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I confirm that I understand my coursework needs to be submitted online via Google Classroom under the relevant module page before the deadline in order for my assignment to be accepted and marked. I am fully aware that late submissions will be treated as non-submission and a marks of zero will be awarded.

Acknowledgement

I am very thankful for my teachers Dhruba Sir and Krishab Sir for their support throughout this semester. As I have gained quiet experience from their teaching and feel a bit adjusted to this field of programming.

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1. Introduction

This is our coursework for the first semester of subject Application Development. For this project we have to build a restaurant rating system. For example the user is allowed to rate different services and features of the restaurant like food quality, staff friendliness, etc. All of these feedback data is stored and that data is accessible to the admin. Admin has a different panel where he can review the stored feedback data.

1.1. Tools used

1.1.1. C# programming language

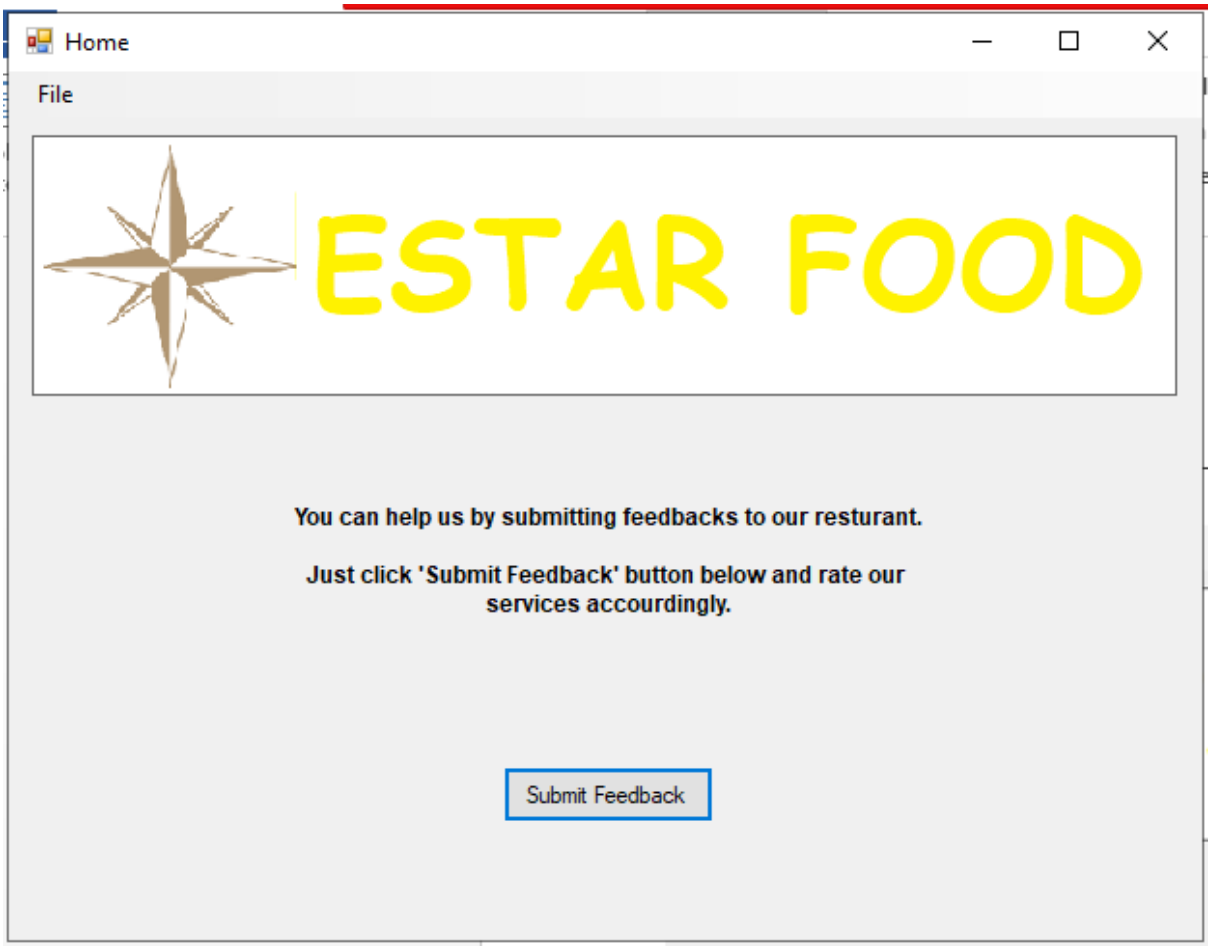
It is build using C# a general purpose programming language which is developed by Microsoft. It supports Object Oriented programming as well. C# is pretty much similar to languages like C and C++. It is also a part of .NET framework which is a huge platform for Web applications and services. (Tutorialspoint, 2021) My project is based in Windows form application.

1.1.2. Database

For database I have not used an exact database but I have used .CSV file. It stand for Comma Separated Values which like its name suggests the data is separated using “,”. (BigCommerce Pty. Ltd., 2003-2021)

