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Project report

On

Metro Navigation System

BCA

Degree

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Computer Science & Engineering

By

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Under the guidance of

Ms. Vajenti Mala

DECLARATION

We here by declare that the work being presented in this report entitled “ Metro Navigation System “ is an authentic record of our own work carried out under the supervision of Ms. Vajenti Mala Mam.

Date:

Signature of the student

Sweta Sinha

Department SCSE

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ABSTRACT

This is an integrated service which provide all information about the metro rail and it's routes for public.The proposed system is a web based application which provides information regarding timings, routes, fair.

This system manages public feedback about services through it's complaint management system. This system also contains an online ticket recharge module where users can recharge their smart cards online through the site.

There is also an admin module where admin can add stations, trains, routes and also update the fairs. The admin is a panel consisting of a group of authorized persons.

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CHAPTER 1

INTRODUCTION

A **metro station** or **subway station** is a [railway station](#) for a [rapid transit](#) system, which as a whole is usually called a "metro" or "subway". A station provides a means for passengers to purchase [tickets](#), board trains, and [evacuate](#) the system in the case of an emergency.

The location of a metro station is carefully planned to provide easy access to important urban facilities such as roads, commercial centres, major buildings and other [transport nodes](#).

Most stations are located underground, with entrances/exits leading up to ground or street level. The bulk of the station is typically positioned under land reserved for public [thoroughfares](#) or [parks](#). Placing the station underground reduces the outside area occupied by the station, allowing [vehicles](#) and [pedestrians](#) to continue using the ground-level area in a similar way as before the station's construction. This is especially important where the station is serving [high-density](#) urban precincts, where ground-level spaces are already heavily utilized.

In other cases, a station may be [elevated](#) above a road, or at ground level depending on the level of the train tracks. The physical, visual and economic impact of the station and its operations will be greater. Planners will often take metro lines or parts of lines at or above ground where urban density

decreases, extending the system further for less cost. Metros are most commonly used in urban cities, with great populations. Alternatively, a preexisting railway land corridor is re-purposed for rapid transit.

2.1 OVERVIEW

Metro Rail Management System consist of the following implementation modules.

