**Programming Project Report**

Name: Sahibzada Abubakar Bin Qasim

Date: February 3rd, 2021

**Academic Integrity Statement:** I pledge that I have neither given nor received unauthorized help on this programming assignment.

**Problem Statement:**

* Describe the goals of the programming assignment.
  + The goal of this programing assignment was to create a user interactive review system similar to UberEats or GrubHub. The user would be prompted options to choose from five different selections. Insert a review, view reviews from restaurant name, view reviews from food category, view the most recent reviews, view all reviews, or quit the system.
* What are the program inputs?
  + Inputs include the user’s choice for the system operation. If chosen insert review, the user will input Name, Restaurant name, Food category, delivery price, rating of food, short review about food quality, and finally the overall satisfaction of the food. If the user chooses review from Restaurant name or Food category, they will enter the desired option respectively. If the user chooses most recent reviews, they will have to choose the amount of reviews to view.
* What are the program outputs?
  + The outputs consist of the reviews the user inputs.
* What error handling was required?
  + Error handling was done to any numerical values outside of the rating system. Any number below 1 and above 10 will be marked as an incorrect value when putting in a review.

**Design:**

* Describe the design decisions you made.
  + I chose to follow Dr. Gauch’s Book2 template to implement the review class.
* What data structures did you use?
  + Data structures used were arrays and classes.
* What algorithms did you use?
  + No algorithms of my knowledge were used.
* What were pros/cons of choices above?
  + The pros of this method were that it was easier to construct the main.cpp file. The classes data helped greatly to organize and neatly sort the lines of code.

**Implementation:**

* Describe your implementation process.
  + I implemented Dr. Gauch’s Book2 as a template for this project. It started with the book.h and book.cpp to be used for the review.h and the review.cpp which was then built ontop of the library.h and library.cpp to construct the reviews\_db.h and the reviews\_db.cpp to form.
* What sample code did you start with?
  + Dr. Gauch’s Book2
* How did you extend or adapt this code?
  + I implemented the main functionality of the search function and the read books function to help with the insert review function and the search review function.
* What was your development timeline?
  + Development took total time of project.

**Testing:**

* Describe how you tested your program.
  + To test my program, I had to test several hard coded functions to tell see whether my class function was working on not. This is commented out in the main.cpp
* What were the normal inputs you used?
  + Normal inputs used were simple characters A, B, AAA, BBB and numbers 1 through 9.
* What were the special cases you tested?
  + Negative numbers and any non-alphabetical characters.
* Did everything work as expected?
  + With slow increments and by the will of the Almighty all worked out well.
* Include sample input/output from your program.
  + (Will be included at the end of the report.)

**Conclusions:**

* Describe the overall result of the assignment.
  + The project was a great success and a great journey of education. I overcame several obstacles in creating my Review Class.
* Was the programming project a success?
  + A great success, all thanks to the almighty.
* What would you do same or differently next time?
  + I enjoyed every obstacle, and I would go through every failure again.
* How long did the project take to complete?
  + It took approximately 48 hours to complete in the two-week period.

*Program Output:*

Welcome to SABQ Eats Delivery Service!

What would you like to do today?

Menu Options:

1.....Submit a review.

2.....Look up a review by Restaurant.

3.....Look up a review by food Category.

4.....See the most recent reviews.

5.....See all reviews.

0.....Quit

Choice: 1

Enter Name: Mark

Enter Restaurant Name: Mcdonalds

Enter Food Category: Burgers

Delivery Cost Amount: 14.99

Rate Service 1 to 10: 4

Describe quality of food:

Fish filet was cold but the tater sauce was good.

Breifely describe your overall satisfaction:

I enjoy mcdonalds but man, let me tell you. That sandwich was not.

Thank you for the Reivew!

What would you like to do next?

Menu Options:

1.....Submit another review.

2.....Look up a review by Restaurant.

3.....Look up a review by food Category.

4.....See the most recent reviews.

5.....See all reviews.

