GE-103

BI-EN-CELL

Aaniranjan Saraf[#1], Ankit Kumar[*2], Avik Roy[*3], Rakesh Chaudhary[#4]

[1]2021MMB1340, 2021mmb1340@iitrpr.ac.in

[2]2021MMB1342, 2021mmb1342@iitrpr.ac.in

[3]2021MMB1345, 2021mmb1345@iitrpr.ac.in

[4]2021MMB1356, 2021mmb1356@iitrpr.ac.in

I. INTRODUCTION

In recent times, we have seen, a lot of changes in our mess (Annapurna Mess) in our respectful college. The introduction of new Food caterers (Kanaka Food Management Services and Bhopal Caterers), the implementation of the new pay-and -eat system replacing the old one-time payment system. This new changes implemented have a lot of mixed opinions and reviews. So, we are proposing a brand-new platform 'Bi-en-Cell' where students can propose to buy and sell coupons among themselves and also at no extra cost.

II. OBJECTIVES

To provide a digital platform for the easy exchange of food coupons among the students. To make it easy to sell or buy food coupons in the nick of time with using the principle of first-come-first-serve so offering no bias in the coupon exchange process. Also, it's a good start to digitalize our college's entire mess system .It has been quite difficult to buy these coupons a day before and keeping these small thin paper coupons safe, also problem arises when due to some reason we realise we are not able to eat in mess and then finding a buyer turns out to be difficult to approach. Also on the other side, if we forget to buy day-after tomorrow's meal coupons we are then left in dilemma finding out a seller of coupons and are left with the option to eat outside or worse-'stay hungry'. So, to solve this problem for the students once and for all we have made this project 'Bi-en-Cell' where users can exchange coupons for money or buy coupons in-case if they forgot to buy for that day or any other reason.

A) *ALGORITHM*

In our project we have taken the 'First-come-first-serve' principle into account. We have made three text files 'Datamine', 'Sellmine', 'Buymine' where we store the data of the students in the campus with their Entry number as their username and a unique password, 'Sellmine' stores the user data who wants to sell their coupons and 'buymine' are those who wants to buy the required food coupons of the mess. In our code we first make a registration and login page with a password verification and a otp generating and matching system for extra added security. Then we provide the users with the options 'Buy' or 'Sell', which when they choose are provided with the next options i.e., the meal options (Breakfast, Lunch, Snacks, Dinner). Then the users is matched with the opposite counterpart (Seller or Buyer). The buyer who has queried first for a coupon will be matched with the counterpart seller who has queried first to sell the same type of coupon be it (Breakfast, lunch, snacks, dinner).

B) *FUNCTIONS USED*

1) *REGISTRATION():*

The first step to enroll in the Bi en Cell network of IIT ROPAR, here we ask the user for their name and entry number for registration. The PWinput library is used for masking the characters of the password. The entry number being a universal identity of a student in the college, is declared as a global variable for convenience. Then creating a database-named 'DATAMINE.txt' for storing all the users details by using File handling and creating a local storage(currently) but soon to expand it into an internet server of Registered users Data. Input of the Name and entry number is asked from the user and these are checked against in the database—'DATAMINE.txt'. Then a function called the Confirmation() is called which is used to confirm the identity of the registering user by a Otp.,next comes the verification of the password with the re-entered password, if these two matches, the DATAMINE will be opened and the user will be successfully registered into the Newtork! ready to start buying and selling the coupons. One of the most important steps for confirming the user identity is the step of Otp verification.

2) *Generate_otp():*

This function creates a random six digit number using the random library and returns this OTP as a string, ready to send in email.

3) *Msg():*

This function creates a Humanly message to be sent along the OTP email.

4) *Send_OTP():*

In this function we have used the smtplib library which is pivotal for sending emails using python 3. First a server is created which calls 'gmail.com', then 'starttls' is performed on this server for securing the connection and now we login to the official email id of the Bi en Cell network to send the Email.

5) *CONFIRMATION():*

This function takes in the input of the OTP and if the OTP is correct we are allowed to proceed and if not, then we are given the option to re-send the OTP or to cancel and start all over again.

6) *LOGIN():*

In this function The DATAMINE is called upon for checking the entered Id number is registered or not, if it is, then the user is asked to enter their Password which is again masked using PWinput module. Using this FOR loop to check the entry number's existence in the 'DATAMINE.txt' file using methods for Slicing of a string, the variable username is the registered name corresponding to the entered entry number and the variable match is the password of the user. Only If the entered password matches with the variable match, the user is welcomed and if it doesn't the LOGIN() is forced to repeat.

7) *NAME_THIS():*

This is a function which gives the Name corresponding to an entry number, by opening the 'DATAMINE.txt' and saving all the users credentials into a List-- The List of Users.. The for loop checks all the users details which are stored in the 'DATAMINE.txt' as lines of strings, and slices through them for obtaining the Name of the user.

8) *MATCHMAKING():*

The Algorithm of matchmaking is pivotal for the purpose of matching the first buyer of an option say Dinner with the first Seller of the same option Dinner; serving to the purpose of first come first serve and no discrimination guaranteed!

here we open the buyer's database – 'BUYMINE.txt' file for seeing the active buyers list and simultaneously the 'SELLMINE.txt' file for the active Seller's list. The output comes to be the list of Matched Buyers & Sellers.

9) *MAIN():*

So, now we come upon the main pallet of our code. The main() function it provides the user with various options throughout its code be it login ang registration, choosing to either buy or sell coupons or choosing meal options (breakfast, lunch, snacks , dinner) first of all as we said the user is given the first choice of login or first time registration. If the user chooses login the user is asked to give the user_name and password if the password gets matched and sent otp is also verified then the user is given the choice to either propose to buy or sell his/her coupons. If the user chooses the option to buy his/her mess coupons. He/she is again asked to choose the meal option break., lunch, snacks, dinner. As soon as the user chooses his/her meal option, a timestamp is taken and stored in a variable. This data along with the entry number is stored in the buymine.txt file. The file is then closed after the operation. If the user chooses the option to sell his/her mess coupons. He/she is again asked to choose the meal option break., lunch, snacks, dinner. As soon as the user chooses his/her meal option, a timestamp is taken and stored in a variable. This data along with the entry number is stored in the sellmine.txt file.

III. CONCLUSION

In this project we have tried out to make an advanced level platform where we can implement our objective of providing a platform for buying and selling food coupons of the mess. We have a provided a no bias platform which serves users with a first-come-first-serve interface in giving out food coupons in the shortest time. Our project takes user entries using a username(Entry- number) and a personal password for each user. They are provided with each meal option to either buy or sell coupons from. Our code is quite efficient and can be implemented in the college as a actual mess coupon management system with more available options and also we are planning on making an online working website to make this project a more aesthetic and efficient system which could be used in real life scenario in our very own mess.

ACKNOWLEDGMENT

First of all, we would like to thank Dr. Iyengar Sir for providing us this golden opportunity to use our basic coding skills to try and make a solution of an actual problem which is present in our own campus. Also, with the support and guidance of our project mentor Ravi Bhatt Sir, we have been able to undertake and finish this project successfully. We would again thank our college and our respected professors and mentors to give us this chance of showing of our coding skills and being able to complete this project.

REFERENCES

[1] https://www.programiz.com/python-programming/datetime/current-time

[2] https://youtu.be/mP_Ln-Z9-XY

[3] https://youtu.be/o5MBF0yo6lA

[4] https://youtu.be/9eOxi7smTKg