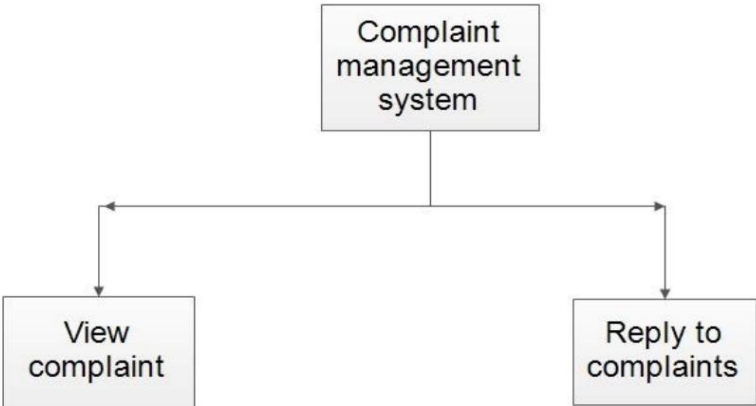


Fig. complaint management module

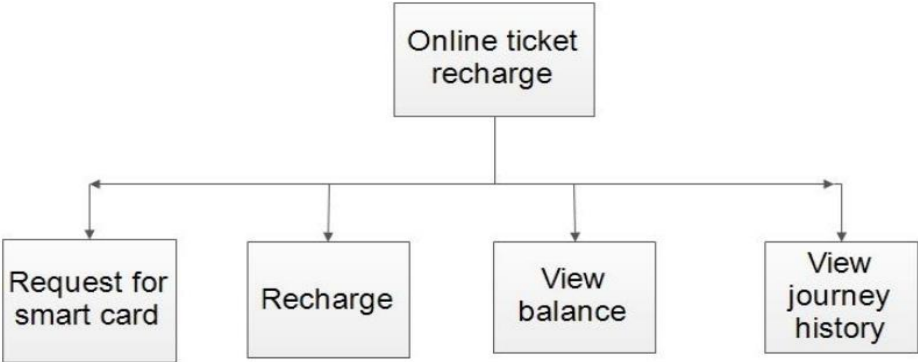


Fig. online ticket recharge module

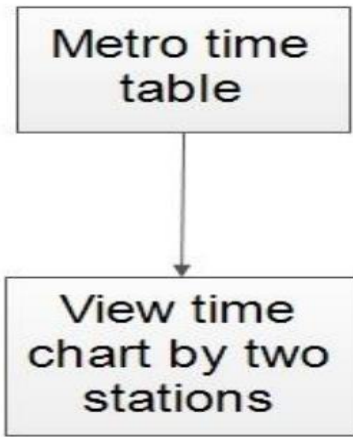


Fig. time table module

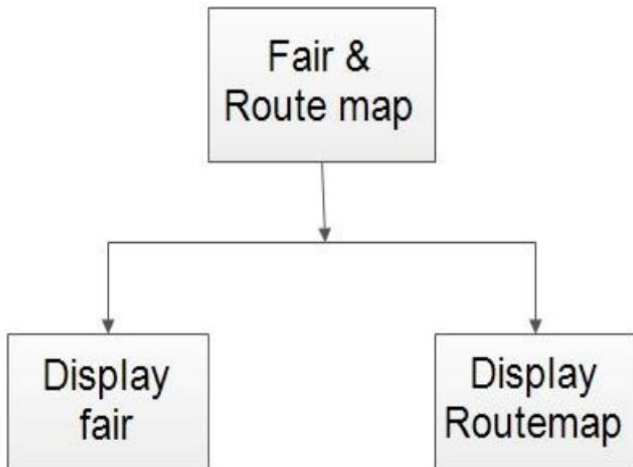


Fig. fair and route
Map module

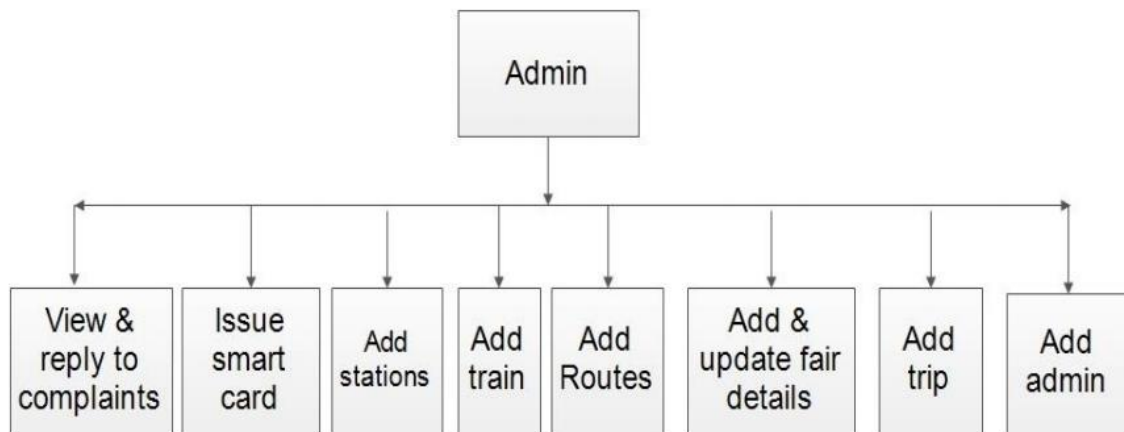


Fig. admin table

SYSTEM ANALYSIS

System analysis is the process of gathering and interpreting facts, diagnosing problems and using the information to recommend improvements on the system. System analysis is a problem solving activity that requires intensive communication between the system users and system developers. System analysis or study is an important phase of any system development process. The system is viewed as a whole, the inputs are identified and the system is subjected to close study to identify the problem areas. The solutions are given as a proposal. The proposal is reviewed on user request and suitable changes are made. This loop ends as soon as the user is satisfied with the proposal.

EXISTING SYSTEM

Information cannot be collected, processed and communicated more quickly and efficiently.

Current working systems doesn't ensure that right information reaches the right person at the right time.

PROPOSED SYSTEM

The proposed system is designed to eliminate the disadvantages of the existing system. The proposed system "Metro Rail Management System" is mentioned for tracing the problems in the existing system.

<<Increased efficiency and reliability.

<<Easier Access.

<<Easy to use

<< Provide accurate information to the user for taking necessary decisions.