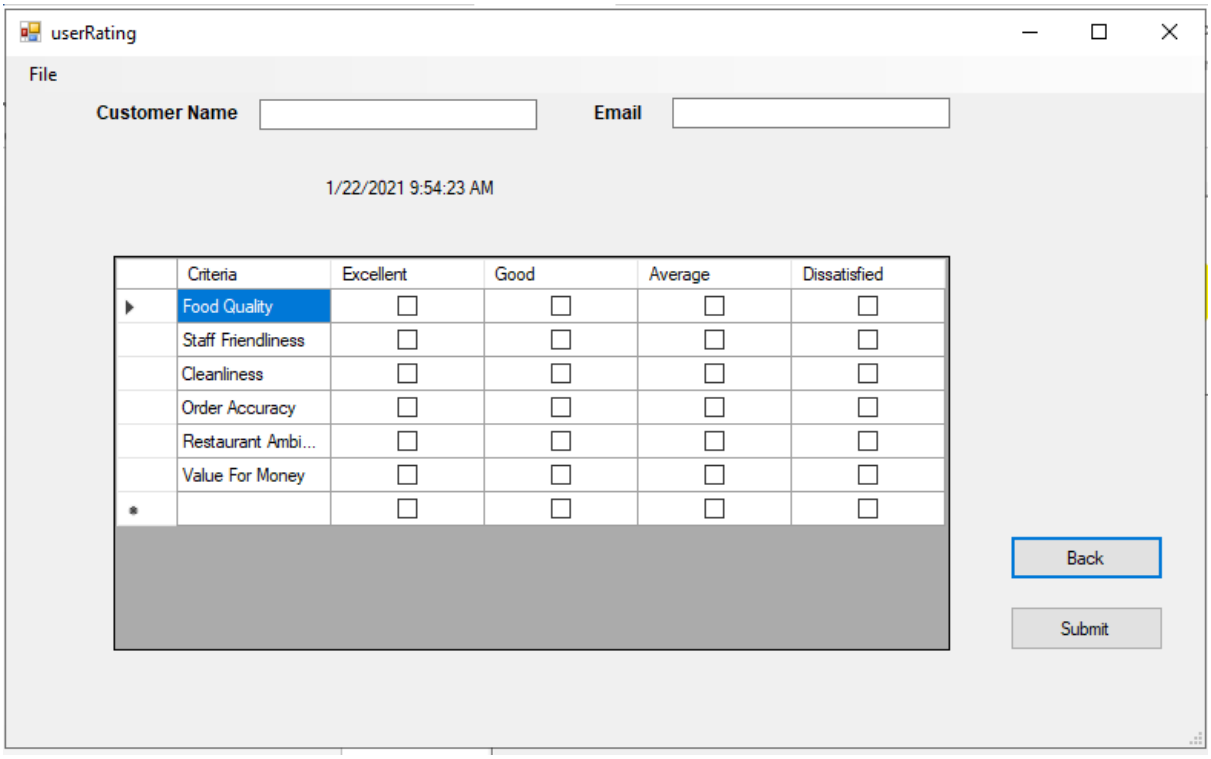
2. Manual

1. The program is run and the initial page shows up which looks like this.

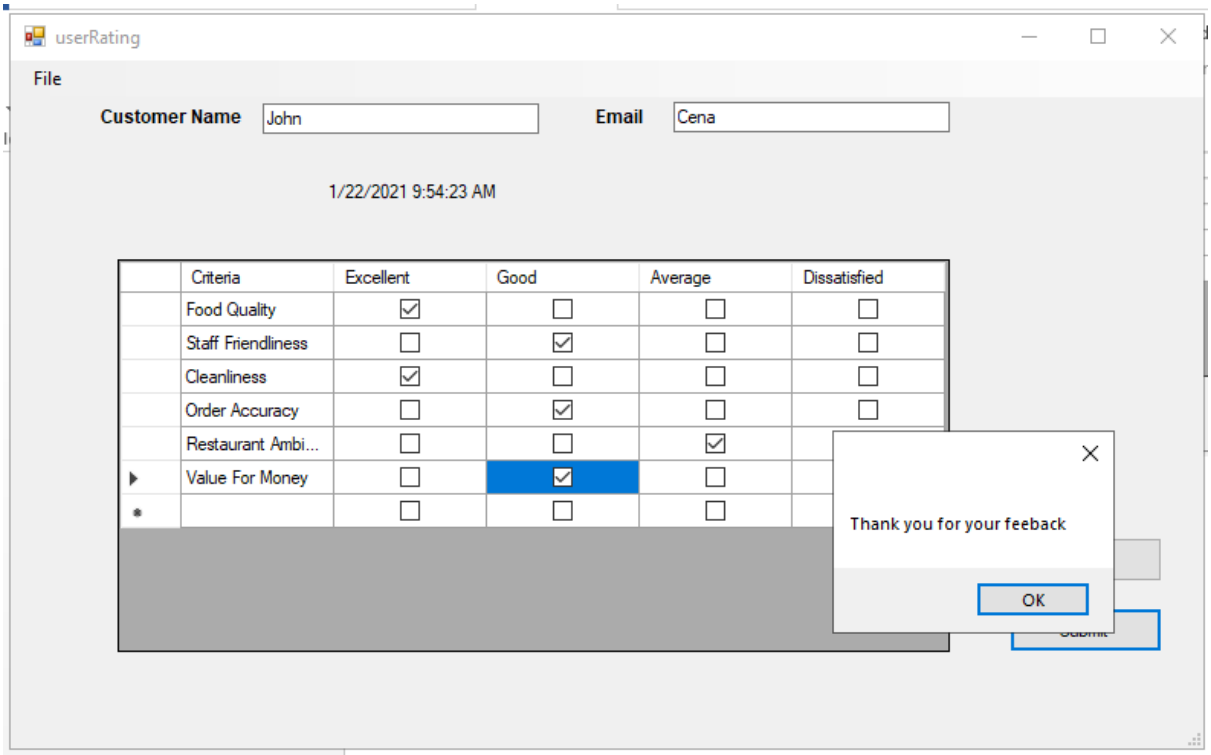


2. For users to submit feedback click the “Submit Feedback” button.

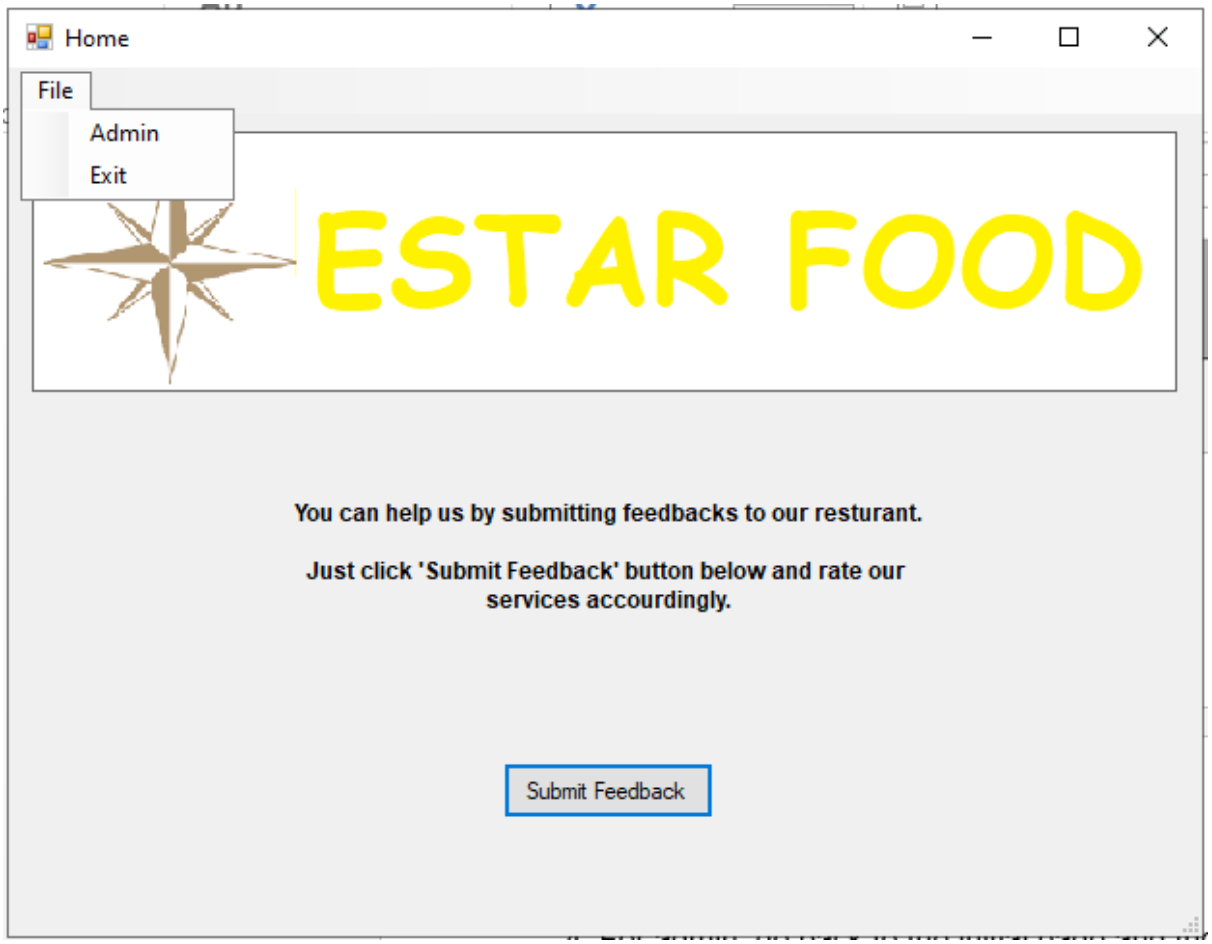
3. Then this form appears where user must enter their name and email and use the checkbox grid to rate restaurant features.



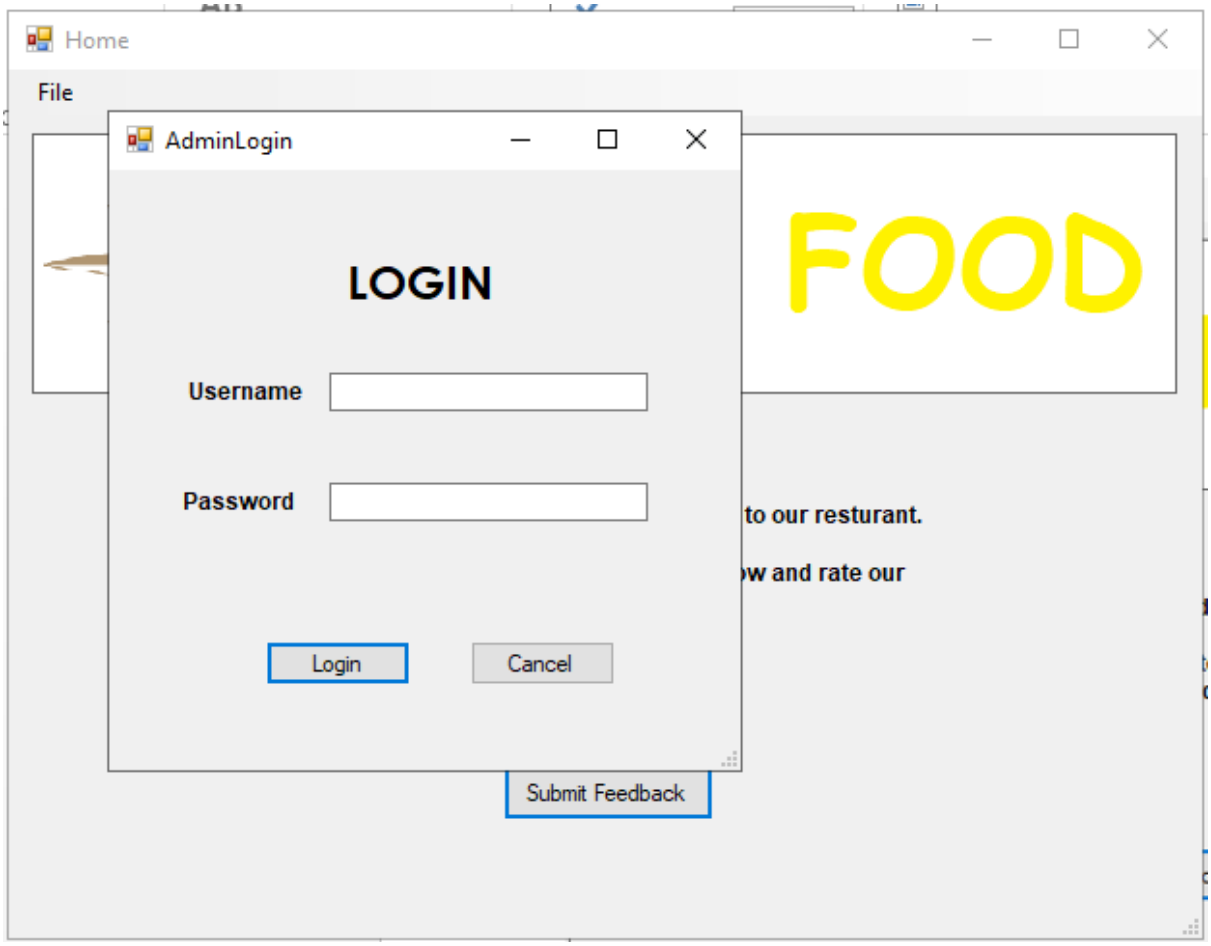
4. Once done click the submit button. Then the data is safely stored.



