# *DBMS Final Project Report*

# *Online City Transportation System*

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# Introduction

Online City Transportation System is a software that assists you to book different modes of travel. It supports Intercity travel as well as Intercity Travel. Intercity travel is for travelling from the city to a different city. While Intracity travelling is for looking into available transport for moving across the city. The Intercity mode of travel has two services to it, Bus and Car Rental whereas the Intracity has Bus, Car and Train. It is important to know that the intercity travel can be booked online while the Intracity travel is only for viewing purposes. Once the user books he can see his log details for future purposes.

So the entire work is based on the User and the Admin Section where varied options have been provided for each to interact with the software and get there purposes fulfilled. The Admin has full control on each and every component of the System. Users who frequently use the service are kept under the hood so that their future bookings can be supported with discounts.

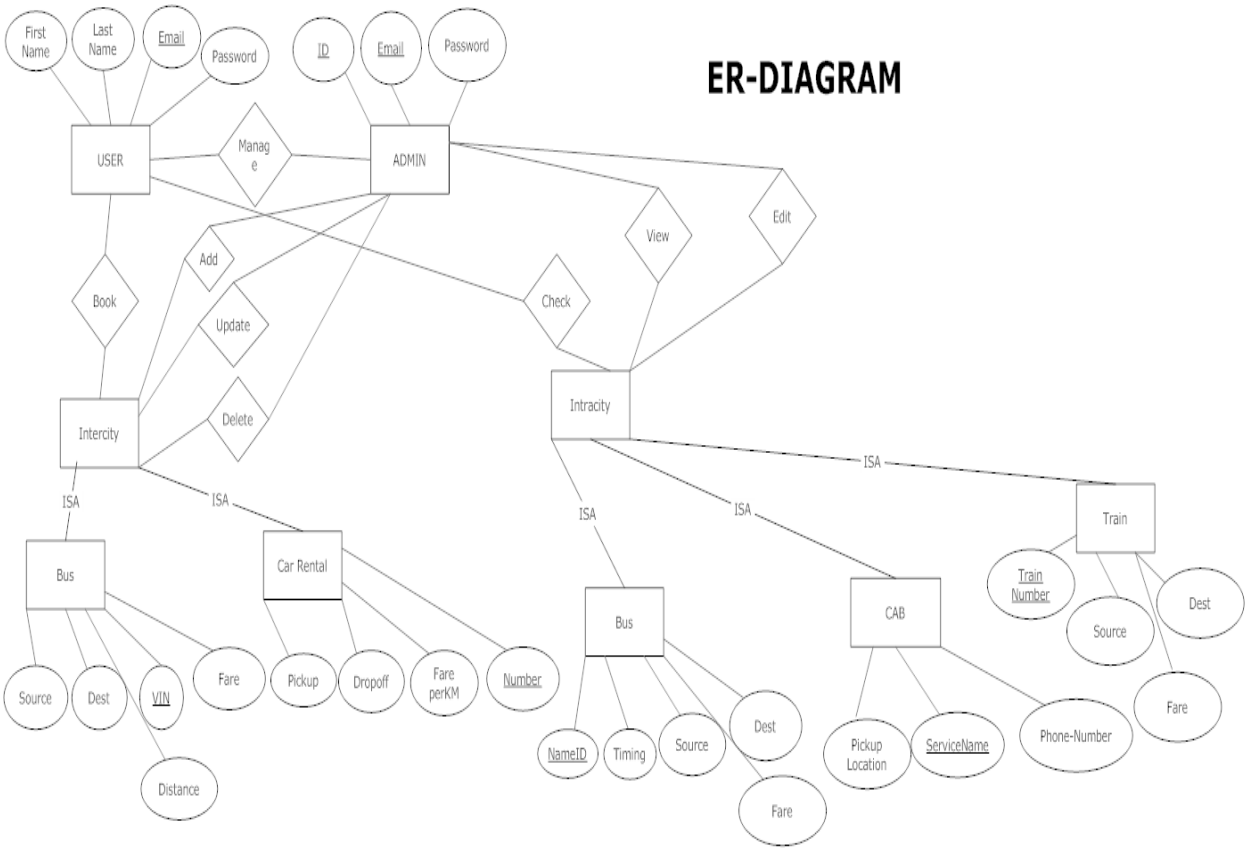
# System Architecture

The software has two components a User and an Admin Section. The User once they are into the site, they can register and open an account for themselves while the ones who already have an account can login with their credentials. Once they login, they can find options for Intracity as well Intercity travel which are hidden as link behind two I mages in the page. Once they click on Intercity they will be asked to select from either bus or Car rental from the drop down list. Well if they choose bus, they have select the source, destination and Type of travel viz AC/Regular. Once they enter these stuff they will be provide with the available buses with a booking link beside every record. They can click it to continue up to the booking page and then they can find all their information regarding the booking and then finalize the booking with the right kind of payment option the user wants. The other services follow a similar fashion. For Intracity services the user have to select the source, destination for bus services, pickup location for cab services and then again source and destination for Train services.

The Admin can control the entire system. He can view the users, view all other information stored in any table of the Database. He can add new services, update

