gives users the freedom of choice. They are allowed to choose from a wide variety of their favorite restaurants on the go. Our secondary objective was to reduce the number of mediators between the person ordering the food and the chef that prepares it. This allows for minimal error and loss of information compared to when there are multiple mediators like the waiter, call receiver etc. Using our application, the orders would ideally appear on a small screen that was set-up in the restaurant kitchen to which the order was placed. This would then be noted by the chef who prepares the meal and sends it out for dispatch, where one of our own certified delivery men would pick up the order and deliver it to the users location. Our project has a lot of potential to be developed into a massive system like an online retailer. Currently we are partnered with restaurants and they are our main partners. However we would like to partner with ideally every restaurant in our city and slowly expand into other cities too . We can also start an online grocery retailing section of our app by partnering with local supermarkets and stores.

**System Design**



**List of Datasets and Storage Units**

**Files**

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Purpose** |
| userdata.dat | Binary File | Used to store user info(Username and password) |
| data.csv | CSV File | Contains restaurant data  (Restaurant Name,Menu) |
| rating.csv | CSV File | Contains user input  restaurant rating |
| ratingavg.csv | CSV File | Contains average rating  for each restaurant |
| restloc.csv | CSV File | Contains the restaurant name and their respective locations in Chennai |
| phonenumber.dat | Binary File | Contains the previous  orders of every user |

**Contents of Datasets**

|  |  |
| --- | --- |
| Encrypted Username | Encrypted Password |
| gAAAAABjj\_X\_3VL3OYIwfsGAfRBFXRBvDVkDPQtg1CZmoH8cw6n064Vz5Ou6GKHPrM\_zsI7zVc4oOyC2c9QqUhNs9s2C-k1aig== | gAAAAABjj\_X\_zxvORaHUmX2QXRc2-w3aPBd7UZa4JuBHzbSh22w6Hs1edcXujU-c809kFhxaamwciN\_h23VvidU37VCPm1sb0g== |
| gAAAAABjj\_ZL-aYT3w6S0OUfZ-R7mEgFmRwhfQJPBeqkT8cd\_Pf\_\_3m9Ef7GVZVh8pPlUuUh7EJdht-EiB9fJ0j\_xv8vxzMo6Q== | gAAAAABjj\_ZLvfqdGuQw7\_OHaMgmprO59ZoNgy3DkE6MXPKZF1iTzGyxoQFFm\_nFTPPqBwjAZA\_vBvc8-pqnp7r6kwhTj\_mUuA== |
| gAAAAABjj\_bfdbd\_LUHePced3pUYrxRJJj\_WXNKp5k0NE6OWUt6bN03gmit743QLkouGco9bGi\_ln4yM2NzFCl93lNLOLn1oRQ== | gAAAAABjj\_bf\_3CS1pXH4rcCR2kaXAKoohx7yQmrNCHZHeZcOBiNew2JD79b98\_wJMTHFMba1DIwNPNBOgwicXYdaPKL0s7rDQ== |
| gAAAAABjj\_saltifOO1u7teezEd8y68JGjegWONPJLkkqpxCM-v8N6Hg4Pt63k0HeTH3amMqQulgMat\_5rG2P5z9qG2TPp-2hQ== | gAAAAABjj\_saGbEv9AowWG9GBM4XFXUGENyCxW1OWtLCoq-Y8ehkPxeVLsTSJ8495AmtHxvC6RH70UzkAhfd6tPskKhErqjxCw== |

**UserData.csv**

**Data.CSV**

**Format for the following CSV File:**

|  |  |  |
| --- | --- | --- |
| **Restaurant Name** |  |  |
| **Item** | **Veg/Non-Veg** | **Price** |