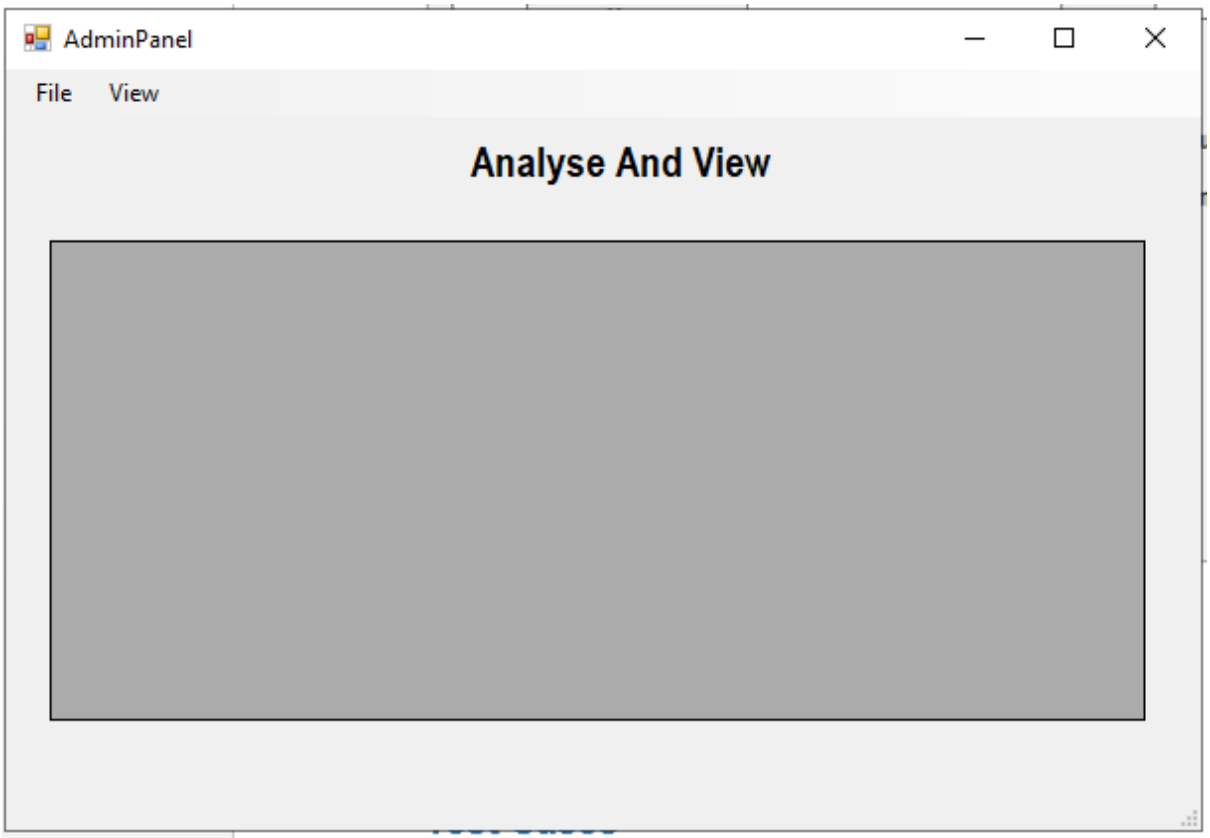
4. For admin, go back to the initial page and there will be a “File” menu at top-left. Click file menu and click “Admin” inside that menu.



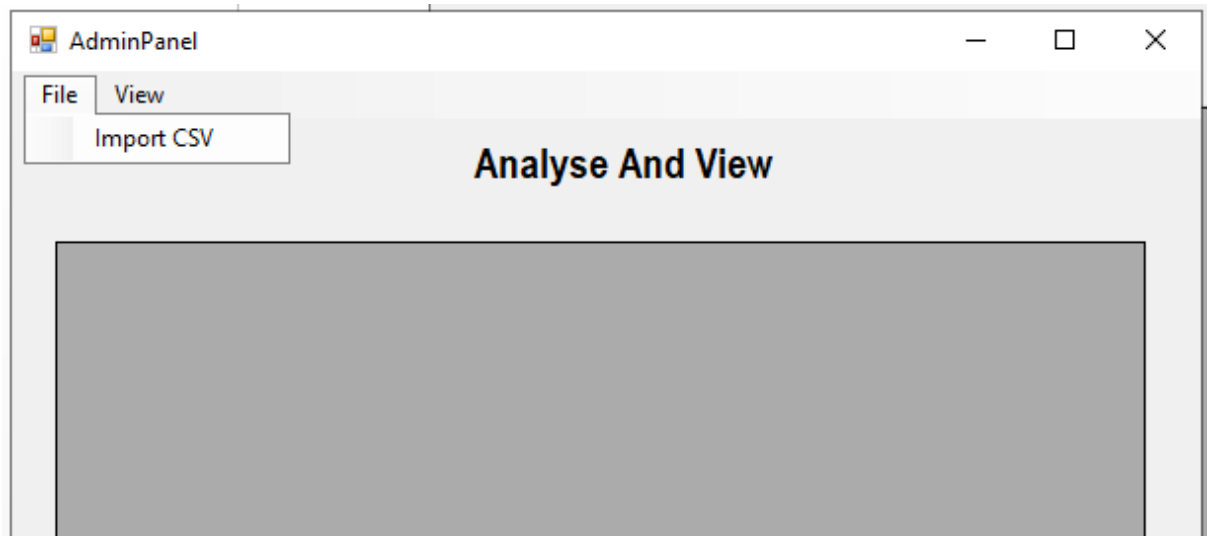
5. Then the user is allowed to login using correct username and password.



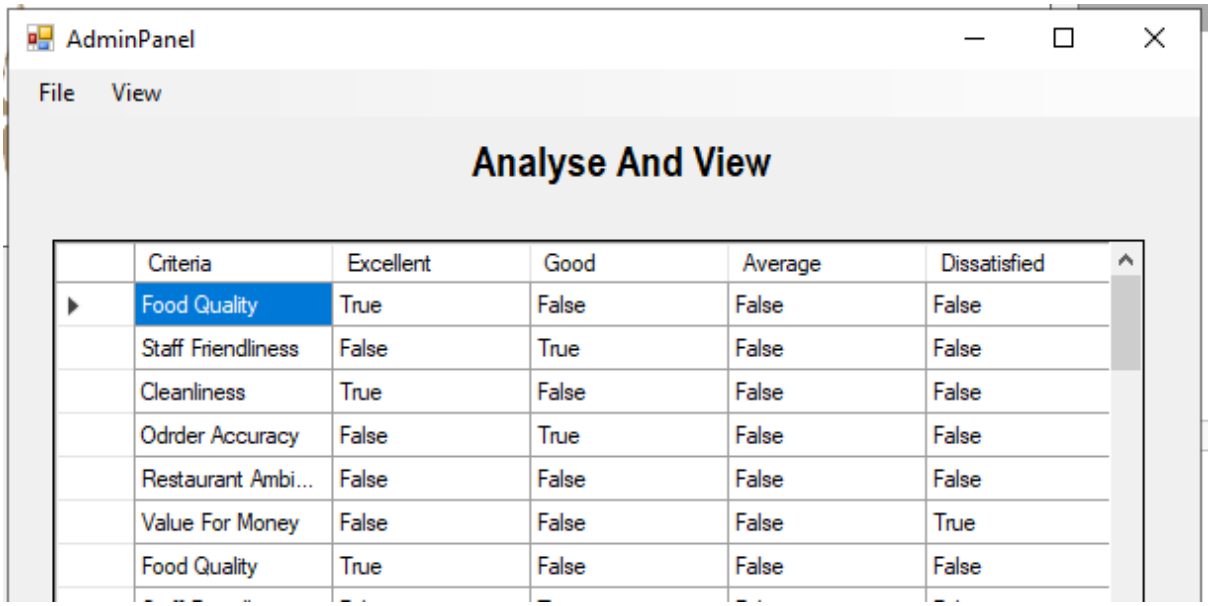
6. Once done the Admin panel shows up where admin is allowed to view all the feedback data.



