SIX WEEKS SUMMER TRAINING OF PROJECT REPORT

on

PARKING MANAGEMENT SYSTEM

Submitted by

SUNIL PAL

Registration no:12102180

Program name: B.tech CSE

Under the Guidance of

Mr. Ravi Kant Sahu

Assistant Professor

School of Computer Science and Engineering
Lovely Professional University. Phagwara

(June- July, 2023)

DECLARATION

I hereby declare that I have completed my six weeks summer training at **Human Resource Development Center, Lovely Professional University, Phagwara (Punjab)** from **6th June 2023** to **17th July 2023** under the guidance of **Mr. Ravi Kant Sahu**. I declare that I have worked with full dedication during these six weeks of training and my learning outcomes fulfill the requirements of training for the award of degree of **B.Tech.(Computer Science & Engineering)** at Lovely Professional University, Phagwa

Sunil Pal

Registration No: 12102180

TABLE OF CONTENTS

INTRODUCTION

Parking management system for managing the records of incoming and outgoing vehicles in an parking house.

It's an easy for Admin to retrieve the data if the vehicle has been visited through number he can get that data.

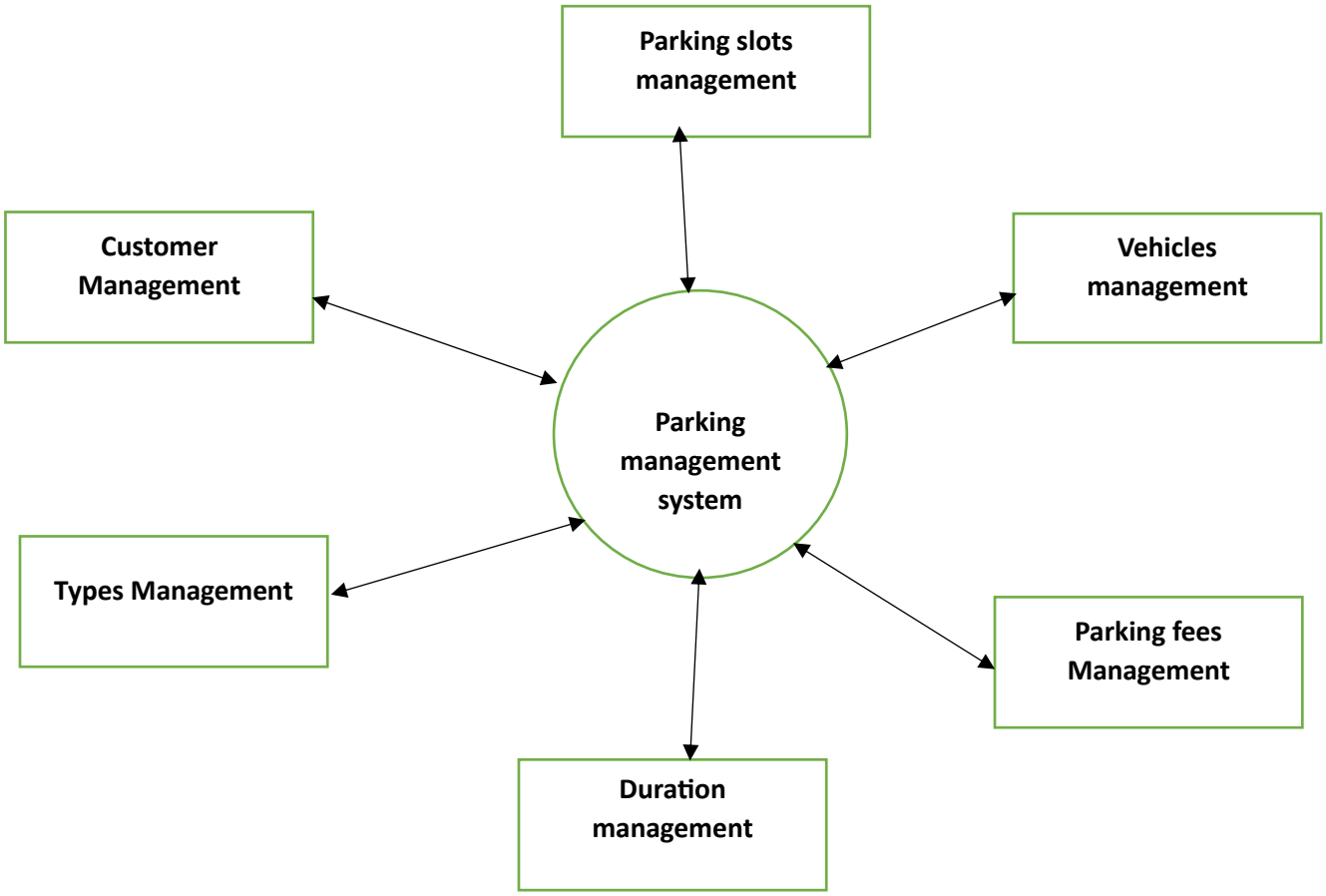
Now days in many public places such as malls ,multiplex system, hospitals, offices, market areas there is a crucial problems of vehicle parking. The vehicle parking areas has many lanes/ slots for car parking , so to park vehicle one has to look for all the lanes moreover this involves a lot of manual labour and investment . Instead of vehicle caught in towing the vehicle can park on safe and security with low cost.