**Menu**

|  |  |  |
| --- | --- | --- |
| Geetham Veg Restaurant |  |  |
| Idli | Veg | 50 |
| Dosa | Veg | 70 |
| Ghee Roast | Veg | 164 |
| Butter Roast | Veg | 164 |
| Plain Uthappam | Veg | 119 |
| Onion Uthappam | Veg | 138 |
| Rice | Veg | 100 |
| Chapathi 2nos | Veg | 106 |
| Coffee | Veg | 45 |
| Horlicks | Veg | 90 |
| Tea | Veg | 50 |
| Milk | Veg | 50 |
|  |  |  |
| Saravana Bhavan |  |  |
| Sambar Vadai 2nos | Veg | 90 |
| Curd Vadai 2nos | Veg | 104.76 |
| Chapati 2nos | Veg | 76.19 |
| Rice | Veg | 80 |
| Chapati | Veg | 90 |
| Idli | Veg | 45 |
| Poori | Veg | 60 |
| Dosai | Veg | 75 |
| Masala Dosai | Veg | 90 |
| Coffee | Veg | 60 |
| Dosa | Veg | 70 |
|  |  |  |
| A2B Veg |  |  |
| Mini Idly | Veg | 120 |
| Sambar Idly | Veg | 90 |
| Masala Dosai | Veg | 130 |
| Onion Dosai | Veg | 130 |
| Poori Masala | Veg | 105 |
| Rava Kitchadi | Veg | 90 |
| Medhu Vadai | Veg | 60 |
| Sambar Vadai-1 Pc | Veg | 80 |
|  |  |  |
| Shree Mithai |  |  |
| Samosa | Veg | 58 |
| Butter Muruku | Veg | 130 |
| Salted Potato Chips | Veg | 68 |
| Dal Kachori | Veg | 58 |
| Ribbon Muruku | Veg | 90 |
| Salted Triangle Puff | Veg | 59 |
| Vegetable Spring Roll | Veg | 54 |
| Pani Poori | Veg | 61 |
| Pav Bhaji | Veg | 125 |
| Bhel Poori | Veg | 80 |
|  |  |  |
| Manoj Bhavan Veg Restaurant |  |  |
| Vegetable Spring Rolls | Veg | 188.5 |
| Gobi Manchurian Dry | Veg | 240.5 |
| Honey Chilli Paneer | Veg | 299 |
| Sambar Idly | Veg | 91 |
| Parotta Kurma | Veg | 91 |
| Channa Bhatura | Veg | 130 |
| Kaikari Kothu Parotta | Veg | 156 |
| Chilli Parotta | Veg | 62.5 |
|  |  |  |
| Burger King |  |  |
| Veggie Strips(5 Pcs) | Veg | 49 |
| King Fries | Veg | 119 |
| Cheesy Fries | Veg | 139 |
| Chocolate Thick Shake | Veg | 159 |
| Veg Whopper + Veg Whopper | Veg | 338 |
| Veg Whopper with Cheese | Veg | 198 |
| 2 Lite Whopper Jr Chicken + 1 King Fries+ 1 Chicken Fries | Non Veg | 476 |
| Chicken Whopper + Chicken Whopper | Non Veg | 398 |
| Boneless Wings Large | Non Veg | 249 |
| Mutton Whopper Double Patty | Non Veg | 389 |
| Chicken Whopper with Cheese | Non Veg | 219 |
|  |  |  |
| KFC |  |  |
| Veg Biryani Bucket | Veg | 188 |
| 2 X Veg Krisper Burgers | Veg | 159 |
| 2 X Veg Krispers Burger Meal | Veg | 269 |
| Chocolate Lava Cake | Veg | 109 |
| Large French Fries | Veg | 120 |
| French Fries -Medium | Veg | 100 |
| Chicken Biryani combo - for 2 | Non Veg | 795 |
| Chick'n Dip Combo -for Many | Non veg | 719 |
| Chicken Bucket for Two | Non Veg | 600 |
| Peri Peri 6pc Chicken Strips | Non Veg | 280 |
|  |  |  |
| Subway |  |  |
| Paneer Tikka Sandwich | Veg | 232.75 |
| Tandoori Tofu Sandwich | Veg | 232.75 |
| Corn & Peas Sandwich | Veg | 213.75 |
| Chatpata Chana Sandwich | Veg | 213.75 |
| Egg & Cheese Sandwich | Non Veg | 194.75 |
| Chicken Slice Egg & Cheese Sandwich | Non Veg | 213.75 |
| Chicken Kofta Sandwich | Non Veg | 251.75 |
| Chicken Slice Sandwich | Non Veg | 251.75 |
|  |  |  |
| Domino's Pizza |  |  |
| The Cheese Dominator | Veg | 689 |
| The 4 Cheese Pizza | Veg | 689 |
| Margherita | Veg | 309 |
| Farmhouse | Veg | 529 |
| Moroccan Spice Pasta Pizza | Non Veg | 569 |
| Chicken Dominator | Non Veg | 669 |
| Non Veg Supreme | Non Veg | 669 |
| Chicken Pepperoni | Non Veg | 669 |
|  |  |  |
| Oven Story Pizza |  |  |
| 2 Veg - Half - Pizzas-Medium | Veg | 339 |
| Cheese-Infused Garlic Bread (with Free Cheese Dip) | Veg | 135 |
| Dilli ke Chole Lasagne | Veg | 239 |
| Molten Lava Cake | Veg | 99 |
| Two Classic-Non-Veg Medium Pizza Combo | Non Veg | 699 |
| Two Special-Non-Veg Medium Pizza Combo | Non Veg | 799 |
| Peri Peri Mutton Semizza [Half Pizza] | Non Veg | 359 |
| Chicken Kheema Tikka & Tandoori Cheese Semizza [Half Pizza] | Non Veg | 359 |
|  |  |  |
| Pizza Hut |  |  |
| Cheesy Momo Mia Pizza Veg | Veg | 329 |
| Cheesy Classic Veg Combo | Veg | 188 |
| Classic Corn - New | Veg | 79 |
| Classic Paneer Capsicum & Onion - New | Veg | 129 |
| Creamy Garlic Breadsticks | Veg | 169 |
| Triple Chicken Feast | Non Veg | 409 |
| Chicken Supreme | Non Veg | 409 |
| Super Value Deal : 2 Medium Veg Pizzas | Veg | 649 |
| Super Value Deal : 2 Medium Non -Veg Pizzas | Non Veg | 749 |
|  |  |  |
| The Bowl Company |  |  |
| Indonesian Sambal Fried Rice (Mini) | Veg | 179 |
| Bangkok Red Curry with Scallion Rice (Mini) | Veg | 199 |
| Paneer Makhani Biryani | Veg | 219 |
| Nawabi Paneer Lababdar with Matar Pulao | Veg | 209 |
| Malaysian Chicken Curry with Selasih Rice (Mini) | Non Veg | 209 |
| Malabar Chicken Roast with Ghee Rice (Mini) | Non Veg | 239 |
| Chef's Special Egg Biryani | Non Veg | 189 |
| Kadhai Chicken with Jeera Rice | Non Veg | 209 |
|  |  |  |
| Cafe De Paris |  |  |
| Pasta Arabiatta | Veg | 425 |
| Pasta Ala Pesto | Veg | 425 |
| Burnt Chilly Paneer | Veg | 345 |
| Mint And Corn Paneer | Veg | 325 |
| Chicken Wings | Non Veg | 380 |
| Burnt Chilli Chicken Quesadillas | Non Veg | 385 |
| Classic Fish & Chips | Non Veg | 395 |
| Dynamite Prawns | Non Veg | 475 |
|  |  |  |
| Krispy Kreme |  |  |
| Chocolate Dream Cake | Veg | 88 |
| Double Chocolate Cake | Veg | 88 |
| Krunchy Hazelnut | Veg | 88 |
| Silky Chocolate Shake | Veg | 160 |
| Coffee Frappe Shake | Veg | 160 |
| Vanilla Choco Chip | Veg | 88 |
| Chocolate Almond Donut | Veg | 120 |
| Buy 4 & Get 2 Free All Assorted Donuts | Veg | 460 |
|  |  |  |
| Writer's Cafe |  |  |
| Tricolour Pizza | Veg | 210 |
| Foccacia | Veg | 215 |
| Kashmiri Chilli Flammkuchen | Veg | 140 |
| Mac & Cheese | Veg | 215 |
| French Toast | Non Veg | 130 |
| Sticky Lemon Chicken | Non Veg | 215 |
| Chicken Stroganoff With Buttered Rice | Non Veg | 320 |
| Tuna And Olives Toastie | Non Veg | 195 |