7. To view the feedback data go to “File” menu again and select import CSV.



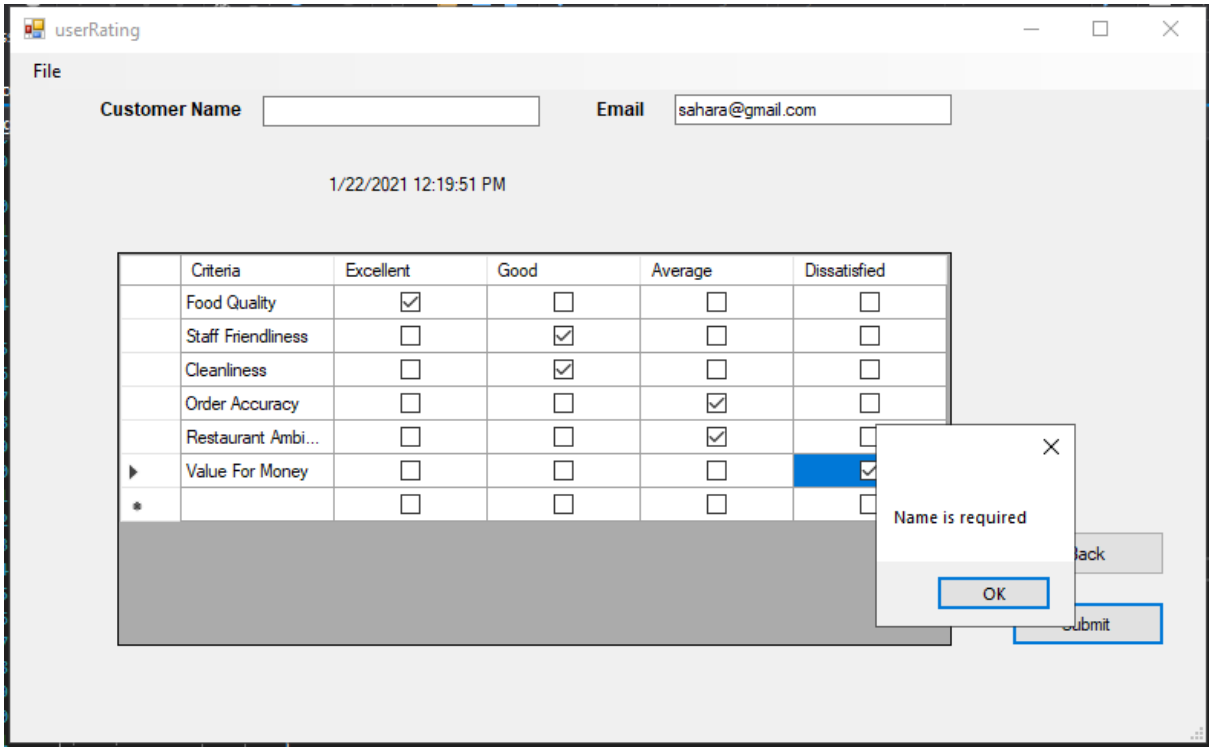
8. The imported CSV file shows up in the admin panel grid in a tabular form.


AdminPanel
File
View
Analyse And View
Criteria
Excellent
Good
Average
Dissatisfied
Food Quality
True
False
False
False
Staff Friendliness
False
True
False
False
Cleanliness
True
False
False
False
Odrder Accuracy
False
True
False
False
Restaurant Ambi...
False
False
False
False
Value For Money
False
False
False
True
Food Quality
True
False
False
False

3. Test Cases

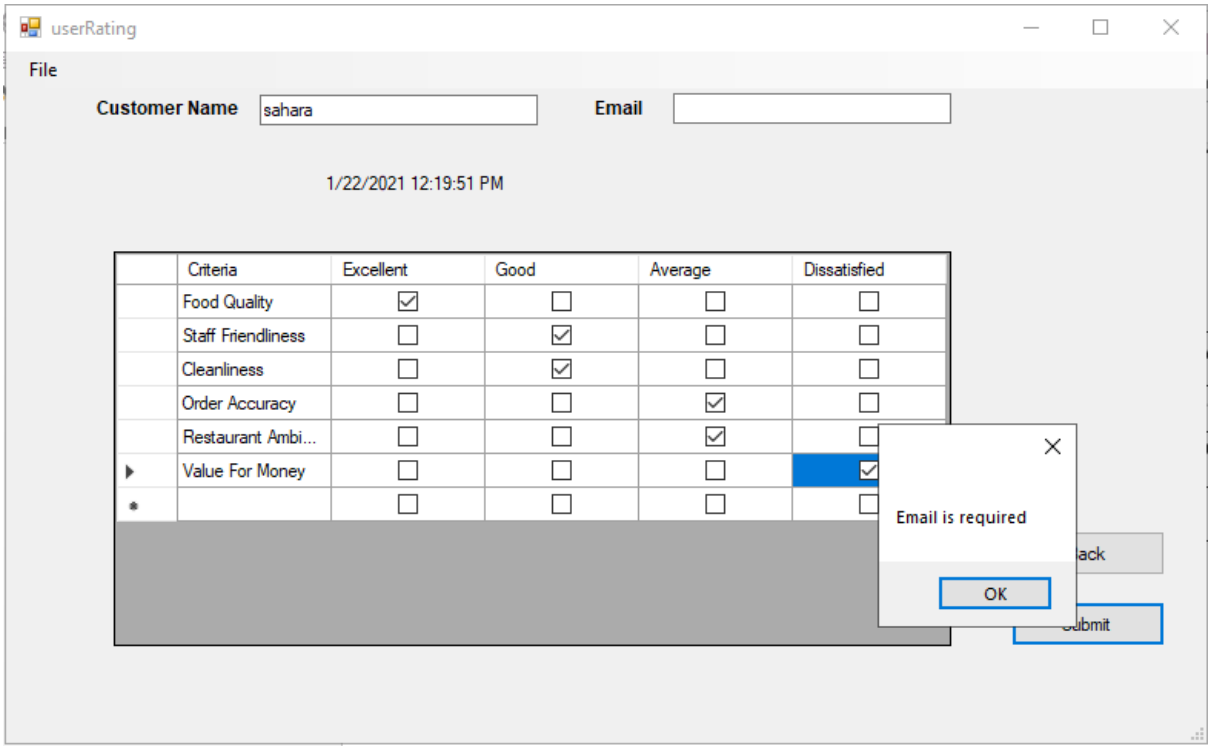
3.1. Customer name validation

Test description: Leaving customer name empty	
Output	Message box pop up saying name is required
Purpose	Stops user from submitting form without name
Result	Pass



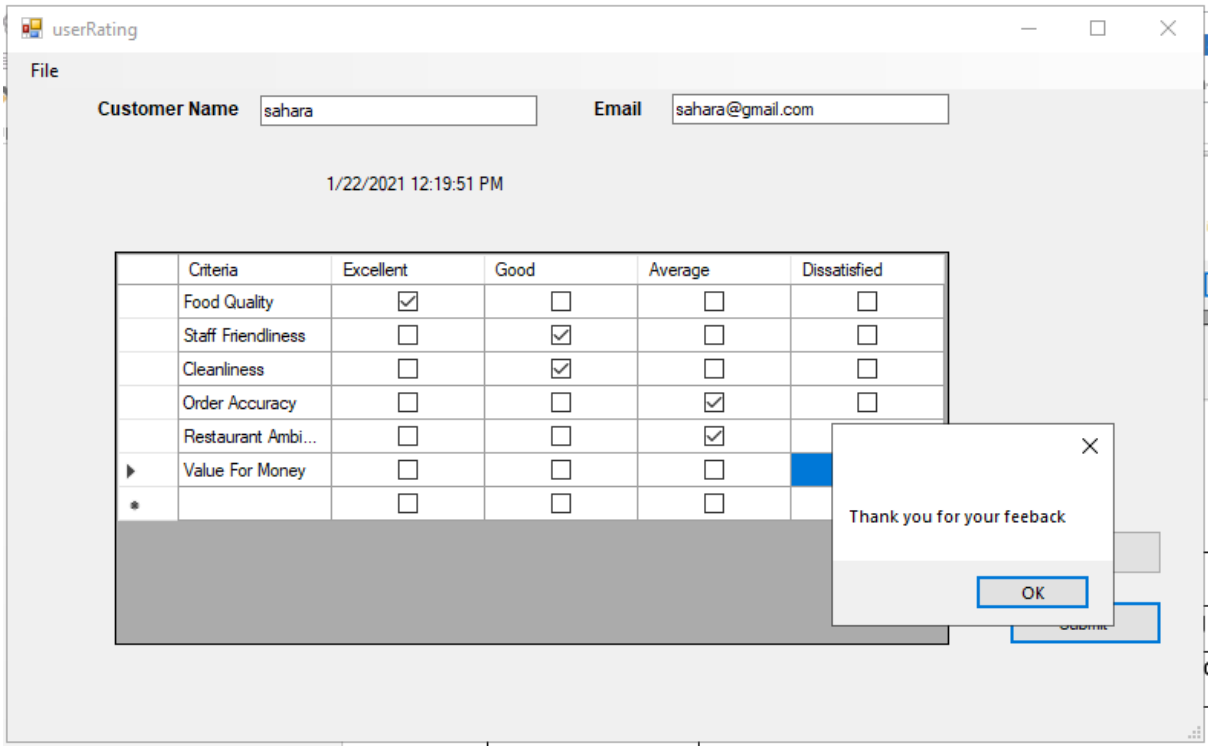
3.2. Email validation

Test description: Leaving customer email empty	
Output	Message box pop up saying email is required
Purpose	Stops user from submitting form without email
Result	Pass



