GOMENDRA MULTIPLE COLLEGE

Birtamode- 04, Jhapa
Affiliated to Purbanchal University

BCA-IT

1st Semester

Science and Technology

Project Report on

TRANSPORTATION MANAGEMENT SYSTEM

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ACKNOWLEDGEMENT

Project development is not an easy task. It requires the cooperation and help of various people. However, it often happens that words fail us when we are truly thankful and sincerely want to express our feelings of gratitude towards the one who helped us in the completion of the project.

Firstly, I would like to express my gratitude to Dr. Rupak Khanal, the college chief of Gomendra Multiple College, for providing us with this golden opportunity. Today, after completing my project work, I am immensely satisfied with the outcome. Although there were many difficulties during the project's development, our team captain, Miss Susmeeta Dangal, helped us overcome them. I would also like to thank my team members for their valuable help and guidance.

I would also like to extend my special thanks to Mr. Nabin Parsai for his guidance and valuable advice during the project period. He not only supervised us in practical and theoretical knowledge of computerized system of Transportation management system but also enlightened us about its significance in real-world application.

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Introduction of the Project

Transportation management system was developed to follow the system development stages for the smooth running and management of transportation. The time provided by the college helped us to define the current problems regarding the manual system of transportation. After gathering the information about the problems, our team started working in the computerized management system of transportation.

After the fulfillment of the system requirements (hardware and software), the system is carefully designed to ensure maximum efficiency of the system of a transportation. The system is skillfully and carefully coded to provide the best output using only C programming language.

This system will indeed help the transportation management, the staffs and managers to manage the transportation functionally and provide the best services in the field of transportation.

Objectives

The main objective of this project will be concentrated towards the development of such system product that will help in removing the problems encountered with the customer's record keeping method and reservation facilities for the travelling. This system will be focused for both administration and traveller who can manage all necessary tasks in reliable way, saving the precious time. The objectives of this system can be divided into two categories, which are being explained as follows:

General Objectives

- To develop a Transportation Management and Reservation System software.

Specific Objectives

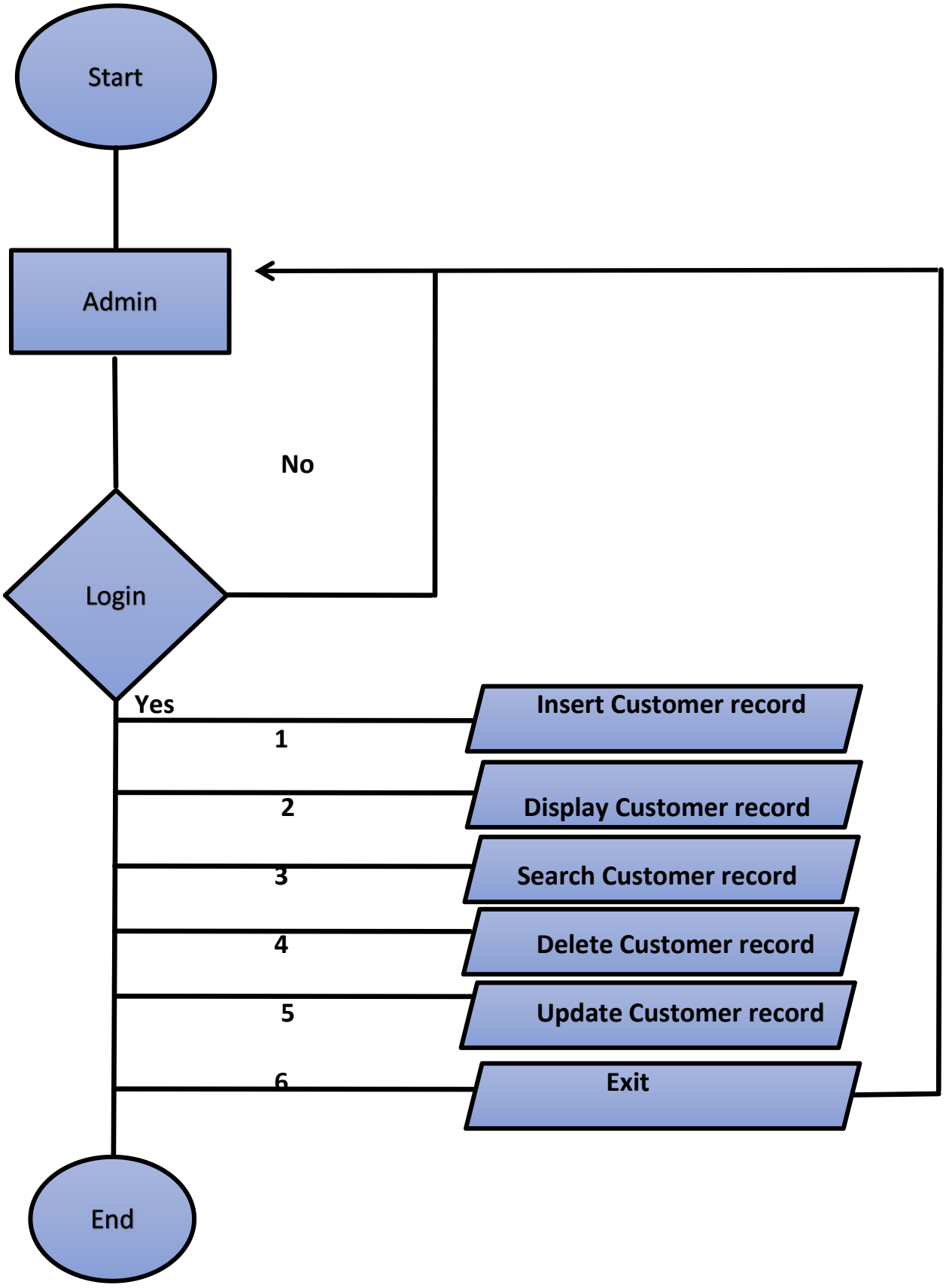
- To provide interaction of system with both administration and traveller.
-To keep detailed record of things and traveller.
-To keep detailed record of customers.
-To provide easy way to view details of customers.
-To provide reliable and easy way to book facilities to customers.
-To edit and manage customer's information.
-To keep proper information record of the transportation.