<< Accuracy

<< Efficiency

<< Reliability

<< Accessibility, Usability and Understandability

CHAPTER 2

HARDWARE AND SOFTWARE REQUIREMENT

2.1) Hardware Requirement System Components:

1. Keyboard
2. Mouse
3. Desktop
4. C.P.U
5. 2.00 GHz Intel Core i3 Processor (minimum)
6. 4GB 1000 MHz DDR3 RAM (minimum)

2.2) Software Used:

1. Apache Tomcat v9.0
2. Oracle v11.0

2.3) Applications Used:

1. Eclipse IDE for Java EE Developers (Photon)

2.4) Programming Languages Involved:

1. Java
2. Java Server Pages
3. SQL
4. Command Line

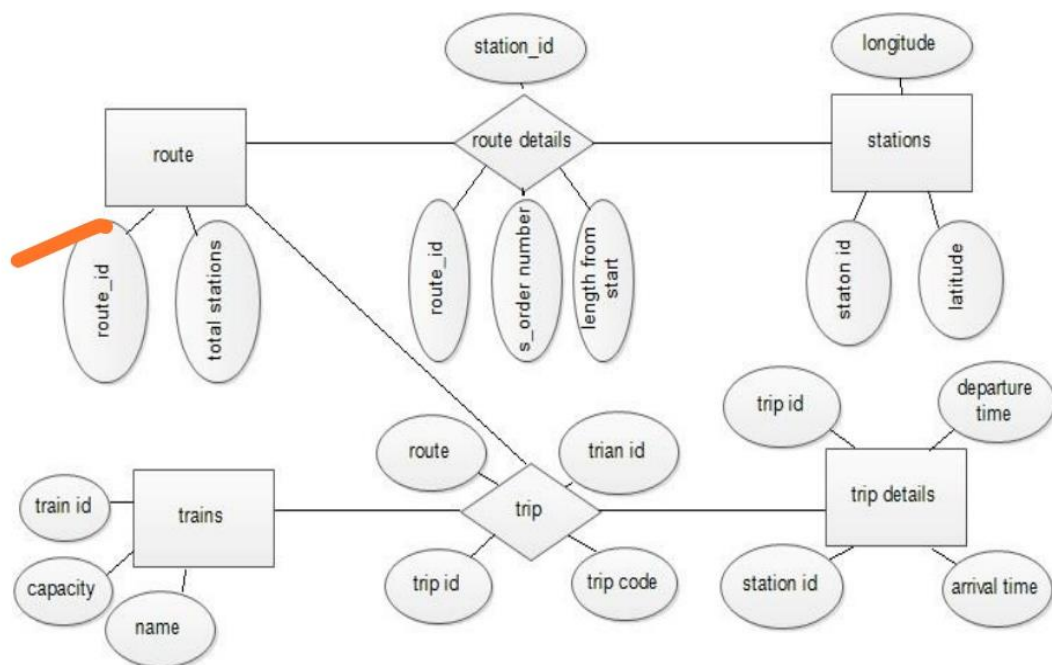
2.5) System Specifications:

