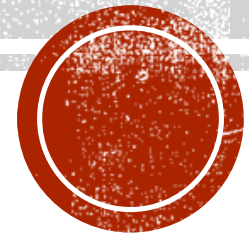


TECHNICAL DOCUMENTATION

Vehicle Recommendation System

Group 5



INDIVIDUAL CONTRIBUTIONS:

■ Mayank:

1. Developed the complete staff portal with all the features. The features include:
 - Update Profile for the staff
 - Add a member(maybe Cab driver or E-Rickshaw driver)
 - Delete a member by a username
 - Update the details of a member by its username
2. Merging
 - All the branches on github were merged.
 - The front end with the dashboard was also merged.
3. Testing along with minor bug fixes
4. Implemented the find fare algorithm and included fares of all cab drivers in the share and new booking tables in outcampus portal.
5. Implemented the no of passengers feature in the outstation portal
6. Wrote the initial part of the technical documentation



■ Annanya

1. Developed the E-Rickshaw login portal. The portal provided following features:
 - Update profile
 - Change the status
2. Helped in implementing the new booking and update booking part of the cab driver portal along with Aranya. Features:
 - Dealt with the bookings made by the cab driver with appropriate testing.
3. Implemented the share cabs and new booking feature of the out campus portal.
 - The share cabs displays a table showing all the cabs that can be shared by the user.
 - The new booking portal displays a table showing all the cab drivers who are free during the period and can take a new booking from a user.
4. Helped in creating out campus and in campus buses
5. Helped in creating the outstation portal
6. Testing and debugging



■ Aranya

1. Developed the update profile portal. Features:
2. Updating a drivers personal data like contact numbers and places he wishes to visit.
3. Developed the add booking and the new booking part of the cab driver portal along with Annanya. Features:
 - Dealt with the bookings made by the cab driver with appropriate testing.
 - In case someone shares a cab he can simply update the current passengers by incrementing I
4. Implemented the Emergency Portal
5. The portal would send mails to the Hospital, Police and the Fire Station with one liability of DSL connections or VPN connections instead of https proxy.
6. Helped in front end development of some forms in login portal with Rohan.
7. Wrote the technical documentation



■ Aviral:

1. Developed the outstation portal of the software:
 - Displays all the drivers who are willing to go to outstation places like shilling, tawang and gangtok.
2. Developed the In campus facilities
 - Displayed the required buses in in campus view
 - Implemented the algorithm to determine the distance between the user and E-Rickshaw based on their location
 - Displayed the E-Rickshaw drivers who were on duty. Also calculated the nearest E-Rickshaw driver given his location.
 - On double clicking the E-Rickshaw driver, included Bing Maps to display the location of the driver along with the users location.
3. Developed the out campus portal of the software:
 - Shows top 5 buses which are available to go to city or come from city.
 - Implemented the cab portal which when clicked prompts the used to enter values like source, destination and no of passengers.
 - The software then displays a map connecting the source and destination along with the distance highlighted.



4. Provided data validation and testing of the software
5. Created the front end of all tables and also helped in creating the front end of several portals along with Rohan



■ Rohan:

1. Developed all the front end of the software including that of the dashboard, login page, outstation, etc.
2. Developed the database which included all the tables
 - Populated some of the tables with real life values, like BusData
 - Did the necessary linking between tables.
3. Wrote the complete user documentation. Took all important screenshots for the same.
4. Served as The Team Leader keeping track of everything from management and logs , etc.
5. Testing and debugging.



FEATURES IN THE PROJECT

- Login Portal for Staff , Cab & E-Rickshaw separately
- E-Rickshaw Portal for E-Rickshaw Driver within IIT Guwahati.
- Cab Portal for all registered cab drivers currently in Guwahati .
- Outstation Portal for Cab Drivers going to locations near IIT Guwahati.
- Emergency Mail Feature for people wishing to contact Police , Fire Station and Hospital.
- In-Campus Portal for all buses and E-Rickshaw within IIT Guwahati.
- Out-Campus Portal for all buses and cabs plying from/to IIT Guwahati.