**Rating.csv**

|  |  |
| --- | --- |
| Name of the Restaurant | Ratings |
| Geetham Veg Restaurant | 4.1;4.1;4.0;4.0;4.1;4.1;3.8;4.1;1.0;3.0; |
| Saravana Bhavan | 4.0;3.2;4.1;2.0;3.2;4.1;4.3;5.0; |
| Shree Mithai | 1.0;2.3;4.4;3.2;4.6;5.0;4.5;3.2;4.3;4.4; |
| Geetham Veg Restaurant | 4.1;4.1;4.0;4.0;4.1;4.1; |
| Saravana Bhavan | 4.0;3.2;2.5;4.3;5.0;4.4;4.6;3.2;4.5; |
| A2B Veg | 4.3;4.3;3.2;5.0;4.3;4.8;4.9;4.2;3.2; |
| Shree Mithai | 3.5;4.2;5.0;4.2;4.3;5.0;5.0;3.9;4.2; |
| Manoj Bhavan Veg Restaurant | 3.9;4.1;4.2;4.8;4.2;3.2;3.6;2.0;1.0; |
| Burger King | 5.0;4.2;3.8;4.2;3.9;4.3;3.4;4.3;4.6;3.8; |
| KFC | 3.8;4.1;3.2;5.0;4.6;4.1;3.9;4.8;5.0;3.8;4.1; |
| Subway | 4.0;4.3;2.5;3.2;4.3;3.8;4.2;4.6;4.3;5.0; |
| Domino's Pizza | 2.0;4.0;3.2;4.2;4.6;4.0;4.8;5.0;4.8;4.6; |
| Oven Story Pizza | 3.9;4.1;0.5;4.1;3.8;4.1;4.8;5.0;4.8;5.0;4.8; |
| Pizza Hut | 4.0;4.1;3.8;3.8;4.2;3.9;4.3;4.1;4.1;4.8;5.0;4.3;2.1;4.1; |
| The Bowl Company | 3.8;4.1;4.1;3.8;4.1;4.0;3.8;4.1;4.1;4.2;4.1; |
| Cafe De Paris | 3.9;4.2;2.0;4.3;1.0;4.3;5.0;4.8;4.3;3.6;4.2; |
| Krispy Kreme | 4.1;3.8;4.3;3.0;3.0;2.8;4.1;3.2;5.0; |
| Writer's Cafe | 4.1;3.8;4.2;3.9;4.2;3.8;4.3;3.9;3.2;3.9;4.1; |
| Roll Baby Roll | 3.2;4.1;4.5;4.7;3.2;4.9;4.3;4.5;5.0;4.8;4.6;4.3; |
| The Sandwich Shop | 4.2;3.2;3.8;2.5;5.0;4.2;3.8;2.9;5.0;4.6;5.0; |
| Sigree | 4.3;3.6;3.9;2.6;4.0;4.6;1.0;0.5;4.5;4.6;4.8;4.3; |
| Chai Kings | 4.2;3.2;4.9;5.0;3.2;2.9;3.8;2.0;5.0;3.8;4.3;4.2;3.8;5.0 |
| Cake Works | 4.6;1.0;0.5;3.2;5.0;4.5;3.9;4.6;5.0;2.8;4.9;4.2; |

**Ratingavg.csv**

|  |  |  |
| --- | --- | --- |
| Name of the Restaurant | Average Rating | Number Of Ratings |
| Geetham Veg Restaurant | 3.63 | 10 |
| Saravana Bhavan | 3.73 | 8 |
| Shree Mithai | 3.69 | 10 |
| Geetham Veg Restaurant | 4.06 | 6 |
| Saravana Bhavan | 3.96 | 9 |
| A2B Veg | 4.24 | 9 |
| Shree Mithai | 4.36 | 9 |
| Manoj Bhavan Veg Restaurant | 3.44 | 9 |
| Burger King | 4.15 | 10 |
| KFC | 4.02 | 4 |
| Subway | 4.02 | 10 |
| Domino's Pizza | 4.1 | 6 |
| Oven Story Pizza | 4.08 | 11 |
| Pizza Hut | 3.89 | 14 |
| The Bowl Company | 4.01 | 11 |
| Cafe De Paris | 3.78 | 11 |
| Krispy Kreme | 3.7 | 9 |
| Writer's Cafe | 3.94 | 11 |
| Roll Baby Roll | 4.34 | 11 |
| The Sandwich Shop | 4.01 | 11 |
| Sigree | 3.49 | 11 |
| Chai Kings | 3.84 | 11 |
| Cake Works | 3.63 | 11 |

**Restloc.csv**

|  |  |
| --- | --- |
| Name of the Restaurant | Location |
| Geetham Veg Restaurant | T Nagar |
| Saravana Bhavan | KK Nagar |
| A2B Veg | Ashok Nagar |
| Shree Mithai | Ashok Nagar |
| Manoj Bhavan Veg Restaurant | Ashok Nagar |
| Burger King | Ashok Nagar |
| KFC | Ashok Nagar |
| Subway | Valasaravakkam |
| Domino's Pizza | K.K Nagar |
| Oven Story Pizza | Vadapalani |
| Pizza Hut | Ashok Nagar |
| The Bowl Company | Vadapalani |
| Cafe De Paris | Alwarpet |
| Krispy Kreme | Thousand Lights |
| Writer's Cafe | Egmore |
| Roll Baby Roll | Nungambakkam |
| The Sandwich Shop | Kodambakkam |
| Sigree | Anna Nagar |
| Chai Kings | Egmore |
| Cake Works | Choolaimedu |

**Phoneno.dat**

[['8432504059', datetime.datetime(2022, 12, 10, 18, 40, 0, 183847), 'Shree Mithai', [['S.No', 'Item', 'Quantity', 'Price'], [1, 'Bhel Poori', 3, 240], [2, 'Pav Bhaji', 4, 500], [3, 'Samosa Chaat', 1, 95]]], ['8432504059', datetime.datetime(2022, 12, 10, 18, 42, 57, 701400), 'Geetham Veg Restaurant', [['S.No', 'Item', 'Quantity', 'Price'], [1, 'Idli', 5, 250], [2, 'Coffee', 2, 90], [3, 'Chapati', 3, 240]]], ['8432504059', datetime.datetime(2022, 12, 10, 18, 44, 25, 821757), 'Shree Mithai', [['S.No', 'Item', 'Quantity', 'Price'], [1, 'Samosa Chaat', 4, 380], [2, 'Bhel Poori', 2, 160]]], ['8432504059', datetime.datetime(2022, 12, 10, 18, 51, 42, 912191), 'Geetham Veg Restaurant', [['S.No', 'Item', 'Quantity', 'Price'], [1, 'Idli', 5, 250], [2, 'Dosa', 3, 210], [3, 'Coffee', 3, 135]]], ['8432504059', datetime.datetime(2022, 12, 11, 14, 29, 57, 104080), 'Geetham Veg Restaurant', [['S.No', 'Item', 'Quantity', 'Price'], [1, 'Idli', 3, 150]]]]

**List of Global Variables and Functions**

**Global Variables**

|  |  |
| --- | --- |
| Global Variables | Purpose |
| restdict | Dictionary containing data of all  restaurants |
| phoneno | Contains the phone number of the user |
| ratingdict | Dictionary containing the rating of respective restaurants |
| restchoice | Contains the name of the restaurant  chosen by the user |
| averrest | Contains the average price of each restaurant |
| cart | Contains the list of food ordered by  the user |
| ratelist | Contains the ratings of each  restaurant |
| Key | A common to key encrypt all user data |

**User Defined Functions**

|  |  |
| --- | --- |
| User Defined Functions | Purpose |
| entersite() | Function for login/sign up |
| getdata() | Function to get data from data.csv file |
| getrestloc() | Function to get the restaurant location |
| averrestau(restdict) | Function to get the average price of each restaurant |
| dispavg(averrest, restdict, getrestloc()) | Function to get the data for the  restaurant which the user chose. |
| addtocart(restdict) | Function to get the order of the user |
| viewcart(cart) | Function to give the bill based on the order of the user |
| ratingscreate() | Function to create a file called ratefile which contains empty ratings in a particular format and provides rating in  list format |
| ratingsavg() | To write the rating provided by the user  to ratings.csv |