IMPORTANCE OF TRANSPORTATION MANAGEMENT SYSTEM

The significance of transportation management system are as follows:

- Enhanced security which includes protection against theft or damage
- TMS provides a transparent view of entire transportation process
- Making company tasks automatic to ensure bills are correct and and sent on time
- Accelerated delivery time frames due to fewer manual stages

System Flowchart



Coding

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

struct transport
{
   int id;
   int age;
   char name[30];
   char vehiclename[30];
   char destination[30];
   char shift[20];
   int amount;
} t;

void insert_record();
void display_record();
void search_record();
void delete_record();
void update_record();

int main()
{
   int ch; // for switch case
   char username[] = "transport", password[] = "password";
   char user[20], pass[20]; // for string comparison

   printf("USERNAME:");
   gets(user);
   printf("PASSWORD:");
   gets(pass);

   if (strcmp(username, user) == 0 && strcmp(password, pass) == 0)
   {
      printf("\n\n\n\n\n");
```

```
    printf("\t\t** WELCOME TO TRANSPORTATION MANAGEMENT
SYSTEM**\n");

    do
    {
      printf("\n\t....CHOOSE any one OPERATION...\n\n");
      printf("\t****Available operation****\n\n");
      printf("\t\t1:Insert Costumer record:\n");
      printf("\t\t2:Display Costumer record:\n");
      printf("\t\t3:Search Costumer record:\n");
      printf("\t\t4:Delete Costumer record:\n");
      printf("\t\t5:Update Costumer record:\n");
      printf("\t\t6:Exit\n");
      scanf("%d", &ch);

      switch (ch)
      {
        case 1:
          system("cls");
          insert_record();
          break;
        case 2:
          system("cls");
          display_record();
          break;
        case 3:
          system("cls");
          search_record();
          break;
        case 4:
          system("cls");
          delete_record();
          break;
        case 5:
          system("cls");
          update_record();
          break;
        case 6:
          exit(0);
        default:
```