Paking control system has been generated in such a way that it is filled with many secure devices such as, parking control gates, time and attendance mechine , car counting system etc. These features are hereby very necessary nowadays to secure your car and also evaluate the fee structure for every vehicles entry and exits.

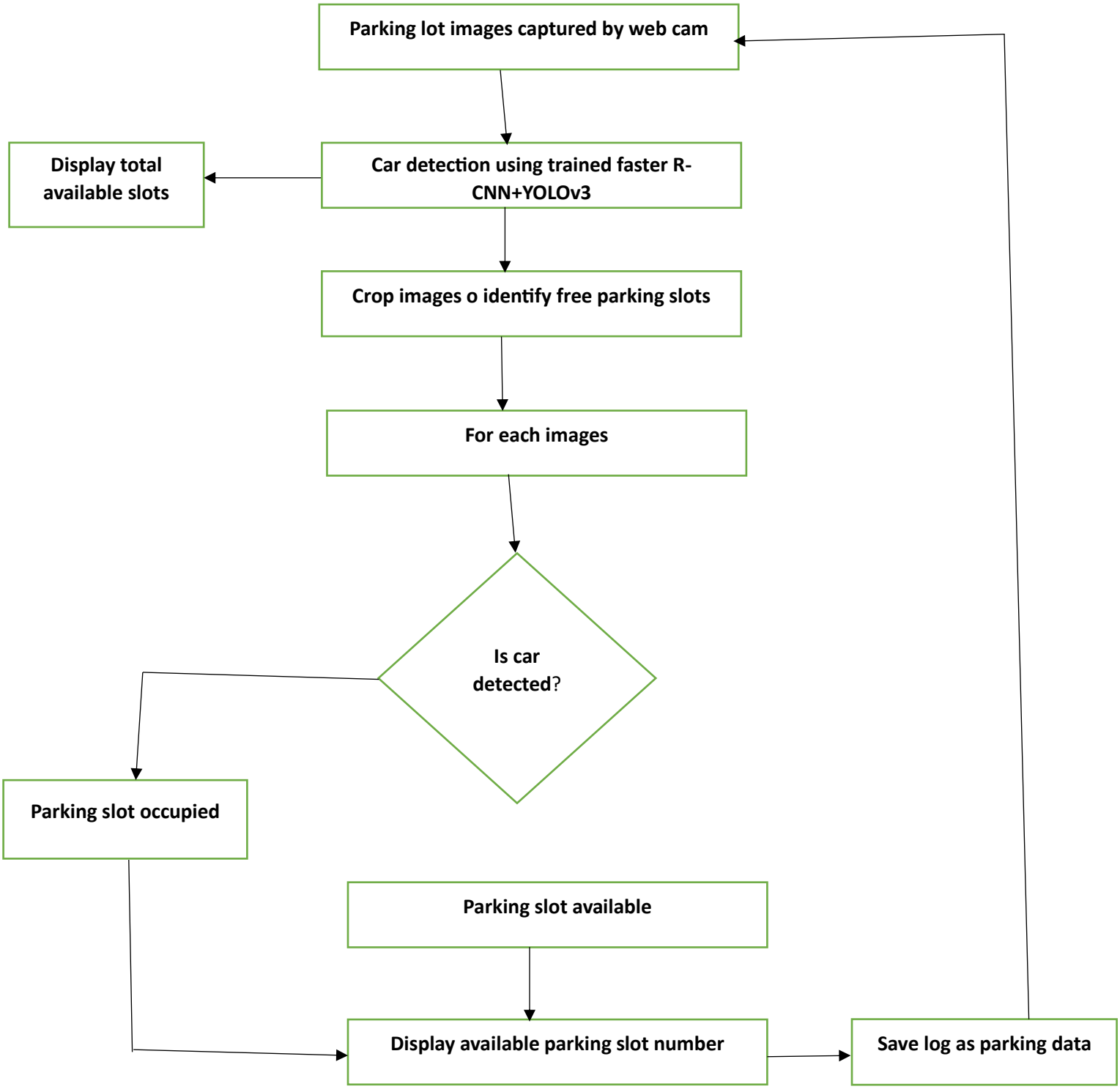
The main objective of this project is to build a vehicle parking management system that enables the time management and control of vehicles using number plates recognition.