**Module Functions**

|  |  |  |
| --- | --- | --- |
| Module | Function | Purpose |
| CSV | reader() | To read the contents  of a csv file |
| CSV | writer() | To write content to a csv file |
| Cryptography | fernet() | To encrypt user data using a particular key |
| Cryptography | key.encrypt() | To encrypt user data  using the key provided |
| Cryptography | key.decrypt() | To decrypt user data based on the key provided |
| Ast | literal\_eval() | To evaluate expression to its literal value |
| Prettytable | prettytable() | To display the data in an aesthetically pleasing manner to the user |
| Decimal | decimal() | To convert a floating number to decimal for operations |
| Random | randint() | To make the login page eye catching |
| Pickle | load() | To load data from a binary file |
| Pickle | dump() | To dump data into a binary file |
| Time | sleep() | To add aesthetics to login page |
| Datetime | datetime.datetime.now() | To record the time at which an order is placed |

**Source Code**

import csv

from prettytable import PrettyTable

from decimal import \*

import random

import pickle

import time

import datetime as dt

from cryptography.fernet import Fernet

**# ASKS THE USER WHETHER THEY WANT TO LOGIN OR SIGNUP**

def entersite():

print('''Welcome to Fast Eats!

1.Sign up

2.Login

3.Exit''')

choice = int(input("What would you like to do: "))

if choice == 1:

signup()

elif choice == 2:

login()

elif choice == 3:

quit()

key = Fernet(b'7FXASAwFtL74HPsAtwXMjTrmyAQM3-pUF\_C6dpsGeF4=')

**# ALLOWS THE USER TO SIGNUP**

def signup():

f = open('UserData.csv', 'a', newline='')

w = csv.writer(f)

while True:

phoneno = input("Enter Phone number: ")

if len(phoneno) == 10:

break

else:

print("Enter Valid Phone Number!")

continue

while True:

password = input("Enter password(Include an uppercase,lowercase,number and special character): ")

conditions = [0, 0, 0, 0]

for i in password:

if i.isupper():

conditions[0] = 1

elif 33 <= ord(i) <= 47:

conditions[3] = 1

elif 58 <= ord(i) <= 64:

conditions[3] = 1

elif i.islower():

conditions[1] = 1

elif i in '0123456789':

conditions[2] = 1

for i in range(len(conditions)):

if conditions[i] != 1 and i == 0:

print("Please include an uppercase character!")

i = 1

break

elif conditions[i] != 1 and i == 1:

print("Please include a lowercase character!")

i = 1

break

elif conditions[i] != 1 and i == 2:

print("Please include a number!")

i = 1

break

elif conditions[i] != 1 and i == 3:

print("Please include a special character!")

i = 1

break

if i == 1:

continue

else:

break

while True:

repass = input("Please Re-Enter your password: ")

if repass == password:

all\_u\_data = []

while True:

try:

chck\_data = pickle.load(f)

all\_u\_data.append(chck\_data)

except:

break

for i in all\_u\_data:

if all\_u\_data[i][0] == phoneno:

print("Account with given phone number already exists!")

entersite()

else:

break

break

else:

print("Passwords do not match")

continue

break

bytephonenum = bytes(phoneno, 'utf-8')

encrypphonenum = key.encrypt(bytephonenum)

encrypphonenum = str(encrypphonenum, 'utf-8')

bytepassw = bytes(password, 'utf-8')

encryppassw = key.encrypt(bytepassw)

encryppassw = str(encryppassw, 'utf-8')

w.writerow([encrypphonenum, encryppassw])

f.close()

print("Account has been created, Login to continue")

login()

**# ALLOWS THE USER TO LOGIN BASED ON PREVIOUSLY STORED USER DETAILS**

def login():

f = open('UserData.csv', 'r')

global phoneno

global password

phoneno = input("Enter Phone Number: ")

password = input("Enter Password: ")

r = csv.reader(f)

all\_u\_data = list(r)

loginorno = 0

for i, j in all\_u\_data:

i = i.lstrip("b'")

i = i.rstrip("'")

j = j.lstrip("b'")

j = j.rstrip("'")

if str(key.decrypt(bytes(i, 'utf-8')), 'utf-8') == phoneno and str(key.decrypt(bytes(j, 'utf-8')),

'utf-8') == password:

print("Signing In", end='')

y = random.randint(2,6)

for i in range(y):

time.sleep(0.5)

print('.', end='')

f.close()

print("Successfully logged In!")

loginorno = 1

if loginorno == 0:

time.sleep(1.5)

print("Invalid Credentials!")

entersite()

**# VIEW USER INFO**

def viewinfo():

print("Phone Number:", phoneno)

print("Password:", password)

**# VIEW PREVIOUS ORDERS BASED ON RESTAURANT CHOSEN**

def viewords(phoneno, restchoice):

yorn = input("Would you like to view your past orders from this restaurant?(Y/N)")

if yorn.lower() == 'y':

phstr = str(phoneno) + '.dat'

try:

f = open(phstr, 'rb')

pastords = []

while True:

try:

data = pickle.load(f)

pastords.append(data)

except:

break

f.close()

sno = 1

checknum = 0

for i in range(len(pastords)):

if pastords[i][2] == restchoice:

print("Order Placed on", pastords[i][1], "from", pastords[i][2])

checknum = 1

order = PrettyTable(pastords[i][3][0])

for j in pastords[i][3]:

if type(j[0]) == int:

order.add\_row(j)

print(order)

if checknum == 0:

print("You have not placed any orders from this restaurant!")

time.sleep(2)

return 0

return 1

except:

print("You have not placed any orders from this restaurant!")

time.sleep(2)

return 0

**# TO GET DATA FOR EACH RESTAURANT FROM A CSV FILE**

def getdata():

f = open('data.csv', 'r')

r = csv.reader(f)

data = list(r)

d1 = {}

global ratingdict

ratingdict = {}

f.close()

f = open("rateavg.csv", "r")

rateavg = csv.reader(f)

rateavg = list(rateavg)

for i in rateavg:

if i != []:

if i[1] != '':

roundavg = round(Decimal(i[1]), 1)

ratingdict[i[0]] = [roundavg, i[-1]]

elif i[1] == '':

roundavg = 0

ratingdict[i[0]] = [roundavg, i[-1]]

for i in data:

if i == []:

data.remove(i)

for i in data: # To create a dictionary----> {'Restaurant Name1':[[Food Name1,Price1],[Food Name2,Price2]],'Restaurant Name2':[[Food Name1,Price1],[Food Name2,Price2]]}

if len(i) == 1:

l1 = []

restau = i[0]

d1[restau] = l1

elif len(i) != 1:

l1.append(i)

for i in d1:

if i not in ratingdict:

ratingdict[i] = [0, '0']

return d1

**# TO GET THE LOCATION OF EACH RESTAURANT**

def getrestloc():

f = open("restloc.csv", newline='')