```
                printf("Invalid choice. Please select a valid option.\n");
            }
        } while (ch > 0 && ch <= 6);
    }
    else
    {
        printf("\n\n\n\t\t ***INCORRECT USERNAME PASSWORD
COMBINATION***\n\n");
    }

    return 0;
}

void insert_record()
{
    int i, n; // number of passengers
    FILE *fptr;
    fptr = fopen("transport.txt", "a+");
    if (fptr == NULL)
    {
        printf("\n\nError: Unable to open file!!!\n");
        return;
    }
    printf("\n\n\t***ENTER PASSENGER DETAILS****\n\n");
    printf("Enter number of passengers: ");
    scanf("%d", &n);
    for (i = 0; i < n; i++)
    {
        printf("\nEnter traveler identity number provide unique identity to
each passenger: ");
        scanf(" \n %d", &t.id);
        printf("\n Enter the traveler Name: ");
        scanf(" \n %s", &t.name);
        printf("\n Enter the traveler Age : ");
        scanf("\n %d", &t.age);
        printf("\n Enter Vehicle Name: ");
        scanf(" \n %s", t.vehiclename);
        printf("\n Enter traveler destination: ");
        scanf("\n %s", t.destination);
        printf("\n Enter Traveling shift: ");
```

```
        scanf(" \n %s", t.shift);
        printf("\n Enter the amount for transportation: ");
        scanf(" %d", &t.amount);

        fwrite(&t, sizeof(t), 1, fptr); // Write the data to the file
    }
     printf("\n\tCongratulations your record has been successfully
entered...\n");

    fclose(fptr);
}

void display_record() {
    FILE *fptr;
    fptr = fopen("transport.txt", "rb");
    if (fptr == NULL) {
        printf("\n\n\t Error: cannot open this file!!!\n");
        return;
    }
    printf("\n\t***Traveler Details***\n\n");
    printf("Id \tName \t\tAge \tVehiclename \tDestination \tTravelling
Shift \tTransportation Amount");
    while (fread(&t, sizeof(t), 1, fptr) == 1){
    printf("\n%d \t%s \t\t%d \t%s \t\t%s \t\t%s \t\t%d", t.id, t.name, t.age,
t.vehiclename, t.destination, t.shift, t.amount);
    }
    fclose(fptr);
}



void search_record()
{
    int search, flag = 0;
    FILE *fptr;
    fptr = fopen("transport.txt", "rb");
    if (fptr == NULL)
    {
        printf("\n\t Unable to open file...!!!");
        return;
```

```
   }

   printf("\nEnter the id of the traveler you want to search:\n");
   scanf("%d", &search);

   while (fread(&t, sizeof(t), 1, fptr) > 0) //read and search the record in
file
   {
      if (search == t.id)
      {
         flag = 1;
         printf("\n\nSearch successful, record found...");
          printf("\n
Id\tName\t\tAge\tVehiclename\tDestination\tTravelling
Shift\tTransportation Amount\n");
           printf("\n%d\t%s\t\t%d\t%s\t\t%s\t\t%s\t\t\t%d", t.id, t.name,
t.age, t.vehiclename, t.destination, t.shift, t.amount);
         break;
      }
   }

   if (flag == 0)
   {
      printf("\n\n*** Record not found!! Please check the process
properly***\n");
   }
   fclose(fptr);
}