The system that will track the entry and exits of cars , maintaining a list of cars within the parking lot, and determine if the parking lot is full or not.It will determine the cost of per vehicle according to their consumption.

ZERO LEVEL DFD DIAGRAM



FLOW DIAGRAM OF PARKING MANAGEMENT SYSTEM



CODES AND IMPLEMENTATIONS

```
#include <iostream>
#include <cstring>
using namespace std;

class parkVehicle
{
private:
   int bus_slot = 10, car_slot = 7, bike_slot = 4, auto_slot = 5;
   int earnings = 0, bus_count = 0, car_count = 0, bike_count = 0, auto_count = 0;
   char ownerName[50], parkingDate[10], vehicleNumber[15], vehicleFee[10];

public:
   void park_vehicle();
   void check_status();
   void bike_park();
   void auto_park();
   void car_park();
   void bus_park();
   void print_receipt();
};

// Function definitions moved outside the class declaration for better organization

void parkVehicle::print_receipt()
{
   cout << "\n      Here is your receipt!\n";
```

```
    cout << "**************************************\n";
    cout << "Vehicle owner name: " << ownerName << endl;
    cout << "Vehicle number: " << vehicleNumber << endl;
    cout << "Vehicle parking date: " << parkingDate << endl;
    cout << "Vehicle parking fees: " << vehicleFee << endl;
    cout << "**************************************\n";
}

void parkVehicle::bus_park()
{
    if (bus_slot == 0)
    {
        cout << "\nSorry! Bus parking slot is not available\n";
        return;
    }

    cout << "Enter your name: ";
    cin.ignore();
    cin.getline(ownerName, 50);
    cout << "Enter vehicle number: ";
    cin.getline(vehicleNumber, 15);
    cout << "Enter parking date: ";
    cin.getline(parkingDate, 10);
    strcpy(vehicleFee, "200");
    earnings += 200;
    print_receipt();
    bus_count++;
    bus_slot--;
}
```

```
void parkVehicle::car_park()
{
   if (car_slot == 0)
   {
      cout << "\nSorry! Car parking slot is not available\n";
      return;
   }

   cout << "Enter your name: ";
   cin.ignore();
   cin.getline(ownerName, 50);
   cout << "Enter vehicle number: ";
   cin.getline(vehicleNumber, 15);
   cout << "Enter parking date: ";
   cin.getline(parkingDate, 10);
   strcpy(vehicleFee, "150");
   earnings += 150;
   print_receipt();
   car_count++;
   car_slot--;
}

void parkVehicle::bike_park()
{
   if (bike_slot == 0)
   {
      cout << "\nSorry! Bike parking slot is not available\n";
      return;
```

```
    }

    cout << "Enter your name: ";
    cin.ignore();
    cin.getline(ownerName, 50);
    cout << "Enter vehicle number: ";
    cin.getline(vehicleNumber, 15);
    cout << "Enter parking date: ";
    cin.getline(parkingDate, 10);
    strcpy(vehicleFee, "50");
    earnings += 50;
    print_receipt();
    bike_count++;
    bike_slot--;
}

void parkVehicle::auto_park()
{
    if (auto_slot == 0)
    {
        cout << "\nSorry! Auto parking slot is not available\n";
        return;
    }

    cout << "Enter your name: ";
    cin.ignore();
    cin.getline(ownerName, 50);
    cout << "Enter vehicle number: ";
    cin.getline(vehicleNumber, 15);
```

```
    cout << "Enter parking date: ";
    cin.getline(parkingDate, 10);
    strcpy(vehicleFee, "100");
    earnings += 100;
    print_receipt();
    auto_count++;
    auto_slot--;
}

void parkVehicle::park_vehicle()
{
    int choose;

    cout << "\nPress 1 to park Bus" << endl;
    cout << "Press 2 to park Car" << endl;
    cout << "Press 3 to park Bike" << endl;
    cout << "Press 4 to park Auto" << endl;
    cout << "Choose parking vehicle: ";
    cin >> choose;

    switch (choose)
    {
    case 1:
        bus_park();
        break;
    case 2:
        car_park();
        break;
    case 3:
```

```
        bike_park();
        break;
    case 4:
        auto_park();
        break;
    default:
        cout << "\nInvalid choice, try again\n";
        break;
    }
}

void parkVehicle::check_status()
{
    cout << "\n              -: PARKING STATUS :-\n\n";
    cout << bus_count << " Bus is parked | " << bus_slot << " Bus slot is available" << endl;
    cout << car_count << " Car is parked | " << car_slot << " Car slot is available" << endl;
    cout << bike_count << " Bike is parked | " << bike_slot << " Bike slot is available" << endl;
    cout << auto_count << " Auto is parked | " << auto_slot << " Auto slot is available" << endl;
    cout << "Total earnings: " << earnings << endl;
}

int main()
{
    int choose;
    parkVehicle park;
    do
    {
        cout << "\n      -: WELCOME TO PARKING MANAGEMENT SYSTEM:-\n\n";
        cout << "This is the vehicle fees chart\n";
```

```
        cout << "Bus parking fees 200 | Car parking fees 150\n";
        cout << "Bike parking fees 50 | Auto parking fees 100\n";
        cout << "\nPress 1 to park your vehicle\n";
        cout << "Press 2 to check parking status\n";
        cout << "Press 3 to exit\n";
        cout << "Choose your option: ";
        cin >> choose;

        switch (choose)
        {
        case 1:
            park.park_vehicle();
            break;
        case 2:
            park.check_status();
            break;
        case 3:
            cout << "\nThank you for using our parking stand\n\n";
            break;
        default:
            cout << "\nInvalid option, try again\n";
            break;
        }
    } while (choose != 3);

    return 0;
}
```