r = csv.reader(f)

data = list(r)

restlocdata = {}

for i in data:

restlocdata[(i[0])] = i[-1]

return restlocdata

**# TO FIND THE AVERAGE PRICE OF EACH RESTAURANT BASED ON THEIR MENU**

def averrestau(restdict):

lowprice = ('a', 1000000000000000000000000000000000000000)

averres = []

for i in restdict:

menu = restdict[i]

price = []

for items in menu:

itemprice = float(items[-1])

price.append(itemprice)

sumprices = sum(price)

average = round(Decimal(sumprices / len(price)), 1)

averres.append((i, average))

return averres

**# TO DISPLAY THE DETAILS OF EACH RESTAURANT**

def dispavg(averrest, restdict, locdata):

from math import ceil

myTable = PrettyTable(["Number", "Restaurant Name", "Average Price", "Rating", "Number of Ratings", "Location"])

print("Choose a restaurant using the numbers to order from:")

locations = list(locdata.keys())

restlist = []

for i in range(len(averrest)):

if ratingdict[averrest[i][0]][-1] == '':

myTable.add\_row(

[i + 1, averrest[i][0], averrest[i][1], ratingdict[averrest[i][0]][0], 0, locdata[locations[i]]])

restlist.append(averrest[i][0])

else:

myTable.add\_row(

[i + 1, averrest[i][0], averrest[i][1], ratingdict[averrest[i][0]][0], ratingdict[averrest[i][0]][-1],

locdata[locations[i]]])

restlist.append(averrest[i][0])

print(myTable)

usersort = input("Would you like to sort this table(Y/N):")

if usersort.lower() == "y":

print('''Sort by:

1. Restaurant Name

2. Average Price

3.Rating

4.Location:'''))

Typesort = int(input(“How Would you like to sort the table(Enter Number): “))

if typesort == 1:

print(myTable.get\_string(sortby="Restaurant Name"))

elif typesort == 2:

print(myTable.get\_string(sortby="Average Price"))

elif typesort == 3:

print(myTable.get\_string(sortby="Rating", reversesort=True))

elif typesort == 4:

print(myTable.get\_string(sortby="Location"))

while True:

restnum = int(input("Enter which restaurant you would like to choose:"))

if (restnum > 0 and restnum <= len(restlist)) and type(restnum) == int:

menu = restdict[restlist[restnum - 1]]

break

else:

print("Enter Valid Restaurant Number!")

continue

restchoice = restlist[restnum - 1]

if viewords(phoneno, restchoice):

print("Continuing in 10 seconds!")

time.sleep(10)

myTable2 = PrettyTable(["Number", "Dishes", "Veg/Non Veg", "Price"])

n = 1

for i in menu:

myTable2.add\_row([n, i[0], i[1], i[-1]])

n += 1

print(myTable2)

return restlist[restnum - 1]

**# TO CREATE THE CART OF THE USER**

def addtocart(restdict):

cart = {}

i = 0

while True:

if i == 0:

global restchoice

restchoice = dispavg(averrest, restdict, getrestloc())

menu = restdict[restchoice]

while True:

foodchoice = int(

input("Enter Item Number of food item you would like to add: "))

if foodchoice > 0 and foodchoice <= len(menu):

break

else:

print("Enter Valid Food Item Number!")

while True:

quantity = int(input("Enter quantity you would like to order: "))

if quantity > 0 and quantity < 50:

break

elif quantity > 50:

print("The required quantity of food is not available")

else:

print("Enter a Valid Amount!")

i += 1

else:

foodchoice = int(

input("Enter Item Number of food item you would like to add: "))

quantity = int(input("Enter quantity you would like to order: "))

menu = restdict[restchoice]

for items in menu:

if items[0] == restdict[restchoice][foodchoice - 1][0]:

itemprice = int(items[-1])

price = itemprice

for i in restdict:

for j in range(len(restdict[restchoice])):

if i == restchoice and restdict[restchoice][foodchoice - 1][0] not in list(cart.keys()):

cart[restdict[i][foodchoice - 1][0]] = (restchoice, price, quantity)

break

elif i == restchoice and restdict[restchoice][j][0] in list(cart.keys()):

quan = cart[restdict[restchoice][foodchoice - 1][0]][-1] + quantity

cart[restdict[restchoice][foodchoice - 1][0]] = (restchoice, price, quan)

break

yorn = input("Would you like to add another item(y/n)? ")

if yorn.lower() == 'n':

break

return cart

**# TO DISPLAY THE BILL BASED ON THE CART OF THE USER**

def viewcart(cart):

from math import ceil

order = [["S.No", "Item", "Quantity", "Price"]]

bill = PrettyTable(["S.No", "Item", "Quantity", "Price"])

total = 0

serialno = 1

for i in cart:

bill.add\_row([serialno, i, cart[i][-1], (cart[i][1] \* cart[i][-1])])

order.append([serialno, i, cart[i][-1], (cart[i][1] \* cart[i][-1])])

total += ((cart[i][1]) \* (cart[i][-1]))

serialno += 1

print(bill)

print("Total = Rs.", total)

print("GST = 18%")

print("Grand Total = Rs.", ceil(total + total \* 0.18), )

phstr = str(phoneno) + '.dat'

time = dt.datetime.now()

f = open(phstr, 'ab')

pickle.dump([phoneno, time, restchoice, order], f)

f.close()

**#FUNCTION TO FETCH NUMBER OF RATINGS A RESTAURANT HAS**

def ratingscreate():

ratingslist = []

for i in restdict:

ratelisele = [i, []]

ratingslist.append(ratelisele)

ratefile = open("rating.csv", "w")

w = csv.writer(ratefile)

for i in ratingslist:

w.writerow(i)

ratefile.close()

with open("rating.csv") as f:

r = csv.reader(f)

l = list(r)

no\_ratings = []

for i in l:

no\_ratings.append(i[-1])

return no\_ratings

**# TO CREATE A FILE WITH THE AVERAGE RATING OF EACH RESTAURANT**

def ratingavgcreate():

ratingavglist = []

for i in restdict:

ratelisele = [i, '']

ratingavglist.append(ratelisele)

rateavgfile = open("rateavg.csv", "w")

w = csv.writer(rateavgfile)

for i in ratingavglist:

w.writerow(i)

rateavgfile.close()

**# TO CREATE A FILE WITH THE RATING OF EACH RESTAURANT**

def rating():

l1 = list(cart.values())

restname = l1[0][0]

print("Thank You for making a purchase from", restname)

yorn = input("Would you like to add a rating for the following restaurant(Y/N)?")

while True:

if yorn.lower() == "y":

rating = input("Enter your rating for the following restaurant(\_/5):")

if float(rating) >= 0 and float(rating) <= 5:

print("Your Feedback has been recorded!")