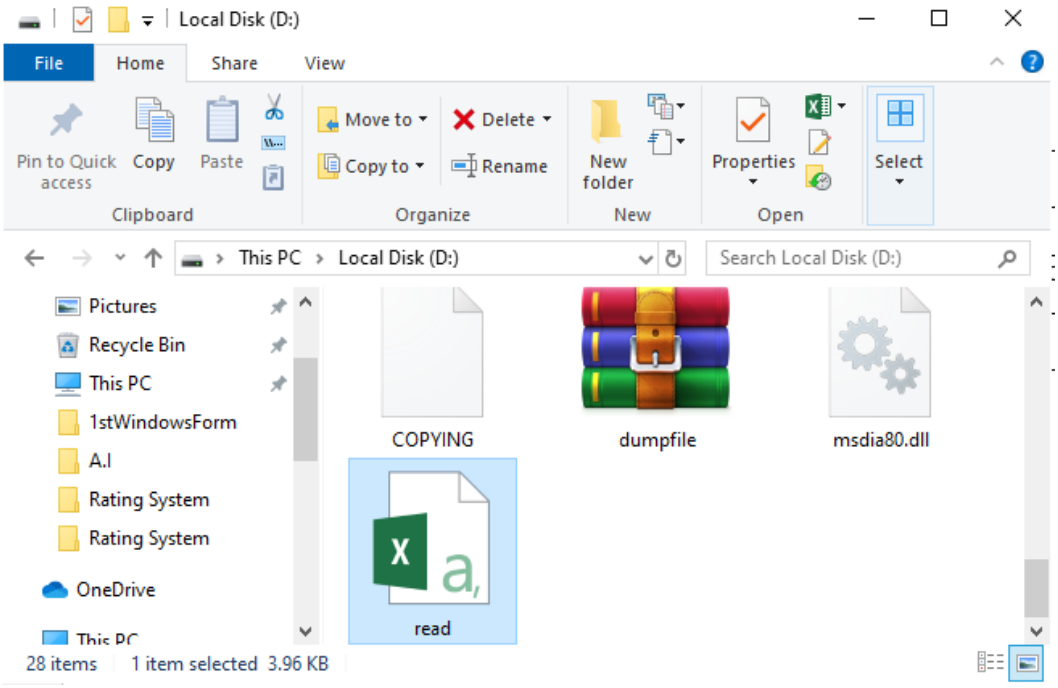
3.3. Filing both Name and Email

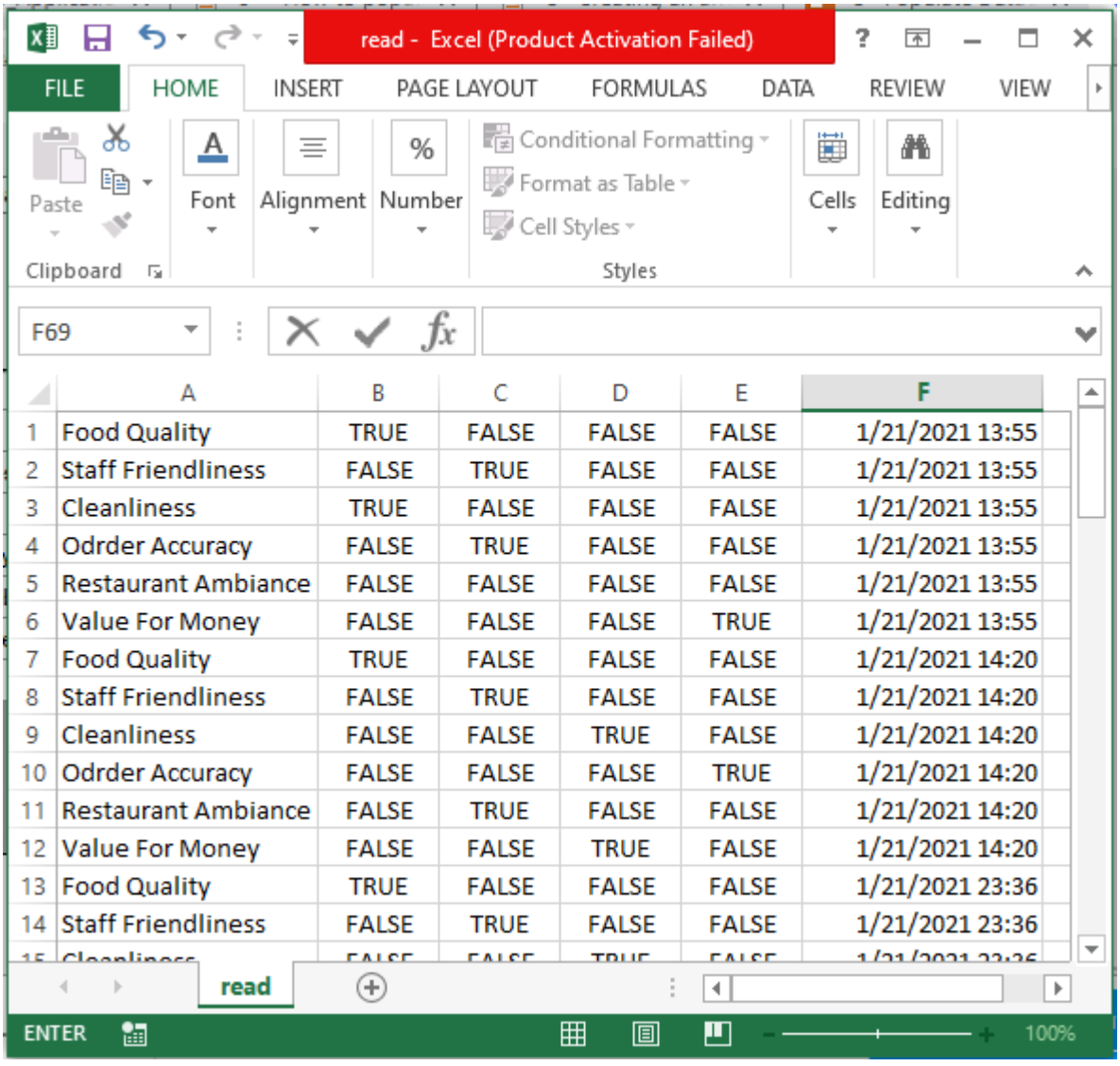
Test description: Filling both Name and email by the user	
Output	Message box pop up saying thank you for giving feedback
Purpose	Let user know their feedback has been submitted
Result	Pass



3.4. CSV file check

Test description: check if csv file has been generated or not	
Output	Csv file is saved in the given path
Purpose	To check whether the user feedback data is saved or not
Result	Pass

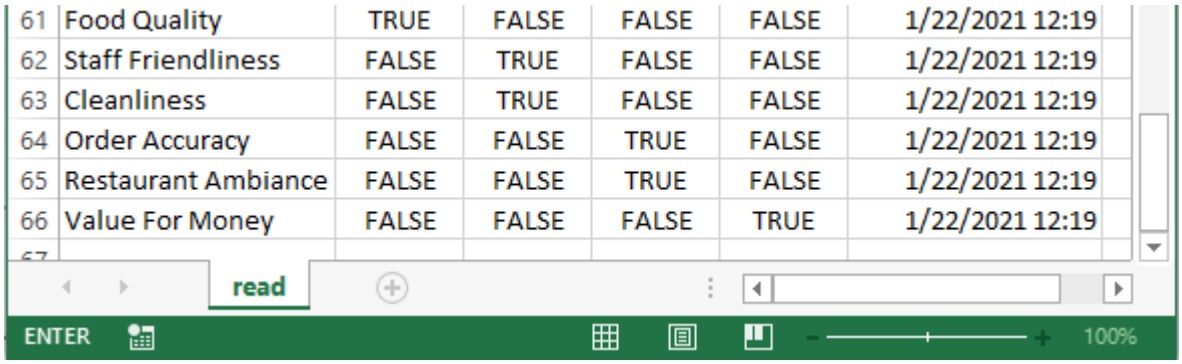




	A	B	C	D	E	F
1	Food Quality	TRUE	FALSE	FALSE	FALSE	1/21/2021 13:55
2	Staff Friendliness	FALSE	TRUE	FALSE	FALSE	1/21/2021 13:55
3	Cleanliness	TRUE	FALSE	FALSE	FALSE	1/21/2021 13:55
4	Odrder Accuracy	FALSE	TRUE	FALSE	FALSE	1/21/2021 13:55
5	Restaurant Ambiance	FALSE	FALSE	FALSE	FALSE	1/21/2021 13:55
6	Value For Money	FALSE	FALSE	FALSE	TRUE	1/21/2021 13:55
7	Food Quality	TRUE	FALSE	FALSE	FALSE	1/21/2021 14:20
8	Staff Friendliness	FALSE	TRUE	FALSE	FALSE	1/21/2021 14:20
9	Cleanliness	FALSE	FALSE	TRUE	FALSE	1/21/2021 14:20
10	Odrder Accuracy	FALSE	FALSE	FALSE	TRUE	1/21/2021 14:20
11	Restaurant Ambiance	FALSE	TRUE	FALSE	FALSE	1/21/2021 14:20
12	Value For Money	FALSE	FALSE	TRUE	FALSE	1/21/2021 14:20
13	Food Quality	TRUE	FALSE	FALSE	FALSE	1/21/2021 23:36
14	Staff Friendliness	FALSE	TRUE	FALSE	FALSE	1/21/2021 23:36