 void delete_record()
 {
        int id;
        int count=0,n=0;
        FILE*fptr,*nfptr;
        fptr=fopen("transport.txt","rb");
        if(fptr==NULL)
        {
                printf("Error!cannot open the file...");
                return;
```

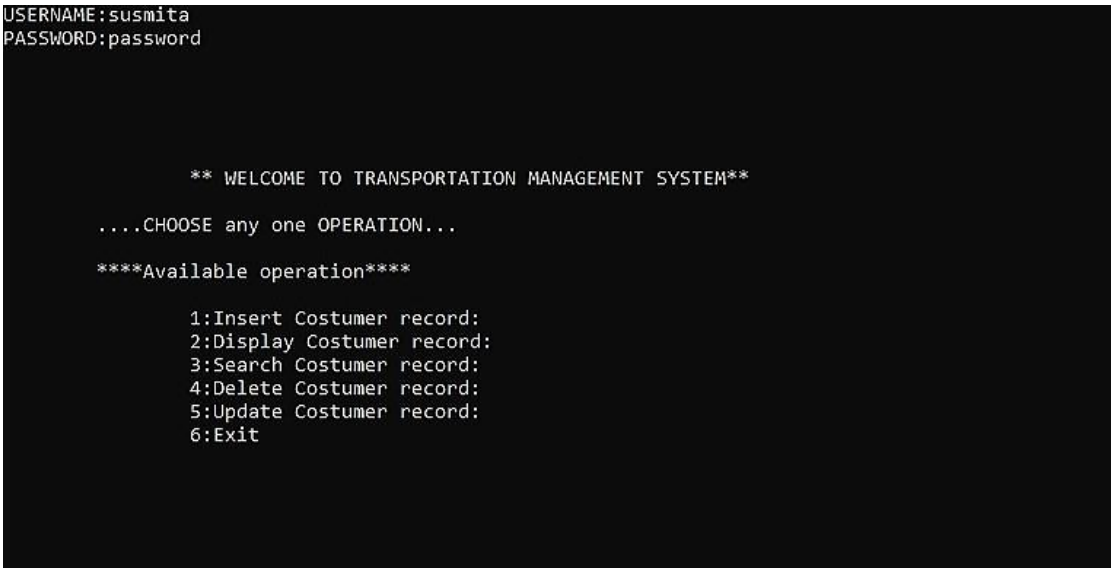
```
        }
        printf("\n\t\t***Previously stored record***\n\n");
        display_record();
        printf("\n\nEnter traveller id which you want to delete");
        scanf("%d",&id);
        nfptr=fopen("new.txt","ab+");
        if(nfptr==NULL)
        {
                printf("\n\nError! Unable to open file\n\n");
                return;
        }
        while(fread(&t,sizeof(t),1,fptr)==1)
        {
                n++;
                if(id!=t.id)
                {
                        fwrite(&t,sizeof(t),1,nfptr); //writing in file
                        count++;

                 }
        }
        if(count<n)
        {
                printf("\n\t\t***RECORD DELETED SUCCESSFULLY***\n");
        }
        else{
                printf("\n\t\t***RECORD NOT FOUND***\n");
        }
         fclose(fptr);
         fclose(nfptr);
         remove("transport.txt");
         rename("new.txt","transport.txt");
         display_record();
}

void update_record() {
   int id;
   int flag = 0;
   FILE* fptr;
   FILE* nfptr;
```

```
   fptr = fopen("transport.txt", "rb+");
   if (fptr == NULL) {
      printf("ERROR! Cannot open the file...\n");
      return;
   }

   printf("Enter the id of the customer you want to update:");
   scanf("%d", &id);

   nfptr = fopen("newfile.txt", "ab+");
   if (nfptr == NULL) {
      printf("\n\n Error ! Cannot open the file...\n");
      fclose(fptr);
      return;
   }

   while (fread(&t, sizeof(t), 1, fptr) == 1) {
      if (id != t.id) {
         fwrite(&t, sizeof(t), 1, nfptr);
      } else {
         flag = 1;