existing services and delete services that are no longer required. He also keeps track of users who book frequently in order to give them discounts.

# ER Diagram



# Database Schemas

The Database tables that were used are :

1) Userdtl(Fname, Lname<*primary key*>, Email, Password)
2) Intrabus_details(Source, Dest, Busno<*primary key*>, Timings, Frequency,Price)
3) Interbus_details(Source, Dest, Vin<*primary key*>,Fare, Type, distance)
4) InterCar_details(Source, Dest, Vin<*primary key*>,FarePKM, Type)
5) IntraCar_details(Servicename<*primary key*>,Pickuplocation)
6) Intratrain_details(Source, Dest, Trainno<*primary key*>, Timings, Frequency,Price, distance)
7) InterbusRecords((uname, busno<primary>),type,fare, distance)
8) IntercarRecord((uname, Vin)<*primary*>, type, fare)
9) Admin(UserId< *primary key* >, Passcode)

# Implementation Framework

The project has been implemented using Java Server Pages. The server used was IBM Glassfish Server, for front end design HTML, CSS and JavaScript were used and for the database in the backend, Oracle 11g was used. The platform used for running the project is NetBeans ver 8.0.2. Initially a new web project was created in NetBeans. After that the Database Oracle 11g was installed. Following that the database connection was setup using Odbc6.jar. The necessary drivers were used and the connection was successful. After that designing the pages was the next task followed by the Java Code that helps connect with the database for accessing the database, adding new stuff to the Db or updating and deleting existing old stuff.

# Test Results

After a successful database connection and design of the entire project, the project was tested at each case and level. For each and every individual component that was created test cases were created and tested for false positives when our database is empty or when our database has the necessary information. When the database was empty is returned null values and when it had data it retrieved all the information matching to the user's requirements. Inoder to make sure that every

data was retrieved I used the auto commit command for SQL, so that whenever the Admin puts in new information either through his interface or the command line, its updated  instantly. Following are the snapshots of information retrieved showing the test results came out well and good.