3.5. Checkbox function check in CSV

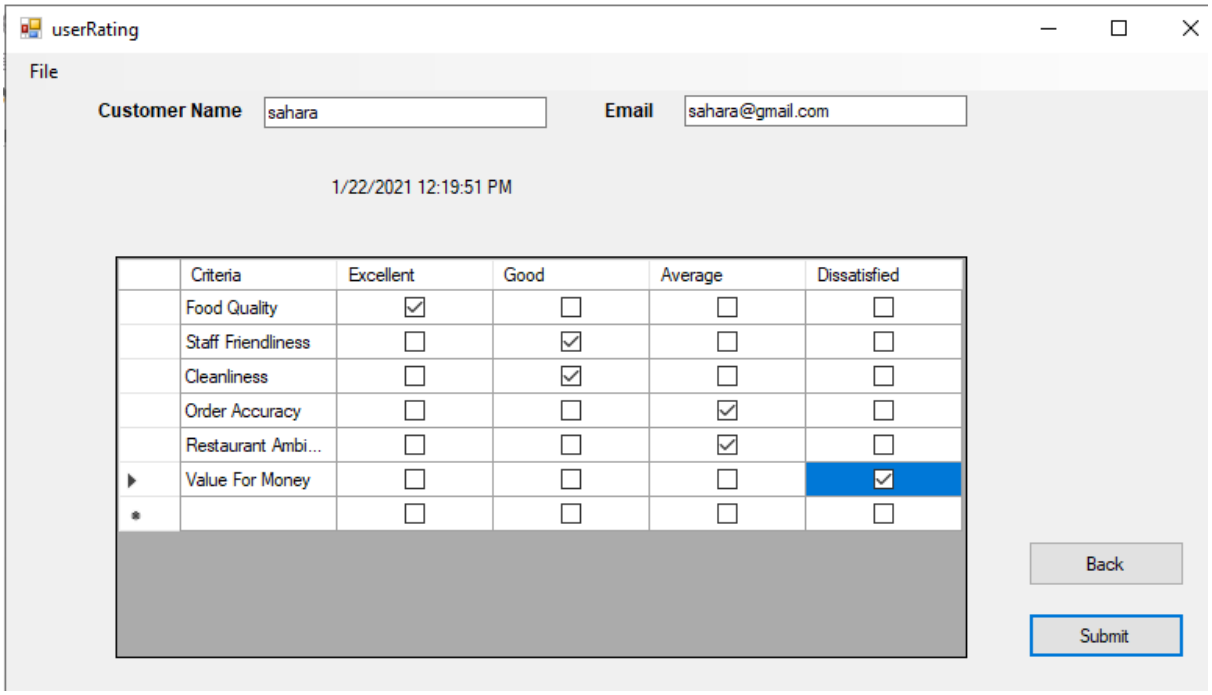
Test description: check if csv file has right output based on user feedback data. Note: ticked checkbox = true Unticked checkbox = false	
Output	Csv file is saved in the given path
Purpose	To make sure that right csv file is being generated for right feedbacks given.
Result	Pass



61	Food Quality	TRUE	FALSE	FALSE	FALSE	1/22/2021 12:19
62	Staff Friendliness	FALSE	TRUE	FALSE	FALSE	1/22/2021 12:19
63	Cleanliness	FALSE	TRUE	FALSE	FALSE	1/22/2021 12:19
64	Order Accuracy	FALSE	FALSE	TRUE	FALSE	1/22/2021 12:19
65	Restaurant Ambiance	FALSE	FALSE	TRUE	FALSE	1/22/2021 12:19
66	Value For Money	FALSE	FALSE	FALSE	TRUE	1/22/2021 12:19

