DELHI TECHNOLOGICAL UNIVERSITY

PRS PROJECT REPORT

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Submitted To:

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SHOPPING CLUB SYSTEM

"MAKING IT EASY FOR YOU IN THE MALLS."

DELHI TECHNOLOGICAL UNIVERSITY

(Formerly Delhi College of Engineering)

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CANDIDATE'S DECLARATION

We, PIYUSH GUPTA(2K19/IT/097) & PIYUSH(2K19/IT/096), students of B. Tech. in Information Technology, hereby declare that the project Dissertation titled **SHOPPING CLUB SYSTEM** which is submitted by us to the Department of Information Technology, Delhi Technological University, Delhi in partial fulfillment of the requirement for the award of the mid-semester component evaluation, semester-3 of Bachelor of Technology is original and not copied from any source without proper citation. This work has not previously formed a basis for the award of any degree, Diploma Associateship, Fellowship, or any similar title or recognition.

Place: Delhi   PIYUSH GUPTA(2K19/IT/097)

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<u>CERTIFICATE</u>

We hereby declare that the project Dissertation titled " **SHOPPING CLUB SYSTEM**" which is submitted by PIYUSH GUPTA(2K19/IT/097) & PIYUSH(2K19/IT/096), Department of Information Technology, Delhi Technological University, Delhi in partial fulfillment of the requirement for the award of the mid-semester component evaluation, semester-3 of Bachelor of Technology, is the record of the project work carried out by the students under my supervision.

Place: Delhi

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At the very outset of this report, we would like to extend our sincere and heartfelt obligation towards all the personages who have guided us with the project.

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ABSTRACT

Many times people face problem to find the path for certain shop from where they are standing in big malls and it leads to roaming around and hence wasting a lot of time and it leads to frustration as well.

With the use of our software , we want to help those customers by providing a path from where they are standing to their favourable shop directly and hence saving their precious time and giving the customers a good purchasing experience.

With the use of software, customer can login and app will allow the customer to check their previous transactions with the particular shops.

CONTENTS

Chapter 1

AIM:

Designing an easy to use shopping club system. In this project, we aim to design a system to let customers find their destination shops from any location inside the mall easily .

INTRODUCTION:

Talking about the features of the Shopping club System, the administrator can enter entries of their items as well as can update their entries. In order to add records of items, the administrator has to provide item quantity, product id, production number, total cost, selling price and name. Besides, the user can get their bill and according to that they will be assigned in a queue. The last feature is about viewing the total profit of their items. Customer can get direction to any particular shop from any position in the entire mall.

The system creates an external file to store the user's data permanently. Shopping club system is developed using C++ Programming Language and different variables, strings have been used for the development of it.

CONCEPTS USED:

Graph Theory:

We have used graph theory to direct the path from where customer is standing to where he/she want to go.

We have used **Dijkstra's algorithm** to let a person find the best path to a particular shop from any given initial position of the person in the shop/mall.

Data structure we have used to implement graph theory are:-

- 2-D arrays
- Queue
- LinkedList
- Stack
- HashMap

Chapter 3

USE OF DIFFERENT DATA STRUCTURES:

Arrays:-

We have used arrays to store whether there is a path between two shops or not (edge between two vertices or not).

Queue:-

We have used queue to store the nodes and their child nodes which we have visited.

LinkedList:-

We have used linked list to implement queue.

Stack:-

We have used stack to store the path from where customer is standing to where he/she wants to go.

HashMap:-

We have used HashMap to store the names of the shop.

PROPOSED METHODOLOGY:

- ### ALGORITHM

Dijkistra's Algorithm:

1) Create a set sptSet (shortest path tree set) that keeps track of vertices included in shortest path tree, i.e., whose minimum distance from source is calculated and finalized. Initially, this set is empty.

2) Assign a distance value to all vertices in the input graph. Initialize all distance values as INFINITE. Assign distance value as 0 for the source vertex so that it is picked first.

3) While sptSet doesn't include all vertices

….a) Pick a vertex u which is not there in sptSet and has minimum distance value.

….b) Include u to sptSet.

….c) Update distance value of all adjacent vertices of u. To update the distance values, iterate through all adjacent vertices. For every adjacent vertex v, if sum of distance value of u (from source) and weight of edge u-v, is less than the distance value of v, then update the distance value of v.

CODE:

Our Software consist of three files:

index.cpp (Our main program)

shoplist.h (For storing shops name with category)

shoppath.h (For giving path using dijkstra)

Chapter 5

RESULTS:


```
C:\Users\piyush\Desktop\final_shopping_club_system\index.exe

+++++++++++++++++++++++++++++++++++++++++++|   WELCOME TO OUR MALL   |+++++++++++++++++++++++++++++++++++++++++++




Loading required files...!!!!
                1.Admin
                2.Employee
                3.Customer
                4.Wallet
                Note: For using our Mall's wallet you must register yourself and login
                Enter Your choice : 3


1. Want to get the path to your destination
2. Want to know about the shops
Enter your choice: 1
                        Choose in which floor you are standing
                        1). Ground Floor
                        2). First Floor
                        3). Second Floor
                        4). Third Floor
                        5). Fourth Floor


Enter your choice:
```

```
You should follow this path:

Now take left and Move 20 m ,you will reach at---> ADIDAS
Move 4 m straight
Now take right and Move 2 m ,you will reach at --->FOSSIL
Move 11 m straight,you will reach at---> ASCENDING STAIRS FOR FIRST FLOOR (NO.1)
Move to first floor,you will reach at---> ZARA
Move 11 m straight,you will reach at---> ASCENDING STAIRS FOR SECOND FLOOR (NO.1)
Move to the second floor,you will reach at---> MAX
Move 11 m straight,you will reach at---> ASCENDING STAIRS FOR THIRD FLOOR (NO.1)
Move  to the third floor ,you will reach at---> ASCENDING STAIRS FOR FOURTH FLOOR (NO.1)
Move to the fourth floor ,you will reach at---> DECATHLON
Move 15 m straight
Now take straight and Move 13 m ,you will reach at---> HOMEO
Move 12 m straight
Now take straight and Move 8 m ,you will reach at---> CRAFT STUDIO INDIA
Move 12 m straight,you will reach at---> PVR
Process returned 0 (0x0)   execution time : 35.703 s
Press any key to continue.
```

Chapter 6

CONCLUSION AND FUTURE WORK:

5.1 CONCLUSION

The objective of this project was to design a SHOPPING CLUB SYSTEM . Not just that we went ahead to design a wallet system the same, and we think we got the output we expected. Our shopping club system and wallet turned out to be quite fast and quite easy to use as well.

There is no hiding that there are already multiple implications of Shopping club system available online, however, using Dijkstra's algorithm for this makes it quite different. Finding exact path to a certain shop from any position in shop or mall makes everything easy as the person can shop in the shop or mall without wasting his/her time on just roaming around to find perfect place for them to shop.

Advantage of using dijkstra's algorithm is clearly visible in the outcome of the code as it make it so easy for the user to find the exact shot that they want to visit.

As it is said that there is always room for improvement, we can still work on this implementation and add even more features such as making a database for existing customers for future refrences. Even though initially planned to create an app or a user interface, we couldn't make it due to time restrictions but in the future, we aim to do so.

7.2 FUTURE WORK:

1. Making an app in to let customers use these features in shops/malls. .
2. Making an app for the Shopping Club System.
3. Improving some of the features to make it more user friendly.

4. Making a database to keep track of the transactions of the customers for future references.

PROJECT GITHUB LINK:

https://github.com/Piyush-coder3108/shooping_club_system