# Snapshots

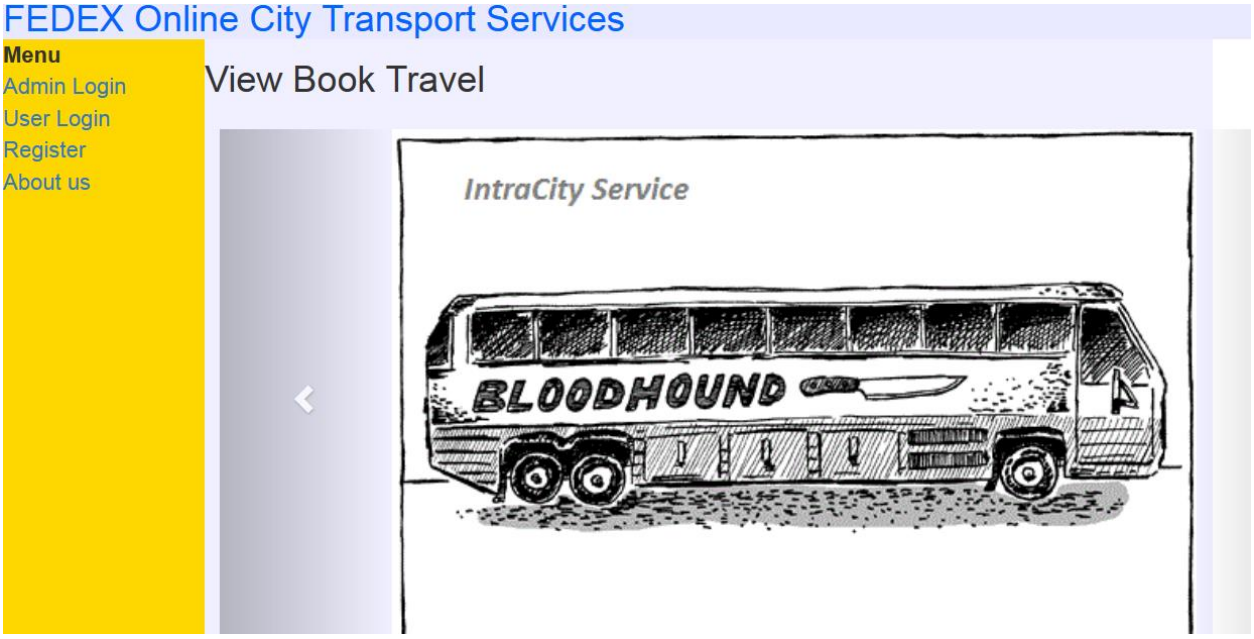



**Fig 1 Home Page**


**Fig 2 prompting the user to select a mode**