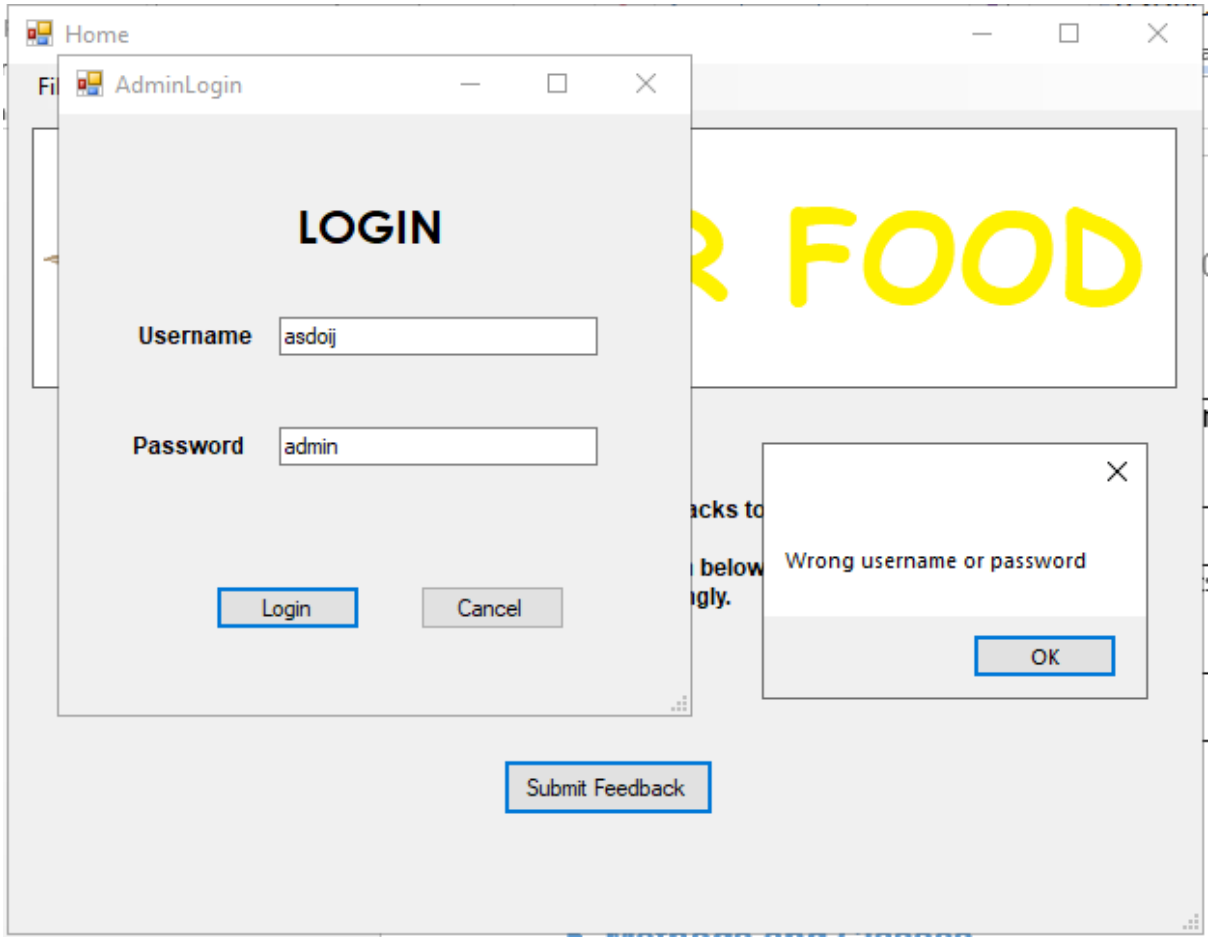
read

ENTER 100%



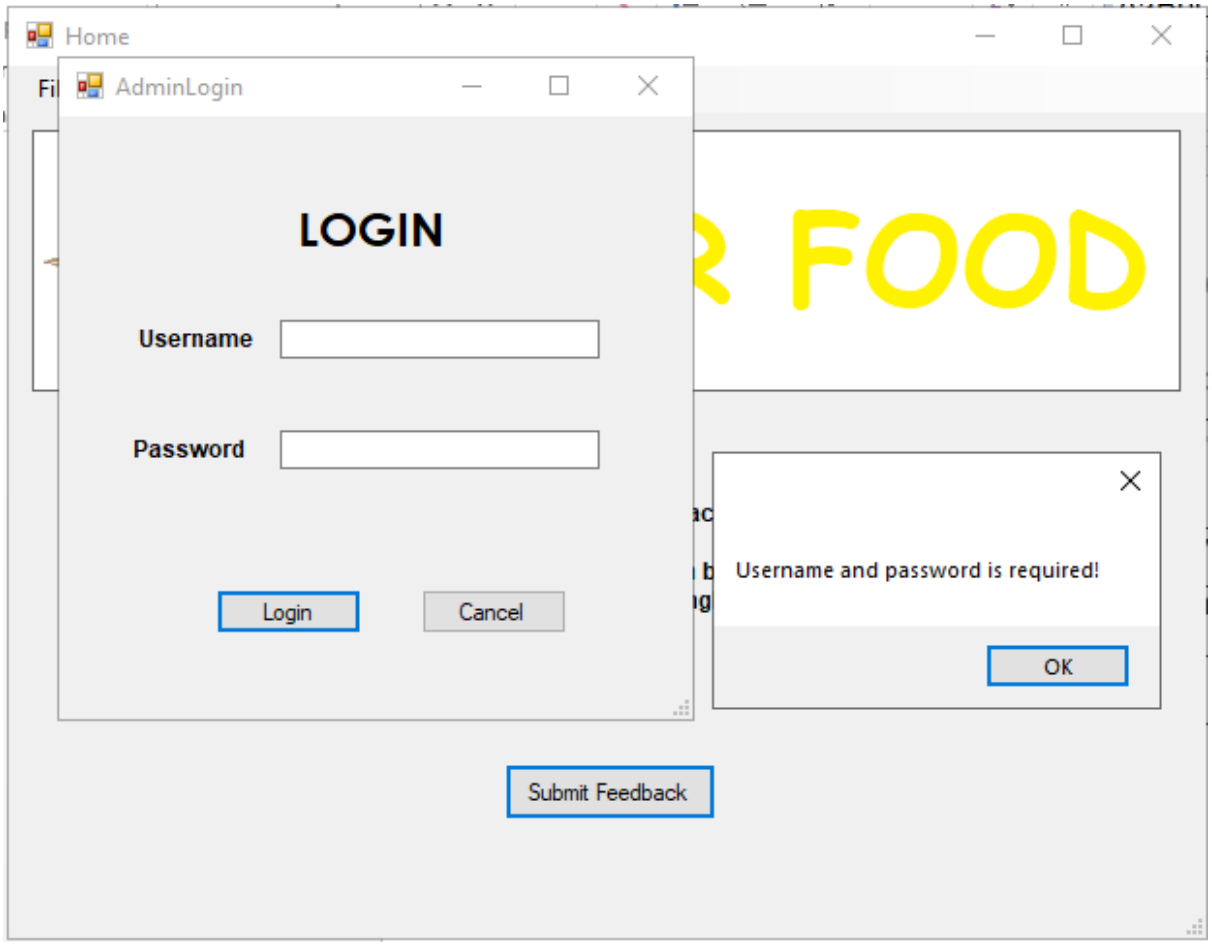
3.6. Admin username/password validation

Test description: Giving wrong username or password in admin login	
Output	Shows pop up box saying wrong user name or password
Purpose	To prevent admin login from false username and password
Result	Pass



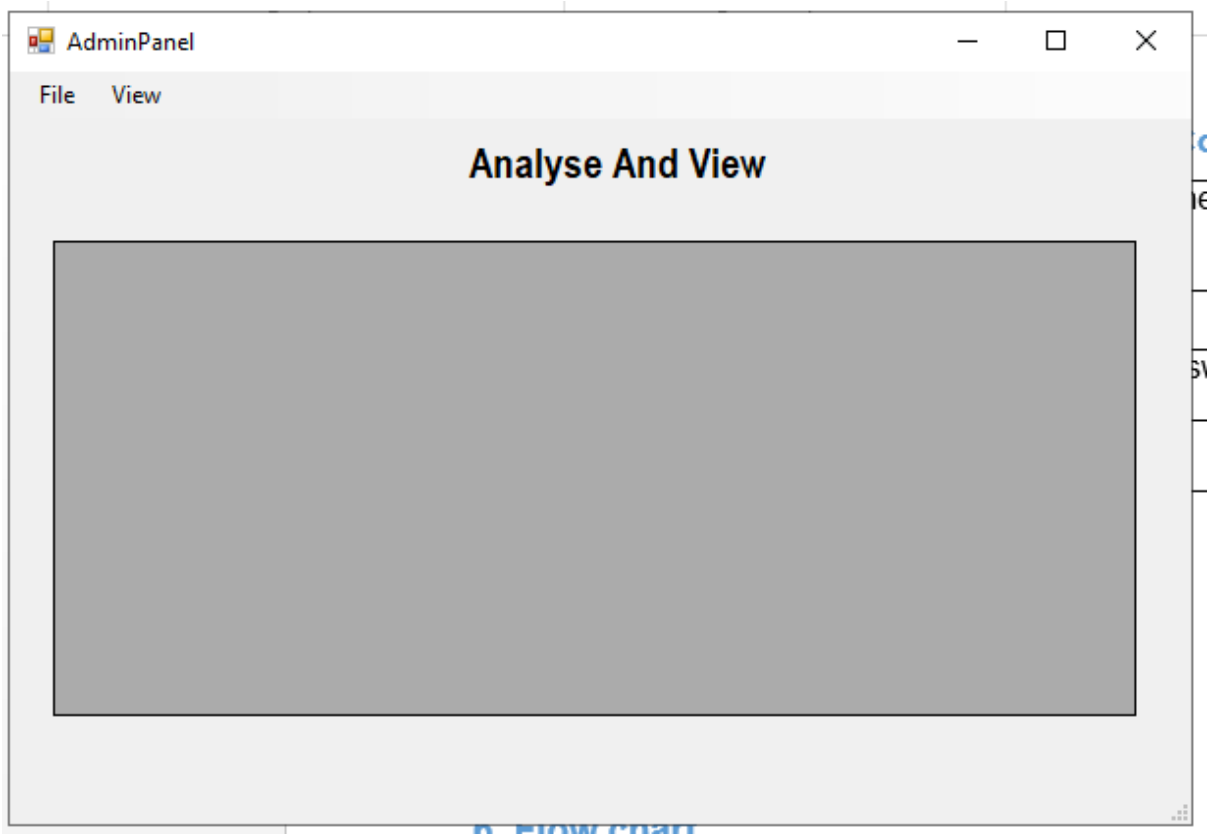
3.7. Admin username/password validation (Empty)

Test description: Leaving username or password empty	
Output	Shows pop up box saying username or password is required
Purpose	To prevent admin login without username and password
Result	Pass



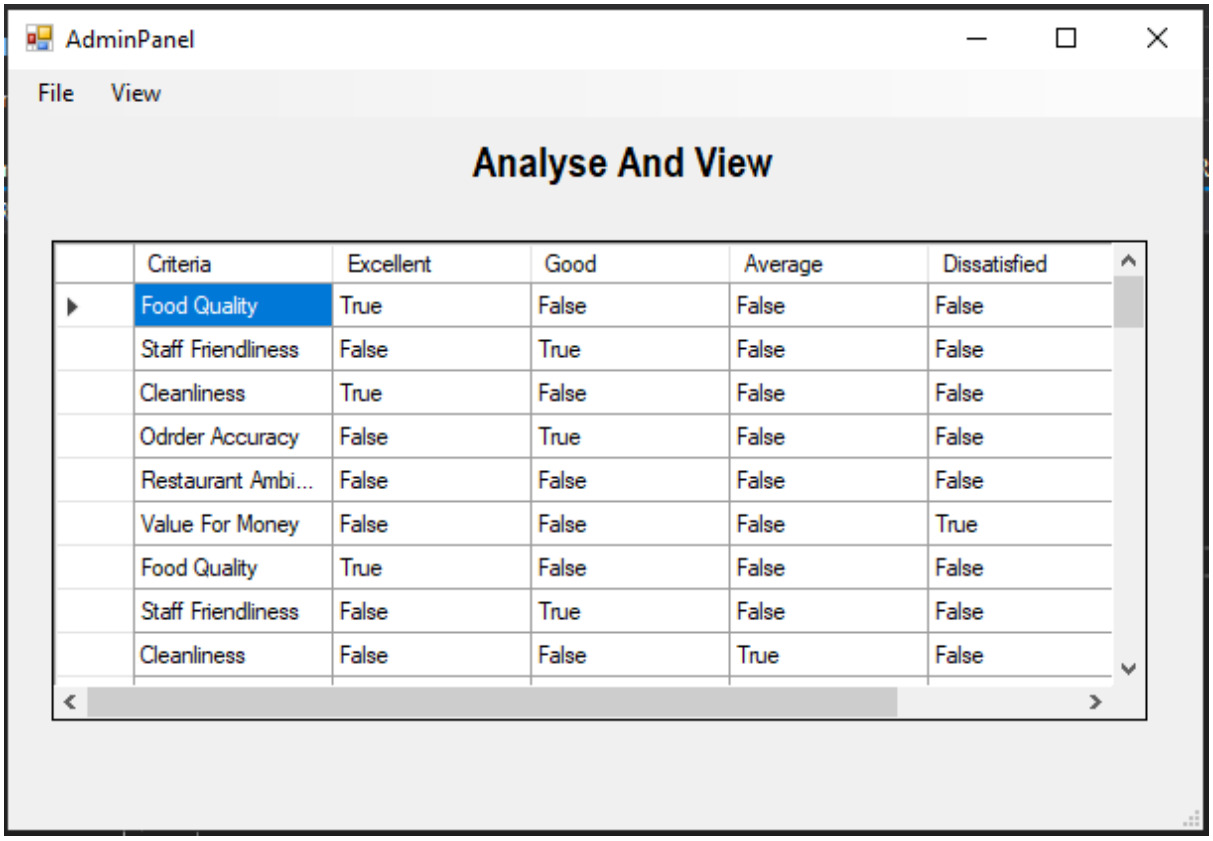
3.7. Admin username/password validation (Correct data)

Test description: Using right password and username for admin login	
Output	Opens admin panel
Purpose	To let admin login with right password and username
Result	Pass