0.....Quit

Choice: 1

Enter Name: Abubakar

Enter Restaurant Name: Chickfila

Enter Food Category: Burgers

Delivery Cost Amount: 19.13

Rate Service 1 to 10: 8

Describe quality of food:

Great spicy delux sandwich.

Breifely describe your overall satisfaction:

Tipped the delivery man, food was hot and ready no little ceasers.

Thank you for the Reivew!

What would you like to do next?

Menu Options:

1.....Submit another review.

2.....Look up a review by Restaurant.

3.....Look up a review by food Category.

4.....See the most recent reviews.

5.....See all reviews.

0.....Quit

Choice: 1

Enter Name: John

Enter Restaurant Name: Pepsi

Enter Food Category: Softdrinks

Delivery Cost Amount: 0.49

Rate Service 1 to 10: 10

Describe quality of food:

Breakfeast supreme!

Breifely describe your overall satisfaction:

Greatest softdrink ever made. Diet pepsi was purchased at this fine dining company.

Thank you for the Reivew!

What would you like to do next?

Menu Options:

1.....Submit another review.

2.....Look up a review by Restaurant.

3.....Look up a review by food Category.

4.....See the most recent reviews.

5.....See all reviews.

0.....Quit

Choice: 2

Enter the name of the Restaurant you'd like to see reviews from.

Restaurant Name: Pepsi

Reviewer Name: John

Restaurant Name: Pepsi

Food Category: Softdrinks

Delivery Cost: 0.49

Delivery Rating: 10 out of 10

Food Quality: Breakfeast supreme!

Overall Satisfaction: Greatest softdrink ever made. Diet pepsi was purchased at this fine dining company.

Choice: 3

Enter the Category of Food you'd like to see reviews from.

Category: Burgers

Reviewer Name: Mark

Restaurant Name: Mcdonalds

Food Category: Burgers

Delivery Cost: 14.99

Delivery Rating: 4 out of 10

Food Quality: Fish filet was cold but the tater sauce was good.

Overall Satisfaction: I enjoy mcdonalds but man, let me tell you. That sandwich was not.

Reviewer Name: Abubakar

Restaurant Name: Chickfila

Food Category: Burgers

Delivery Cost: 19.13

Delivery Rating: 8 out of 10

Food Quality: Great spicy delux sandwich.

Overall Satisfaction: Tipped the delivery man, food was hot and ready no little ceasers.

Choice: 4

Enter the amount of recent reviews you'd like to see.

Number of Reviews: 2

Reviewer Name: John

Restaurant Name: Pepsi

Food Category: Softdrinks

Delivery Cost: 0.49

Delivery Rating: 10 out of 10

Food Quality: Breakfeast supreme!

Overall Satisfaction: Greatest softdrink ever made. Diet pepsi was purchased at this fine dining company.

Reviewer Name: Abubakar

Restaurant Name: Chickfila

Food Category: Burgers

Delivery Cost: 19.13

Delivery Rating: 8 out of 10

Food Quality: Great spicy delux sandwich.

Overall Satisfaction: Tipped the delivery man, food was hot and ready no little ceasers.

Choice: 5

Reviewer Name: Mark

Restaurant Name: Mcdonalds

Food Category: Burgers

Delivery Cost: 14.99

Delivery Rating: 4 out of 10

Food Quality: Fish filet was cold but the tater sauce was good.

Overall Satisfaction: I enjoy mcdonalds but man, let me tell you. That sandwich was not.

Reviewer Name: Abubakar

Restaurant Name: Chickfila

Food Category: Burgers

Delivery Cost: 19.13

Delivery Rating: 8 out of 10

Food Quality: Great spicy delux sandwich.

Overall Satisfaction: Tipped the delivery man, food was hot and ready no little ceasers.

Reviewer Name: John

Restaurant Name: Pepsi

Food Category: Softdrinks

Delivery Cost: 0.49

Delivery Rating: 10 out of 10

Food Quality: Breakfeast supreme!

Overall Satisfaction: Greatest softdrink ever made. Diet pepsi was purchased at this fine dining company.

Choice: 0

Thank you for using SABQ Eats! Have a nice day.