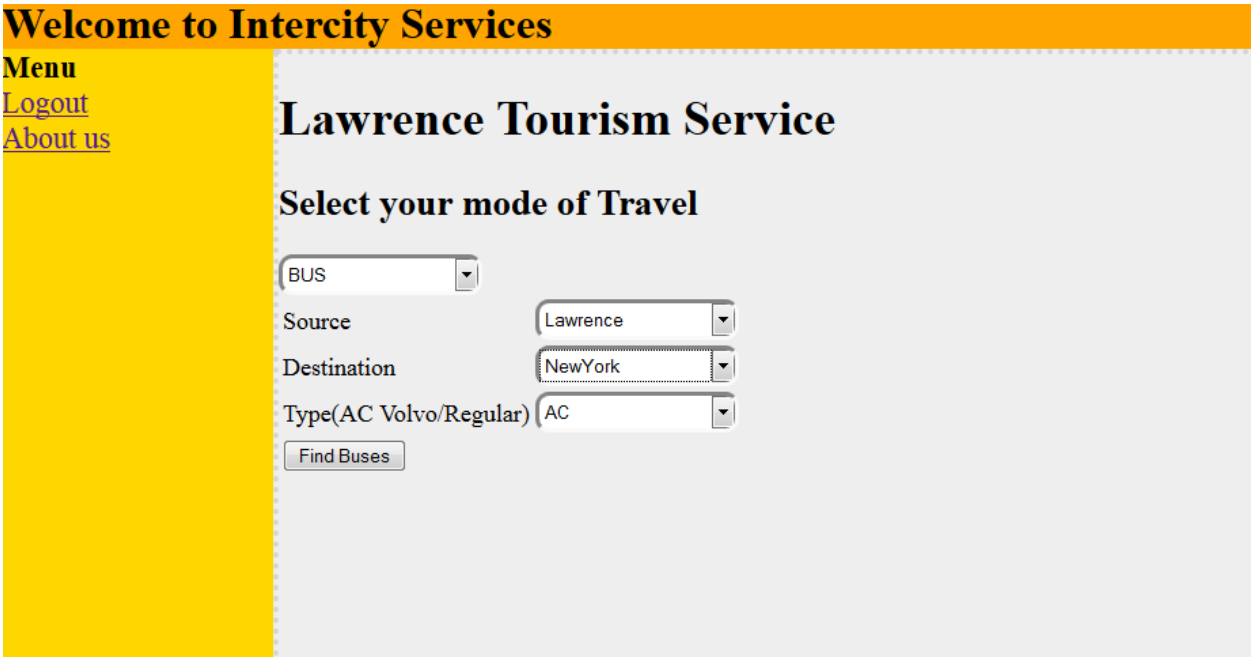
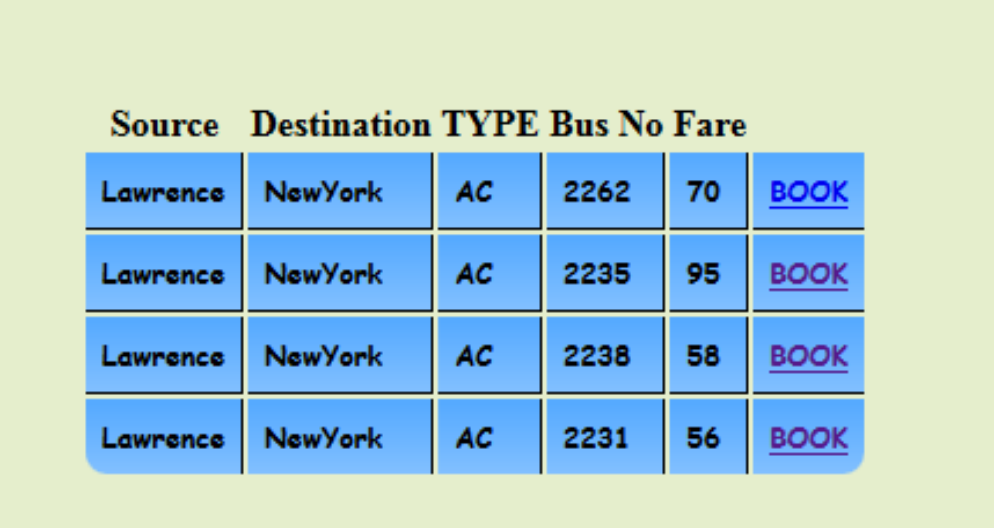
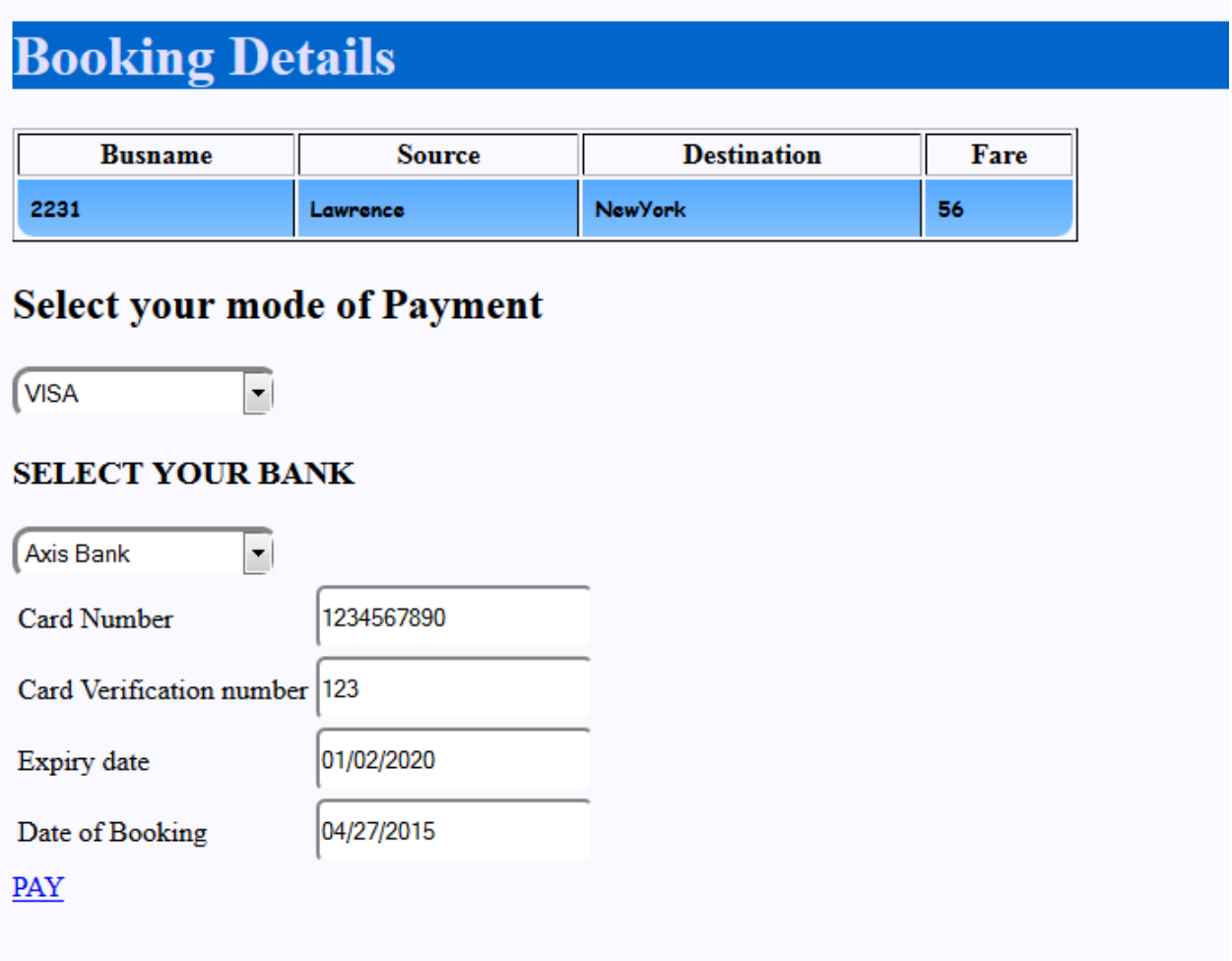