FEATURES OF IN-CAMPUS PORTAL

- 1) On Clicking the Check-Box named On-Duty , the Database is updated and the software only shows those E-Rickshaw Drivers which have put their On-Duty checkbox checked.
- 2) Buses moving within Campus have been sorted as per Time and the latest bus along with all other buses which follow the current time of system is shown.
- 3) On Double-Clicking the E-Rickshaw Data-Grid ,a New Form opens showing a Bing Map using Bing Map URL API using the latitude and longitude of the Driver. Here we have assumed that A GPS Facility is possible and can be further implemented in Version 2.1
- 4) E-Rickshaw Drivers can update their latitude,longitude, ,contact details and password. This feature has been implemented using Access Query which fetches the complete information from Database.
- 5) Nearest Driver from the user location has also been shown in the Portal. The distance is calculated using Haversine Formula.



```
board.vb X Dashboard.vb [Design] Bookingpart2.vb [Design] NewBooking.vb [Design] updatebooking.vb [Design] updateData.vb Update_Login.vb [Design]
(Dashboard Events) Load

Dim query As String = "Update [CabData] SET [Status] ="
Dim dbsource As String = "Provider=Microsoft.ACE.OLEDB.12.0;Data Source='C:\Users
Dim conn As New OleDbConnection(dbsource)
conn.Open()
Dim username As String = Label2.Text
If chduty.Checked = False Then
    query += "False " + "Where [UserName]= '" + username + "';"
    Dim cmd As New OleDbCommand(query, conn)
    cmd.ExecuteNonQuery()
    cmd.Dispose()
    conn.Close()

Else
    query += "True " + "Where [UserName]= '" + username + "';"
    Dim cmd As New OleDbCommand(query, conn)
    cmd.ExecuteNonQuery()
    cmd.Dispose()
    conn.Close()
```

UPDATING ON-DUTY CHECKBOX



FEATURES OF OUT-CAMPUS PORTAL

- A Cab-Driver can keep his status on/off using On-Duty CheckBox. If the CheckBox is not checked , he will not be shown to the users as an available Cab-Driver
- Share Cab Feature has been shown which internally takes input from the Database showing occupancy of all the cabs plying to the same Destination from the same source where a New user wishes to . It has date-time validity and passenger validity feature.
- New Booking Feature for user plying from one area to another with initial expected fare to the users. It basically shows up all the cab drivers who don't have a booking.
- A list of Buses which follow the user time is shown to users who are currently in Guwahati City and want to come back to IIT Guwahati campus.



```

(updateData Events) Load
Private Sub updateData_Load(sender As Object, e As EventArgs) Handles MyBase.Load
    usertxt.Text = Update_Login.TextBox1.Text
    Dim username As String = usertxt.Text
    Dim query As String = "Select * From [CabData] Where [UserName]= '" + username +
    Dim dbsource As String = "Provider=Microsoft.ACE.OLEDB.12.0;Data Source='C:\Users-
    Dim conn As New OleDbConnection(dbsource)
    Dim cmd As New OleDbCommand(query, conn)
    conn.Open()

    Dim reader As OleDbDataReader
    reader = cmd.ExecuteReader()
    While reader.Read()
        chcity.Checked = CStr(reader(5))
        chshillong.Checked() = CStr(reader(6))
        chtawang.Checked() = CStr(reader(8))
        chgangtok.Checked() = CStr(reader(7))
        txtcontact.Text = CStr(reader(2))
    End While
    cmd.Dispose()
    conn.Close()
End Sub

```

SHOWING INFORMATION OF CAB-DRIVERS



OUTSTATION PORTAL

A List of Cab-Drivers going to

- 1) Shillong
- 2) Gangtok
- 3) Tawang

is shown to the user with priority given to number of successful trips earlier conducted. The data is shown in the form of data-grid to the users.

After the trip is over, the user will basically report to the admin in case he likes the service of Cab-Driver so that counter of that trip can be updated in the database for further usage.