ratefile = open("rating.csv",

"r")

r = csv.reader(ratefile)

ratings = list(r)

ratefile.close()

for i in ratings:

if i != []:

if i[0] == restname:

oldratings = i[1]

i[1] = oldratings + rating + ';'

ratefile = open("rating.csv", "w")

w1 = csv.writer(ratefile)

for i in ratings:

if i != []:

w1.writerow(i)

ratefile.close()

break

else:

print("Please Enter Valid Rating!")

continue

else:

print("Enjoy your food!")

break

**# TO UPDATE THE FILE BASED ON THE RATING PROVIDED BY THE USER**

def ratingsavg():

ratefile = open("rating.csv", "r")

allrates = csv.reader(ratefile)

allrates = list(allrates)

ratefile.close()

rateavgfile = open("rateavg.csv",

"r")

r = csv.reader(rateavgfile)

ratings = list(r)

ratefile.close()

rateavgfile = open("rateavg.csv", "w")

w2 = csv.writer(rateavgfile)

for i in allrates:

if i != []:

try:

values = i[1].split(';')

for j in range(len(values)):

if values[j] != '':

values[j] = float(values[j])

elif values[j] == '':

values.remove('')

rateavg = sum(values) / len(values)

l1 = [i[0], rateavg, len(values)]

w2.writerow(l1)

except:

w2.writerow([i[0], 0, 0])

**# TO DISPLAY A MENU TO ASK THE USER WHAT THEY WANT TO DO**

def menu():

print('''What would you like to do today?

1. Check user info

2. Order food

3.Exit:''')

userchoice = int(input(“Enter what you would like to do : “))

if userchoice == 1:

viewinfo()

menu()

elif userchoice == 2:

global restdict

restdict = getdata()

global averrest

averrest = averrestau(restdict)

global cart

cart = addtocart(restdict)

viewcart(cart)

ratefile = open("rating.csv", "r")

ratelist = csv.reader(ratefile)

ratelist = list(ratelist)

if ratelist == []:

ratingscreate()

rating()

ratingavgcreate()

ratingsavg()

elif choice == 3:

print("Thank You, Have a nice day!")

entersite()

menu()

**Sample Output**

**Logging in to the application**

Welcome to Fast Eats!

1.Sign up

2.Login

3.Exit

What would you like to do: 1

Enter Phone number: 8432504059

Enter password(Include an uppercase,lowercase,number and special character): P@ss123

Please Re-Enter your password: P@ss123

Account has been created, Login to continue

Enter Phone Number: 8432504059

Enter Password: P@ss123

Signing In……Successfully logged In!

**Checking Account Details**

What would you like to do today?

1. Check user info

2. Order food

3.Exit

Enter what you would like to do :1

Phone Number: 8432504059

Password: P@ss123

**Ordering Food**

What would you like to do today?

1. Check user info

2. Order food

3.Exit

Enter what you would like to do :2

Choose a restaurant using the numbers to order from:

+--------+-----------------------------+---------------+--------+-------------------+-----------------+

| Number | Restaurant Name | Average Price | Rating | Number of Ratings | Location |

+--------+-----------------------------+---------------+--------+-------------------+-----------------+

| 1 | Geetham Veg Restaurant | 95.5 | 4.1 | 6 | T Nagar |

| 2 | Saravana Bhavan | 76.5 | 4.0 | 9 | KK Nagar |

| 3 | A2B Veg | 100.6 | 4.2 | 9 | Ashok Nagar |

| 4 | Shree Mithai | 78.3 | 4.4 | 9 | Ashok Nagar |

| 5 | Manoj Bhavan Veg Restaurant | 157.3 | 3.4 | 9 | Ashok Nagar |

| 6 | Burger King | 248.5 | 4.1 | 10 | Ashok Nagar |

| 7 | KFC | 333.9 | 4.0 | 4 | Ashok Nagar |

| 8 | Subway | 225.6 | 4.0 | 10 | Valasaravakkam |

| 9 | Domino's Pizza | 599.0 | 4.1 | 10 | K.K Nagar |

| 10 | Oven Story Pizza | 378.5 | 4.1 | 11 | Vadapalani |

| 11 | Pizza Hut | 345.6 | 4.0 | 13 | Ashok Nagar |

| 12 | The Bowl Company | 206.5 | 4.0 | 9 | Vadapalani |

| 13 | Cafe De Paris | 394.4 | 3.8 | 11 | Alwarpet |

| 14 | Krispy Kreme | 156.5 | 3.7 | 9 | Thousand Lights |

| 15 | Writer's Cafe | 205.0 | 3.9 | 11 | Egmore |

| 16 | Roll Baby Roll | 131.2 | 4.3 | 11 | Nungambakkam |

| 17 | The Sandwich Shop | 165.0 | 4.0 | 11 | Kodambakkam |

| 18 | Sigree | 387.5 | 3.5 | 11 | Anna Nagar |

| 19 | Chai Kings | 214.9 | 3.8 | 11 | Egmore |

| 20 | Cake Works | 538.5 | 3.6 | 11 | Choolaimedu |

+--------+-----------------------------+---------------+--------+-------------------+-----------------+

**Sorting the Restaurants**

+--------+-----------------------------+---------------+--------+-------------------+-----------------+

| Number | Restaurant Name | Average Price | Rating | Number of Ratings | Location |

+--------+-----------------------------+---------------+--------+-------------------+-----------------+

| 1 | Geetham Veg Restaurant | 95.5 | 4.1 | 6 | T Nagar |

| 2 | Saravana Bhavan | 76.5 | 4.0 | 9 | KK Nagar |

| 3 | A2B Veg | 100.6 | 4.2 | 9 | Ashok Nagar |

| 4 | Shree Mithai | 78.3 | 4.4 | 9 | Ashok Nagar |

| 5 | Manoj Bhavan Veg Restaurant | 157.3 | 3.4 | 9 | Ashok Nagar |

| 6 | Burger King | 248.5 | 4.1 | 10 | Ashok Nagar |

| 7 | KFC | 333.9 | 4.0 | 4 | Ashok Nagar |

| 8 | Subway | 225.6 | 4.0 | 10 | Valasaravakkam |

| 9 | Domino's Pizza | 599.0 | 4.1 | 10 | K.K Nagar |

| 10 | Oven Story Pizza | 378.5 | 4.1 | 11 | Vadapalani |

| 11 | Pizza Hut | 345.6 | 4.0 | 13 | Ashok Nagar |

| 12 | The Bowl Company | 206.5 | 4.0 | 9 | Vadapalani |

| 13 | Cafe De Paris | 394.4 | 3.8 | 11 | Alwarpet |

| 14 | Krispy Kreme | 156.5 | 3.7 | 9 | Thousand Lights |

| 15 | Writer's Cafe | 205.0 | 3.9 | 11 | Egmore |

| 16 | Roll Baby Roll | 131.2 | 4.3 | 11 | Nungambakkam |

| 17 | The Sandwich Shop | 165.0 | 4.0 | 11 | Kodambakkam |

| 18 | Sigree | 387.5 | 3.5 | 11 | Anna Nagar |

| 19 | Chai Kings | 214.9 | 3.8 | 11 | Egmore |

| 20 | Cake Works | 538.5 | 3.6 | 11 | Choolaimedu |

+--------+-----------------------------+---------------+--------+-------------------+-----------------+