printf("Id\t\tName\t\tAge\t\tVehiclename\t\tDestination\t\tTravelling
Shift\t\tTransportation Amount\n\n");
            printf("\n%d\t\t%s\t\t%d\t\t%s\t%s\t\t%s\t\t%d", t.id, t.name,
t.age, t.vehiclename, t.destination, t.shift, t.amount);
       printf("\t**Now Enter the new record***\n\n");
         printf("Updated Customer ID No: ");
         scanf("%d", &t.id);
         printf("Updated Customer Age: ");
         scanf("%d", &t.age);
         printf("Updated Customer Name: ");
         scanf("%s", t.name);
         printf("Updated Vehicle Name: ");
         scanf("%s", t.vehiclename);
         printf("Updated Passenger Destination: ");
         scanf("%s", t.destination);
         printf("Updated Passenger Traveling Shift: ");
```

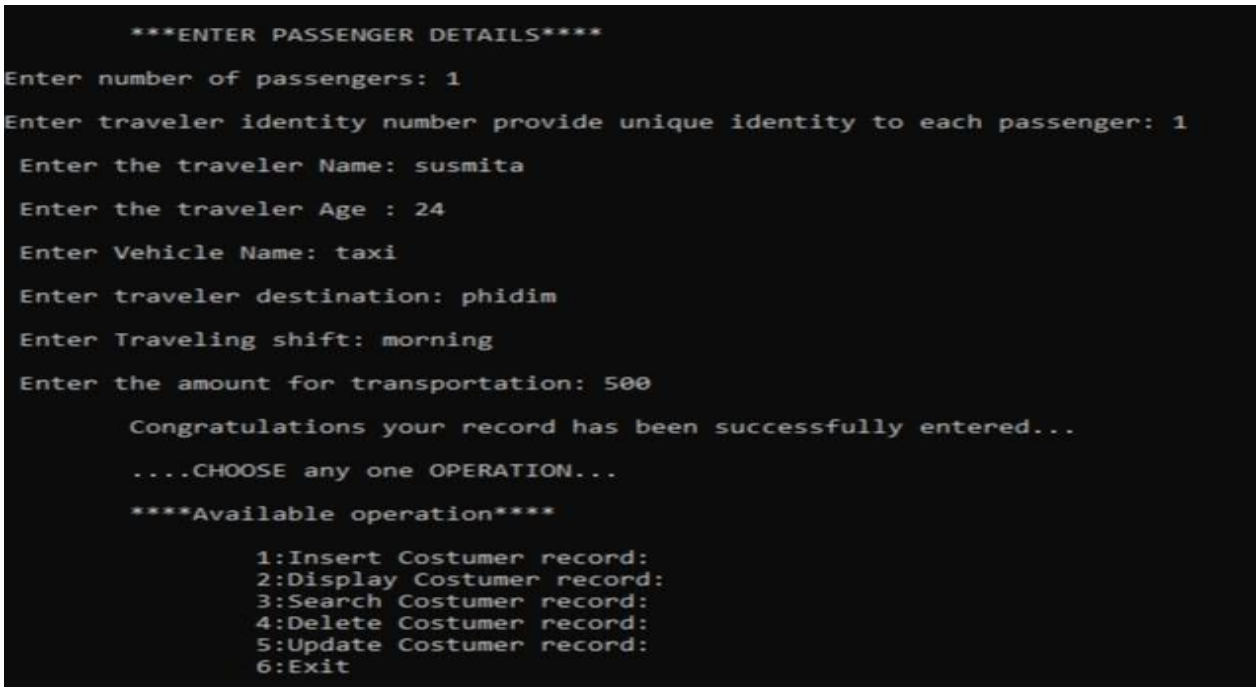
```
            scanf("%s", t.shift);
            printf("Updated Transportation Amount: ");
            scanf("%d", &t.amount);

            fwrite(&t, sizeof(t), 1, nfptr);
            printf("\n \n \t**RECORD UPDATED SUCCESSFULLY***\n");
        }
    }

    if (flag == 0) {
        printf("\n\t\tError: Record not found....!!!\n\n");
    }

    fclose(fptr);
    fclose(nfptr);
    remove("transport.txt");
    rename("newfile.txt", "transport.txt");
    display_record();
}
```

Output

Admin



1. Insert Customer Record



2. Display Customer Records

```
***Traveler Details***

Name    Age     Vehiclename     Destination     Travelling Shift        Transportation Amount
riya    19      bus             ktm             morning                 2000
....CHOOSE any one OPERATION...

****Available operation****

        1:Insert Costumer record:
        2:Display Costumer record:
        3:Search Costumer record:
        4:Delete Costumer record:
        5:Update Costumer record:
        6:Exit
```

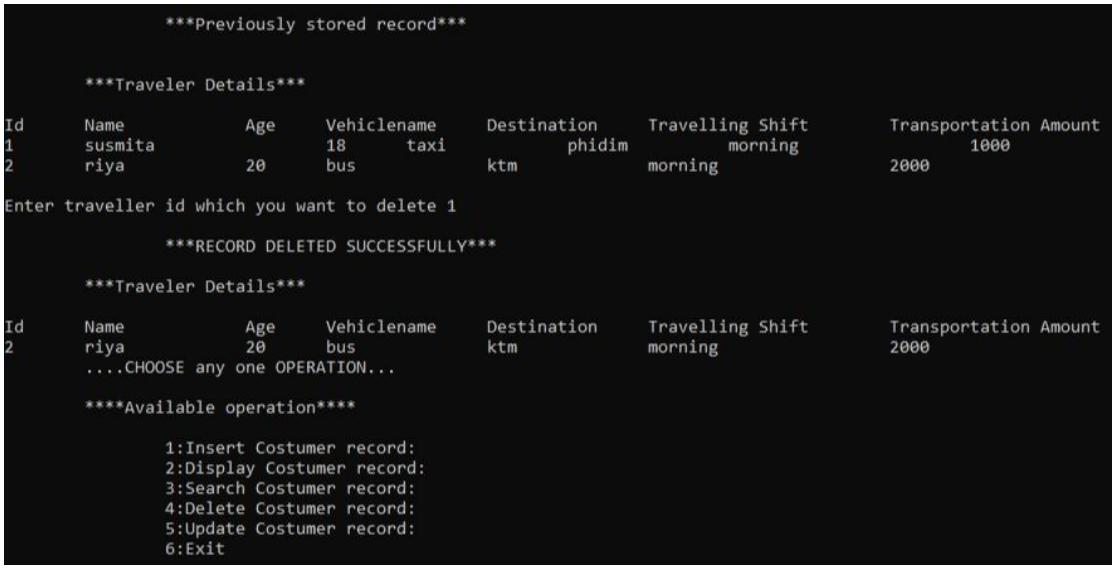
3. Search Customer Records