**Fig 3 Intercity Page**



| Source | Destination | TYPE | Bus No | Fare | |
|---|---|---|---|---|---|
| Lawrence | NewYork | AC | 2262 | 70 | BOOK |
| Lawrence | NewYork | AC | 2235 | 95 | BOOK |
| Lawrence | NewYork | AC | 2238 | 58 | BOOK |
| Lawrence | NewYork | AC | 2231 | 56 | BOOK |

**Fig 4 Results for Intercity**



## Booking Details

| Busname | Source | Destination | Fare |
|---|---|---|---|
| 2231 | Lawrence | NewYork | 56 |

### Select your mode of Payment

VISA

### SELECT YOUR BANK

Axis Bank

| | |
|---|---|
| Card Number | 1234567890 |
| Card Verification number | 123 |
| Expiry date | 01/02/2020 |
| Date of Booking | 04/27/2015 |

PAY

**Fig 5 Booking Page**

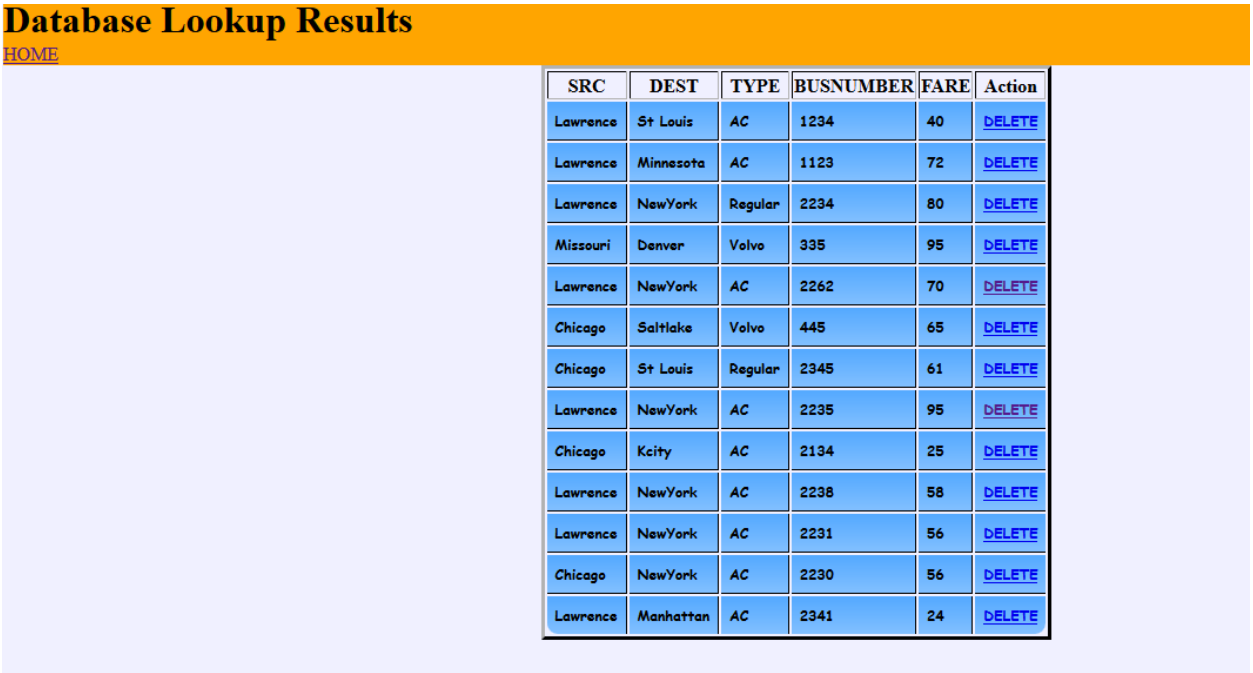



**Fig 6 Admin managing Intercity Bus Services**

# Code Samples

**Setting up the DB Connection with Oracle 11g and hence doing a login**

```
<%--

   Document   : lauthenticate

   Created on : Nov 9, 2013, 4:10:39 PM

   Author     : Arijit

--%>


<%@page import="java.sql.Statement"%>

<%@page import="java.sql.ResultSet"%>

<%@page import="java.sql.PreparedStatement"%>

<%@page import="java.sql.DriverManager"%>

<%@page import="java.sql.Connection"%>
```

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>

<!DOCTYPE html>

<html>

   <head>

      <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">

      <title>JSP Page</title>

   </head>

   <body>

       <%



            Class.forName("oracle.jdbc.driver.OracleDriver");

            Connection
con=DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:orcl1","SYSTEM","Database#13");

            String u_email = request.getParameter("T1");

            String u_password = request.getParameter("T2");

      System.out.println("hiiiiiii");

//PreparedStatement ps=con.prepareStatement("select * from user_details where u_email=? and
u_password=?");

//ps.setString(1,request.getParameter("T1"));

//ps.setString(2,request.getParameter("T2"));

//ResultSet rs=ps.executeQuery();

            Statement st = con.createStatement();