SCREEN SHOTS OF OUTCOMES

```
131       cout << "Choose parking vehicle: ";
```

```
      -: WELCOME TO PARKING MANAGEMENT SYSTEM:-

This is the vehicle fees chart
Bus parking fees 200 | Car parking fees 150
Bike parking fees 50 | Auto parking fees 100

Press 1 to park your vehicle
Press 2 to check parking status
Press 3 to exit
Choose your option:
```

```
      -: WELCOME TO PARKING MANAGEMENT SYSTEM:-

This is the vehicle fees chart
Bus parking fees 200 | Car parking fees 150
Bike parking fees 50 | Auto parking fees 100

Press 1 to park your vehicle
Press 2 to check parking status
Press 3 to exit
Choose your option: 1

Press 1 to park Bus
Press 2 to park Car
Press 3 to park Bike
Press 4 to park Auto
Choose parking vehicle:
```

```
Press 1 to park Bus
Press 2 to park Car
Press 3 to park Bike
Press 4 to park Auto
Choose parking vehicle: 1
Enter your name: sunil
Enter vehicle number: 20214589
Enter parking date: 16-7-2023

       Here is your receipt!
****************************************
Vehicle owner name: sunil
Vehicle number: 20214589
Vehicle parking date: 16-7-2023
Vehicle parking fees: 200
****************************************
```

```
Press 1 to park your vehicle
Press 2 to check parking status
Press 3 to exit
Choose your option: 2

                -: PARKING STATUS :-

1 Bus is parked | 9 Bus slot is available
0 Car is parked | 7 Car slot is available
0 Bike is parked | 4 Bike slot is available
0 Auto is parked | 5 Auto slot is available
Total earnings: 200
```

```
      -: WELCOME TO PARKING MANAGEMENT SYSTEM:-

This is the vehicle fees chart
Bus parking fees 200 | Car parking fees 150
Bike parking fees 50 | Auto parking fees 100

Press 1 to park your vehicle
Press 2 to check parking status
Press 3 to exit
Choose your option: 3

Thank you for using our parking stand
```

REFERENCES

1. https://www.geeksforgeeks.org
2. www.youtube.com