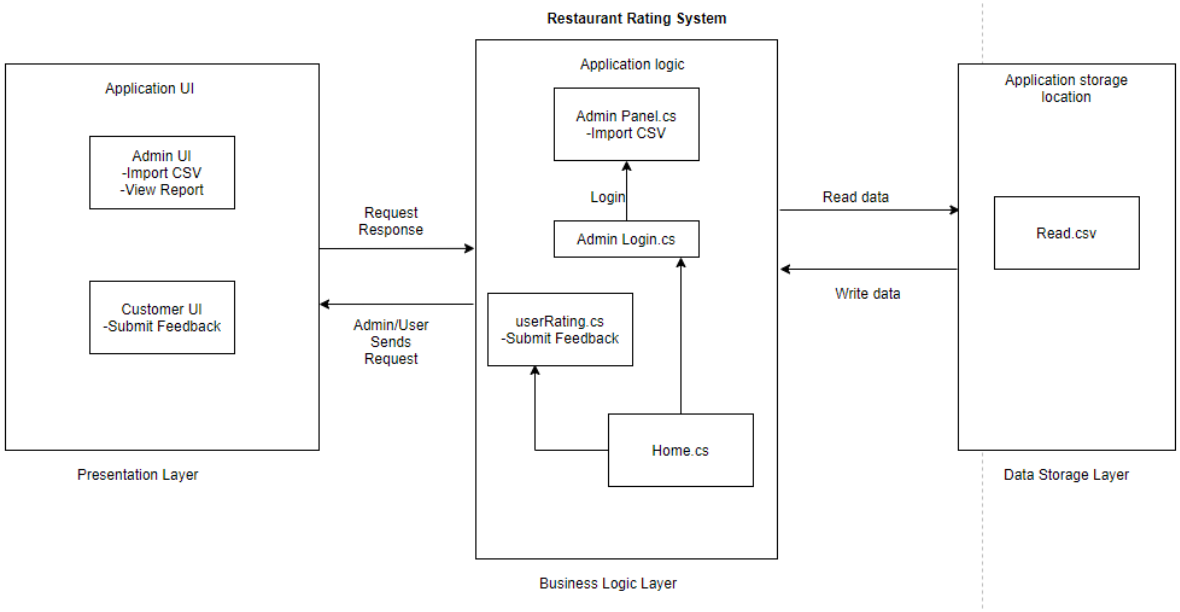


3.8. Import CSV

Test description: importing CSV file from given path	
Output	Grid get populated with csv file data
Purpose	For the admin to view feedback data
Result	Pass


AdminPanel
File
View
Analyse And View
Criteria
Excellent
Good
Average
Dissatisfied
Food Quality True False False False
Staff Friendliness False True False False
Cleanliness True False False False
Odrder Accuracy False True False False
Restaurant Ambi... False False False False
Value For Money False False False True
Food Quality True False False False
Staff Friendliness False True False False
Cleanliness False False True False

4. Software Architecture Diagram



5. Methods and Classes

These are the following methods and classes being used.

5.1. fbClass.cs

`fbExportClass` (Class)– This class is used to contain variables that are to be exported on the .csv file.

5.2. Home.cs

`submit_btn_Click` (Method/button) – It takes user to the userRating.cs file.

`adminToolStripMenuItem_Click` (Method/ Menu strip item) – It takes user to AdminLogin.cs file.

`exitToolStripMenuItem_Click` (Method/ Menu strip item) – When clicked it exits the whole program.

5.3. userRating.cs

`back_btn_Click` (Method/ Button) – Takes user back to Home.cs when clicked.

`exitToolStripMenuItem_Click` (Method/Button) – Exits the whole program.

`submit_btn_Click` (Method/Button) – Gets datagrid's value and writes in a csv file.

`loadRatingOpt` (Method) – Adds first column of the datagrid when the program runs

`userRating_Load` (Method) – Is executed at the beginning of userRating.cs file. Hence used to trigger `loadRatingOpt` and gets date and time.

5.4. AdminLogin.cs

`login_cancel_btn_Click` (Method/ Button) – closes AdminLogin.cs file when clicked

`login_btn_Click` (Method/ Button) – Takes user to AdminPanel.cs file only of the username and password is typed correct.

5.5 AdminPanel.cs

`importCSVToolStripMenuItem_Click` (Method/ Menu strip item) – Gets the source for datagrid, Also calls feedbackReader Method.

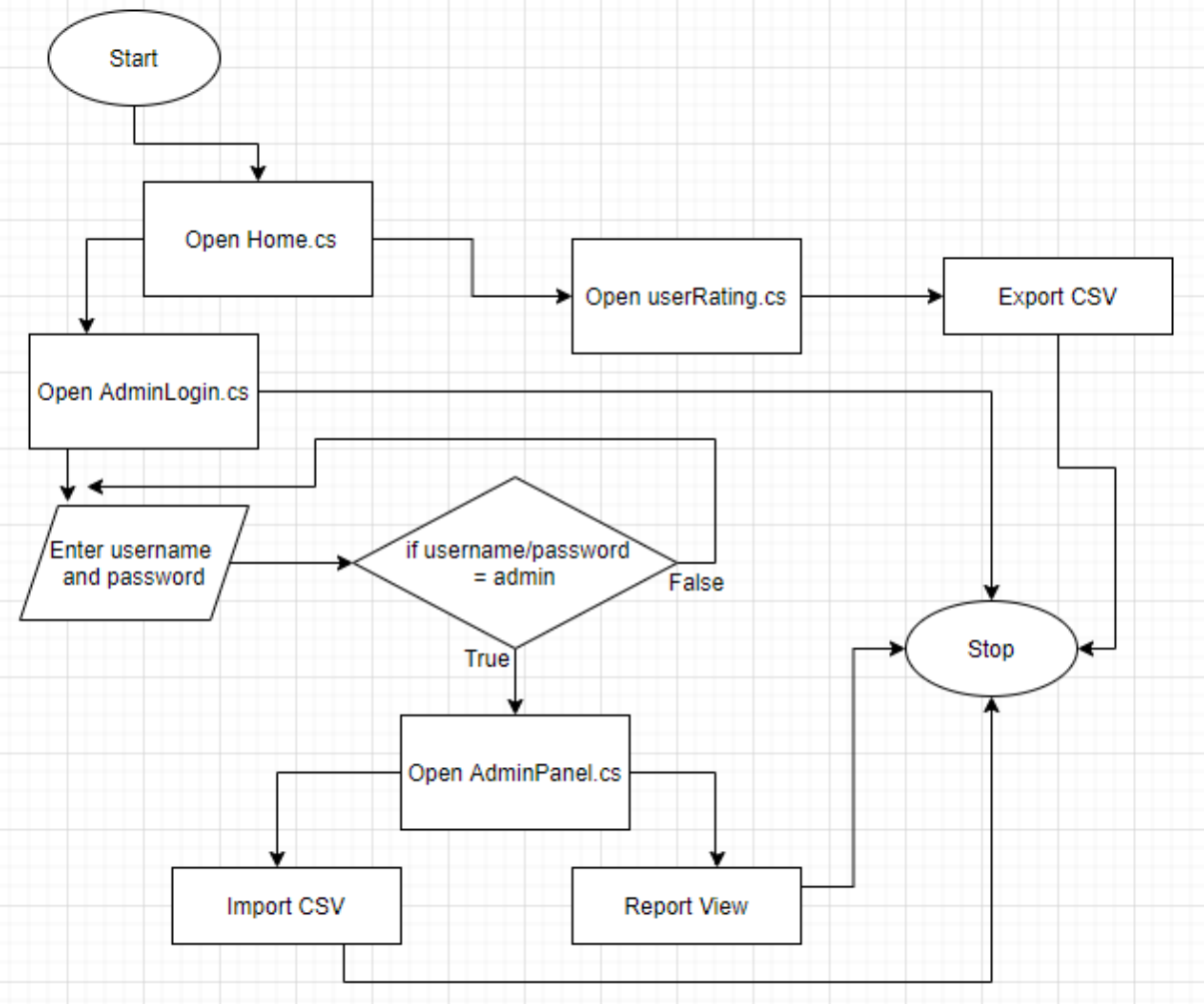
`feedbackReader` (Method) – Converts the csv file into datagrid format using list of fbClass.

`gridLoop` (Method) - It counts the number of true and false of each criteria and also its feedbacks and returns a 2D array.

`reportToolStripMenuItem_Click` (Method/Menu strip item) – `gridLoop` and the returned 2D array is used to display data in numeric view.

`fbClass` (Class) - Used as a collection of variable for the list to be displayed in datagrid.

6. Flow chart


Start
Open Home.cs
Open userRating.cs
Export CSV
Open AdminLogin.cs
Enter username and password
if username/password = admin
False
True
Stop
Open AdminPanel.cs
Import CSV
Report View

7. Data Structure and Algorithm description

The data structures I have used are list which was used to get the csv file using readline and each line was separated into lists and then displayed on the datagrid.

Also I have made an 2D array for the report generation part.

8. Conclusion

To conclude, this is my project for the Restaurant Rating System. Not only that I learned about C# but I learned many things on the way. Like even I got an idea of rating system working mechanism. Also the difficulties I faced in certain algorithms to work. All these helped me gain good experience.

I personally found C# very difficult to implement. Even the IDE visual studio was very resource heavy and complex for me. I think I am just not used to the environment of it. There are many ways and many namespace, library, etc. But that is also a good thing as if one way is not working there is always another way to look for in C#. So I think if one can master C# with all namespace and libraries it is very beneficial.

9. Bibliography

Tutorialspoint. (2021) *C# - Overview - Tutorialspoint* [Online]. Available from: https://www.tutorialspoint.com/csharp/csharp_overview.htm [Accessed 21 January 2021].