            ResultSet rs = st.executeQuery("select * from userdtl where u_email='"+u_email+"' and
u_password='"+u_password+"'");



            if(rs.next())

           {
```

```
 //HttpSession session1=request.getSession(true);
            session.setAttribute("u_name",rs.getString(1));
            session.setAttribute("l_name",rs.getString(2));
            session.setAttribute("u_email",rs.getString(3));
 %>
              <script type="text/javascript">
            alert("logged in");
 location.href="transport.jsp";
</script>
<%
            //response.sendRedirect("transport.jsp");
}
else
{
     System.out.println("done?");
            %>
            <script type="text/javascript">
            alert("Invalid Entry-Please Enter Proper USername OR Password....");
 location.href="Login.jsp"
            </script>
            <%
            session.setAttribute("u_nam","Invalid Entry");
            //response.sendRedirect("Login.jsp");
}
```

```
%>


   </body>
</html>
```

**Admin viewing Data Table**

```
<%--
   Document   : userdtl
   Created on : Nov 18, 2013, 1:00:20 AM
   Author     : Arijit
--%>



<%@page import="java.io.PrintWriter"%>
<%@page import="java.sql.ResultSetMetaData"%>
<%@page import="java.sql.ResultSet"%>
<%@page import="java.sql.Statement"%>
<%@page import="java.sql.DriverManager"%>
<%@page import="java.sql.Connection"%>
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
   <head>
      <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
      <title>JSP Page</title>
      <link type="text/css" rel="stylesheet" href="CityTransport.css" />
```

```
   </head>

   <body bgcolor=#F0F0FF>

      <div id="header" style="background-color:#FFA500; width:1500px">

         <h1 style="margin-bottom:0; ">Database Lookup Results</h1><a
href="adpower.jsp">HOME</a></div>

      <%

       Class.forName("oracle.jdbc.driver.OracleDriver");

       Connection
con=DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:orcl1","SYSTEM","Database#13");

       String tablename=request.getParameter("ddl1");