EMERGENCY PORTAL

- 1) A standard e-mail named softwarelab25@gmail.com has been used to send mails to the selected e-mail.
- 2) Three Sub-options for choosing have been added named 'Police', 'Hospital' & 'Fire-Station has been added for now'.
- 3) The portal sends an-email given there is a DSL Connection/VPN Connection/Mobile Hotspot. The E-Mail Feature wont work for HTTPS Proxy currently. But the code to use SMTP service from HTTPS proxy is currently in process of addition for Version 2.1
- 4) A Mail is sent to the desired mail which is present either in Inbox or Spam Folder and the Hospital/Police Station/Fire-Station which will then contact the user to tackle the situation of Emergency



```
1.vb* Form1.vb [Design]*
Send Click
Try
    Dim Smtplib_Server As New Smtplib_SmtpClient
    Dim email As New MailMessage
    Smtplib_Server.UseDefaultCredentials = False
    Smtplib_Server.Credentials = New Net.NetworkCredential("softwarelab25@gmail.com", "password")
    Smtplib_Server.Port = 587
    Smtplib_Server.EnableSsl = True
    Smtplib_Server.Host = "smtp.gmail.com"
    email = New MailMessage
    email.From = New MailAddress("softwarelab25@gmail.com")
    email.To.Add("prsrakeshgupta@gmail.com")
    email.Subject = "Yo"
    email.IsBodyHtml = True
    email.Body = txtaddress.Text
    Smtplib_Server.Send(email)
    MessageBox.Show("Message has been sent", "Success")
Catch ex As Exception
    MessageBox.Show(ex.Message)
End Try

End Sub
```

DEFINING A NEW SMTP CONNECTION FOR SENDING MAILS



E-RICKSHAW PORTAL

- The Portal opens with a Login Page.
- The Login Page consists of the feature to update his/her
 - Location
 - Contact Details
 - Status
 - Password



CAB PORTAL

The Login Page has the feature to add New Bookings.

The Login Page consists the feature of updating his/her

- Contact Details
- Location
- Password
- Status
- Bookings
- Choice of going to
 - City
 - Shillong
 - Gangtok
 - Tawang



```

query = "INSERT INTO [Booking] ( [CabId] , [Driver] , [Occupancy] ,[

'conn = New OleDbConnection(dbsource)
Dim cmdup As New OleDbCommand(query, conn)
cmdup.Parameters.Add(New OleDbParameter("CabId", CType(cid, String)))
cmdup.Parameters.Add(New OleDbParameter("Driver", CType(username, Str
cmdup.Parameters.Add(New OleDbParameter("Occupancy", CType(numofpasse
cmdup.Parameters.Add(New OleDbParameter("Source", CType(src_cb.Text,
cmdup.Parameters.Add(New OleDbParameter("Destination", CType(des_cb.T
cmdup.Parameters.Add(New OleDbParameter("Hour", CType(hour_tb.Text, S
cmdup.Parameters.Add(New OleDbParameter("Minute", CType(min_tb.Text,
cmdup.Parameters.Add(New OleDbParameter("Day", dat))

Try
    conn.Open()

    cmdup.ExecuteNonQuery()
    cmdup.Dispose()
    conn.Close()
    MessageBox.Show("Success")

```

ADDING NEW BOOKINGS

```

Dim bookid = updatebooking.bid_lbl.Text
Dim query As String = "Select * From [Booking] Where [BookingID]= " + bookid + "
Dim dbsource As String = "Provider=Microsoft.ACE.OLEDB.12.0;Data Source='C:\Users
Dim conn As New OleDbConnection(dbsource)
Dim cmd As New OleDbCommand(query, conn)
conn.Open()
'MessageBox.Show(query)
Dim reader As OleDbDataReader
reader = cmd.ExecuteReader()
While reader.Read()
    src_cb.Text = CStr(reader(4))
    des_cb.Text = CStr(reader(5))
    no_pass.Text = CStr(reader(3))
    hour_tb.Text = CStr(reader(6))
    min_tb.Text = CStr(reader(7))
    Dim dat As String = CStr(reader(8))
    If dat = DateTime.Now.ToShortDateString Then
        day_cb.Text = "Today"
    ElseIf dat = DateTime.Now.AddDays(1).ToShortDateString Then
        dav cb.Text = "Tomorrow"

```

UPDATING PREVIOUS BOOKINGS