```
Enter the id of the traveler you want to search:
1


Search successful, record found...
 Id     Name            Age     Vehiclename     Destination     Travelling Shift        Transportation Amount

1       susmita         18      taxi            phidim          morning                 1000
        ....CHOOSE any one OPERATION...

        ****Available operation****

                1:Insert Costumer record:
                2:Display Costumer record:
                3:Search Costumer record:
                4:Delete Costumer record:
                5:Update Costumer record:
                6:Exit
```

4. Delete Customer Record

```
                ***Previously stored record***


        ***Traveler Details***

Id      Name            Age     Vehiclename     Destination     Travelling Shift        Transportation Amount
1       susmita                 18      taxi            phidim          morning                 1000
2       riya            20      bus             ktm             morning                 2000

Enter traveller id which you want to delete2

                ***RECORD DELETED SUCCESSFULLY***

        ***Traveler Details***

Id      Name            Age     Vehiclename     Destination     Travelling Shift        Transportation Amount
1       susmita                 18      taxi            phidim          morning                 1000
        ....CHOOSE any one OPERATION...

        ****Available operation****

                1:Insert Costumer record:
                2:Display Costumer record:
                3:Search Costumer record:
                4:Delete Costumer record:
                5:Update Costumer record:
                6:Exit
```

5. Update Customer Records



Abstract

Our group from Gomendra Multiple College was assigned with creating a project on "Transportation Management System" to meet the computerized needs of transportation management and reservation systems in today's world. This system is mainly designed to manage transportation facilities.

It is very necessary to choose an appropriate language to achieve the goal of preparation of a system in given time frame. Taking this in mind, we were assigned to choose C programming language as it is a language that is base of every other programming language. It is one of the most widely used language. As it provides low-level access to the memory, it requires minimum run-time support. We can divide a complex program into a number of functions that helps to make the work easier. As our system provides lots of services to users like inserting information, editing, viewing, deleting etc. , these all can be divided into different sub-routine which has clearly defined purpose. This language also provides a file-handling system which is a main key to develop our system. The project Transportation Management System manages and maintains the records of the customers, booking information, and other information of management. This system has been made in a user-friendly interface so that even a mildly skilled person can also add, delete, and edit the entries of customers and handle all the system without much difficulty.

Future Use and Implementation

The Transportation Management System(TMS) is a project developed with the intention of making travel and trips more efficient and reliable. It is designed to assist all types of travelers, whether they are traveling by air or road. It offers fast ticketing services and enables advance booking of tickets.

Our system is designed to offer an online ticket booking service, replacing the traditional approach which takes longer and causes delays and other issues. Our goal is to make the system accessible to everyone from their home, allowing for easier booking of tickets for various modes of transportation such as buses, airplanes, and trains. This will make transportation services more efficient, effective, and comfortable for everyone.

Conclusion

Upon completion, the "Transportation Management System" will resolve issues faced by transportation and ticket reservation agencies for forever. The system will employ scientific techniques to provide and fulfill travelers' seat requirements while traveling from one place to another. All passenger information will be managed and maintained in a more systematic and scientific manner.

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