       PrintWriter out1=response.getWriter();

       Statement st = con.createStatement();

       String query ="select * from "+tablename;

ResultSet rs = st.executeQuery(query);

ResultSetMetaData rsmd = rs.getMetaData();



if(tablename.equals("userdtl"))

{



int columnsNumber = rsmd.getColumnCount();

%>

   <center><table  class="CSS_Table_Example" border="3" >

   <%

for(int i = 1 ; i <=columnsNumber; i++){ %>

<th><%= rsmd.getColumnName(i)%> </th>

<% }

%>
```

```
<th>Action</th>

<%

while (rs.next()) { %>

<tr>

<% for(int i = 1 ; i < columnsNumber; i++){

   %>

   <td>

      <%=rs.getString(i)%></td>




<%

} %><td>*******</td> <td> <a href=<%= "\"delete.jsp?Id=" + rs.getString(4)  %>"\""
%>DELETE</a></TD>



<%

   }

      %>

      </table></center>



      <%}


else{



int columnsNumber = rsmd.getColumnCount();

%>

   <center><table  class="CSS_Table_Example" border="3" >
```

```
   <%
for(int i = 1 ; i <= columnsNumber; i++){ %>
<th><%= rsmd.getColumnName(i)%> </th>
<% }
%>
<th>Action</th>
<%
while (rs.next()) { %>
<tr>
<% for(int i = 1 ; i <= columnsNumber; i++){
   %>
   <td>
      <%=rs.getString(i)%></td>



<%
} %> <td> <a href=<%= "\"delete.jsp?Id=" + rs.getString(4)  %>"\"" %>DELETE</a></TD>


<%
   }
      %>
      </table></center>


<% }
      %>
```

```
    </body>
</html>
```

**Booking an intercity bus**

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<%@page import="java.sql.ResultSet"%>
<%@page import="java.sql.Connection"%>
<%@page import="javax.activation.DataSource"%>
<%@page import="javax.naming.InitialContext"%>
<%@page import="javax.naming.Context"%>
<%@page import="java.sql.PreparedStatement"%>
<%@page import="java.sql.*"%>
<!DOCTYPE html>
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>JSP Page</title>
    </head>
    <body>

        <%
            try{
            Class.forName("oracle.jdbc.driver.OracleDriver");
```

```
        Connection
con=DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:orcl1","SYSTEM","Database#13");

        System.out.println("connected");




String u_name=(String)session.getAttribute("u_name");

String l_name=(String)session.getAttribute("l_name");

String fullName=u_name+""+l_name;

String busname=request.getParameter("bname");

String src=request.getParameter("src");

String dest=request.getParameter("dest");

String fare=request.getParameter("fare");

String bdate=request.getParameter("bdate");

//PreparedStatement ps=con.prepareStatement("insert into
user_details(u_name,l_name,u_email,u_password)values(?,?,?,?)");

Statement st = con.createStatement();



//ps.setString(1,u_name);

//ps.setString(2,l_name);

//ps.setString(3,u_email);

//ps.setString(4,u_password);



//int i=ps.executeUpdate();



int i = st.executeUpdate("insert into InterBusRecord
values('"+fullName+"','"+busname+"','"+src+"','"+dest+"','"+fare+"','"+bdate+"')");

st.executeUpdate("commit");
```

```
out.println(i);


if(i>0)
{
%>
<script type="text/javascript">
alert("You Have PayedSuccessfully!!!");
location.href="home.jsp";
</script>
<%
System.out.println(u_name);
//response.sendRedirect("Login.jsp");
}


else{
   %>
   <script type="text/javascript">
      alert("Email id already exists");
      location.href="Signup.jsp";
   </script>
   <%
}



        }
```

```
        catch(Exception e) {System.out.println(e.getMessage()); }
%>
   </body>
</html>
```

# Future Work

Although the project has been done to cover all the details that had been taken initially, the project can be further boosted by adding a few more things like implementing a proper payment gateway, giving advertisement on site, emailing the users on a successful booking or reminding them when to start so that they do not become late. If we include these features then it becomes a full-fledged software. Other than that care has been taken to fulfill all the details that was taken at initial decision. There were changes made to the database many times, tables were overridden to make things look simpler and accessible.