Would you like to sort this table(Y/N):Y

**Sorting By Name:**

Sort by:

1. Restaurant Name

2. Average Price

3.Rating

4.Location

How Would you like to sort the table(Enter Number): 1

+--------+-----------------------------+---------------+--------+-------------------+-----------------+

| Number | Restaurant Name | Average Price | Rating | Number of Ratings | Location |

+--------+-----------------------------+---------------+--------+-------------------+-----------------+

| 3 | A2B Veg | 100.6 | 4.2 | 9 | Ashok Nagar |

| 6 | Burger King | 248.5 | 4.1 | 10 | Ashok Nagar |

| 13 | Cafe De Paris | 394.4 | 3.8 | 11 | Alwarpet |

| 20 | Cake Works | 538.5 | 3.6 | 11 | Choolaimedu |

| 19 | Chai Kings | 214.9 | 3.8 | 11 | Egmore |

| 9 | Domino's Pizza | 599.0 | 4.1 | 10 | K.K Nagar |

| 1 | Geetham Veg Restaurant | 95.5 | 4.1 | 6 | T Nagar |

| 7 | KFC | 333.9 | 4.0 | 4 | Ashok Nagar |

| 14 | Krispy Kreme | 156.5 | 3.7 | 9 | Thousand Lights |

| 5 | Manoj Bhavan Veg Restaurant | 157.3 | 3.4 | 9 | Ashok Nagar |

| 10 | Oven Story Pizza | 378.5 | 4.1 | 11 | Vadapalani |

| 11 | Pizza Hut | 345.6 | 4.0 | 13 | Ashok Nagar |

| 16 | Roll Baby Roll | 131.2 | 4.3 | 11 | Nungambakkam |

| 2 | Saravana Bhavan | 76.5 | 4.0 | 9 | KK Nagar |

| 4 | Shree Mithai | 78.3 | 4.4 | 9 | Ashok Nagar |

| 18 | Sigree | 387.5 | 3.5 | 11 | Anna Nagar |

| 8 | Subway | 225.6 | 4.0 | 10 | Valasaravakkam |

| 12 | The Bowl Company | 206.5 | 4.0 | 9 | Vadapalani |

| 17 | The Sandwich Shop | 165.0 | 4.0 | 11 | Kodambakkam |

| 15 | Writer's Cafe | 205.0 | 3.9 | 11 | Egmore |

+--------+-----------------------------+---------------+--------+-------------------+-----------------+

**Sorting by Average Price:**

Sort by:

1. Restaurant Name

2. Average Price

3.Rating

4.Location

How Would you like to sort the table(Enter Number): 2

+--------+-----------------------------+---------------+--------+-------------------+-----------------+

| Number | Restaurant Name | Average Price | Rating | Number of Ratings | Location |

+--------+-----------------------------+---------------+--------+-------------------+-----------------+

| 2 | Saravana Bhavan | 76.5 | 4.0 | 9 | KK Nagar |

| 4 | Shree Mithai | 78.3 | 4.4 | 9 | Ashok Nagar |

| 1 | Geetham Veg Restaurant | 95.5 | 4.1 | 6 | T Nagar |

| 3 | A2B Veg | 100.6 | 4.2 | 9 | Ashok Nagar |

| 16 | Roll Baby Roll | 131.2 | 4.3 | 11 | Nungambakkam |

| 14 | Krispy Kreme | 156.5 | 3.7 | 9 | Thousand Lights |

| 5 | Manoj Bhavan Veg Restaurant | 157.3 | 3.4 | 9 | Ashok Nagar |

| 17 | The Sandwich Shop | 165.0 | 4.0 | 11 | Kodambakkam |

| 15 | Writer's Cafe | 205.0 | 3.9 | 11 | Egmore |

| 12 | The Bowl Company | 206.5 | 4.0 | 9 | Vadapalani |

| 19 | Chai Kings | 214.9 | 3.8 | 11 | Egmore |

| 8 | Subway | 225.6 | 4.0 | 10 | Valasaravakkam |

| 6 | Burger King | 248.5 | 4.1 | 10 | Ashok Nagar |

| 7 | KFC | 333.9 | 4.0 | 4 | Ashok Nagar |

| 11 | Pizza Hut | 345.6 | 4.0 | 13 | Ashok Nagar |

| 10 | Oven Story Pizza | 378.5 | 4.1 | 11 | Vadapalani |

| 18 | Sigree | 387.5 | 3.5 | 11 | Anna Nagar |

| 13 | Cafe De Paris | 394.4 | 3.8 | 11 | Alwarpet |

| 20 | Cake Works | 538.5 | 3.6 | 11 | Choolaimedu |

| 9 | Domino's Pizza | 599.0 | 4.1 | 10 | K.K Nagar |

+--------+-----------------------------+---------------+--------+-------------------+-----------------+

**Sorting By Rating:**

Sort by:

1. Restaurant Name

2. Average Price

3.Rating

4.Location

How Would you like to sort the table(Enter Number): 3

+--------+-----------------------------+---------------+--------+-------------------+-----------------+

| Number | Restaurant Name | Average Price | Rating | Number of Ratings | Location |

+--------+-----------------------------+---------------+--------+-------------------+-----------------+

| 4 | Shree Mithai | 78.3 | 4.4 | 9 | Ashok Nagar |

| 16 | Roll Baby Roll | 131.2 | 4.3 | 11 | Nungambakkam |

| 3 | A2B Veg | 100.6 | 4.2 | 9 | Ashok Nagar |

| 10 | Oven Story Pizza | 378.5 | 4.1 | 11 | Vadapalani |

| 9 | Domino's Pizza | 599.0 | 4.1 | 10 | K.K Nagar |

| 6 | Burger King | 248.5 | 4.1 | 10 | Ashok Nagar |

| 1 | Geetham Veg Restaurant | 95.5 | 4.1 | 6 | T Nagar |

| 17 | The Sandwich Shop | 165.0 | 4.0 | 11 | Kodambakkam |

| 12 | The Bowl Company | 206.5 | 4.0 | 9 | Vadapalani |

| 11 | Pizza Hut | 345.6 | 4.0 | 13 | Ashok Nagar |

| 8 | Subway | 225.6 | 4.0 | 10 | Valasaravakkam |

| 7 | KFC | 333.9 | 4.0 | 4 | Ashok Nagar |

| 2 | Saravana Bhavan | 76.5 | 4.0 | 9 | KK Nagar |

| 15 | Writer's Cafe | 205.0 | 3.9 | 11 | Egmore |

| 19 | Chai Kings | 214.9 | 3.8 | 11 | Egmore |

| 13 | Cafe De Paris | 394.4 | 3.8 | 11 | Alwarpet |

| 14 | Krispy Kreme | 156.5 | 3.7 | 9 | Thousand Lights |

| 20 | Cake Works | 538.5 | 3.6 | 11 | Choolaimedu |

| 18 | Sigree | 387.5 | 3.5 | 11 | Anna Nagar |

| 5 | Manoj Bhavan Veg Restaurant | 157.3 | 3.4 | 9 | Ashok Nagar |

+--------+-----------------------------+---------------+--------+-------------------+-----------------+

**Sorting By Location:**

Sort by:

1. Restaurant Name

2. Average Price

3.Rating

4.Location

How Would you like to sort the table(Enter Number): 4

+--------+-----------------------------+---------------+--------+-------------------+-----------------+

| Number | Restaurant Name | Average Price | Rating | Number of Ratings | Location |

+--------+-----------------------------+---------------+--------+-------------------+-----------------+

| 13 | Cafe De Paris | 394.4 | 3.8 | 11 | Alwarpet |

| 18 | Sigree | 387.5 | 3.5 | 11 | Anna Nagar |

| 3 | A2B Veg | 100.6 | 4.2 | 9 | Ashok Nagar |

| 4 | Shree Mithai | 78.3 | 4.4 | 9 | Ashok Nagar |

| 5 | Manoj Bhavan Veg Restaurant | 157.3 | 3.4 | 9 | Ashok Nagar |

| 6 | Burger King | 248.5 | 4.1 | 10 | Ashok Nagar |

| 7 | KFC | 333.9 | 4.0 | 4 | Ashok Nagar |

| 11 | Pizza Hut | 345.6 | 4.0 | 13 | Ashok Nagar |

| 20 | Cake Works | 538.5 | 3.6 | 11 | Choolaimedu |

| 15 | Writer's Cafe | 205.0 | 3.9 | 11 | Egmore |

| 19 | Chai Kings | 214.9 | 3.8 | 11 | Egmore |

| 9 | Domino's Pizza | 599.0 | 4.1 | 10 | K.K Nagar |

| 2 | Saravana Bhavan | 76.5 | 4.0 | 9 | KK Nagar |

| 17 | The Sandwich Shop | 165.0 | 4.0 | 11 | Kodambakkam |

| 16 | Roll Baby Roll | 131.2 | 4.3 | 11 | Nungambakkam |

| 1 | Geetham Veg Restaurant | 95.5 | 4.1 | 6 | T Nagar |

| 14 | Krispy Kreme | 156.5 | 3.7 | 9 | Thousand Lights |

| 10 | Oven Story Pizza | 378.5 | 4.1 | 11 | Vadapalani |

| 12 | The Bowl Company | 206.5 | 4.0 | 9 | Vadapalani |

| 8 | Subway | 225.6 | 4.0 | 10 | Valasaravakkam |

+--------+-----------------------------+---------------+--------+-------------------+-----------------+

**Viewing Past Orders:**

Enter which restaurant you would like to choose:3

Would you like to view your past orders from this restaurant?(Y/N)y

Order Placed on 2022-12-10 18:40:00.183847 from Shree Mithai

+------+--------------+----------+-------+

| S.No | Item | Quantity | Price |

+------+--------------+----------+-------+

| 1 | Bhel Poori | 3 | 240 |

| 2 | Pav Bhaji | 4 | 500 |

| 3 | Samosa Chaat | 1 | 95 |

+------+--------------+----------+-------+

Order Placed on 2022-12-10 18:44:25.821757 from Shree Mithai

+------+--------------+----------+-------+

| S.No | Item | Quantity | Price |

+------+--------------+----------+-------+

| 1 | Samosa Chaat | 4 | 380 |

| 2 | Bhel Poori | 2 | 160 |

+------+--------------+----------+-------+

Continuing in 10 seconds!

**Ordering from a restaurant**

Enter which restaurant you would like to choose:1

+--------+---------+-------------+-------+

| Number | Dishes | Veg/Non Veg | Price |

+--------+---------+-------------+-------+

| 1 | Idli | 50 | 50 |

| 2 | Dosa | 70 | 70 |

| 3 | Coffee | 45 | 45 |

| 4 | Rice | 100 | 100 |

| 5 | Chapati | 80 | 80 |

+--------+---------+-------------+-------+

Enter Item Number of food item you would like to add: 1

Enter quantity you would like to order: 5

Would you like to add another item(y/n)? y

Enter Item Number of food item you would like to add: 2

Enter quantity you would like to order: 3

Would you like to add another item(y/n)? y

Enter Item Number of food item you would like to add: 3

Enter quantity you would like to order: 3

Would you like to add another item(y/n)? n

+------+--------+----------+-------+

| S.No | Item | Quantity | Price |

+------+--------+----------+-------+

| 1 | Idli | 5 | 250 |

| 2 | Dosa | 3 | 210 |

| 3 | Coffee | 3 | 135 |

+------+--------+----------+-------+

Total = Rs. 595

GST = 18%

Grand Total = Rs. 703

Thank You for making a purchase from Geetham Veg Restaurant

**Rating A Restaurant:**

Would you like to add a rating for the following restaurant(Y/N)?y

Enter your rating for the following restaurant(\_/5):3

Your Feedback has been recorded

**Challenges, Limitations and the Future**

**Challenges:**

* Hard to Work with data stored in CSV as it is retrieved as string.
* Difficulty fetching user data for login function.
* Tough to handle lots of data sets.

**Limitations:**

* No limit to quantity of food that the user can purchase.
* Unable to predict delivery time as that would require gps integration.
* Limited Menu items and same menu throughout the day [menu doesn’t change for breakfast, lunch or dinner].
* No special offers or deals currently.
* Datasets must be available on every device.
* Code cannot run every possible action user can take at once.
* Unable to simulate real time situations .
* Limited Knowledge about python-cloud integration.

To overcome these limitations we would ideally like to implement a cloud based server user interface where the restaurateur can update their menus and items based on real time. We would also like to add an option where someone could duplicate their previous order and then make changes to that. Partnering with more up and coming restaurants and local cafes to increase the number of options that the user has. We would also like to add a maximum deliverable distance threshold as some restaurants will not be able to deliver high quality food past a specific distance. Adding city based restaurant list since different cities and localities has different restaurants.

**Bibliography**

* <https://www.geeksforgeeks.org/fernet-symmetric-encryption-using-cryptography-module-in-python/>
* <https://www.geeksforgeeks.org/creating-tables-with-prettytable-library-python/>
* <https://stackoverflow.com/questions/606191/convert-bytes-to-a-string>
* CBSE Class 12 NCERT Textbook
* Computer Science with Python : Textbook for CBSE Class 12, Preeti Arora, Sultan Chand & Sons (P) Ltd, 2022.