1. Windows 10 OS
2. 2.00 GHz Intel Core i3 Processor
3. 16GB 1000 MHz DDR3 RAM

IMPLEMENTATION AND ARCHITECTURE DESIGN

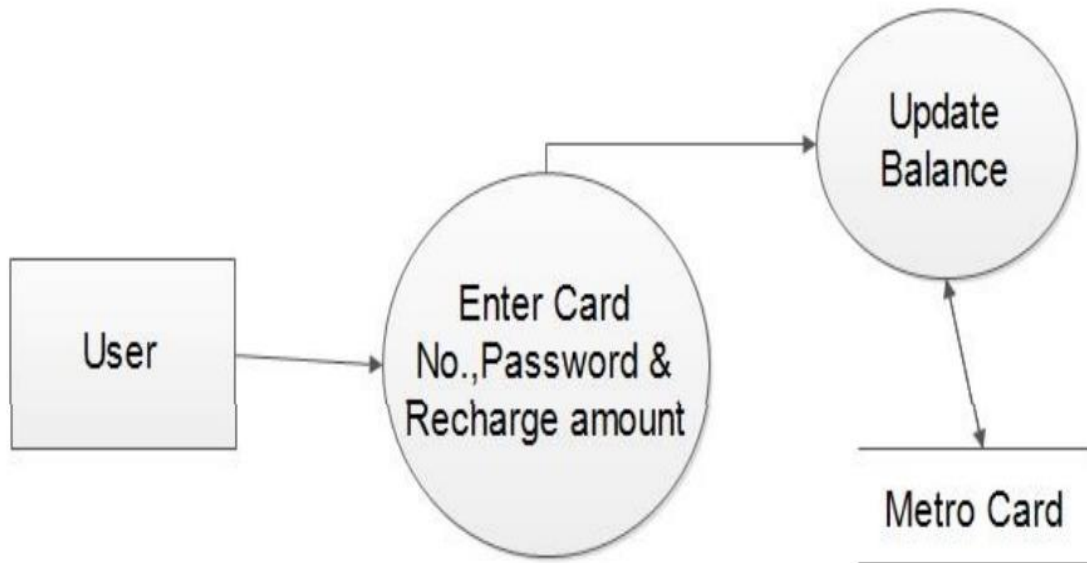
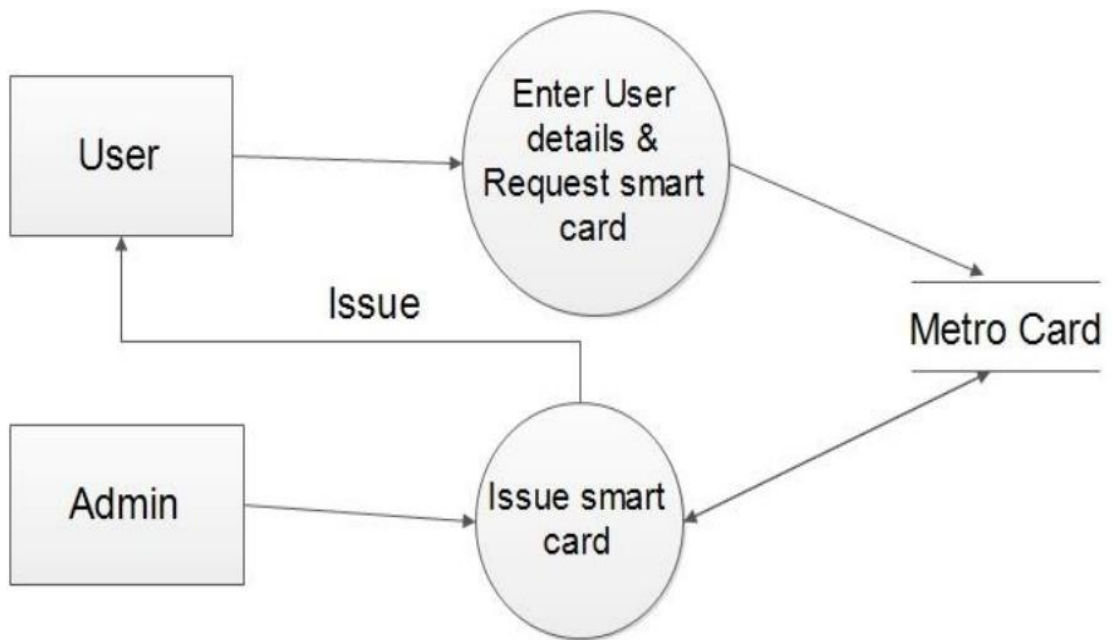
ER DIAGRAM

ENTITY RELATIONAL (ER) MODEL is a high-level conceptual data model diagram. ER modeling helps you to analyze data requirements systematically to produce a well-designed database. The Entity-Relation model represents real-world entities and the relationship between them. It is considered a best practice to complete ER modeling before implementing your database.



DATA FLOW DIAGRAM

A data-flow diagram is a way of representing a flow of a data of a process or a system. The DFD also provides information about the outputs and inputs of each entity and the process itself. A data-flow diagram has no control flow, there are no decision rules and no loops.



CHAPTER 3

OUTPUT / RESULT / SCREENSHOT

INTRO page



```
*metro.html - Notepad
File Edit Format View Help
<%@ page import="java.util.*" language="java" %>
<%@ page import="javax.servlet.http.HttpSession"%>
<!DOCTYPE html >
<%
String currentTab = "home";
String adminFlag="false";
if(session.getAttribute("adminVar")!= null)
{
adminFlag=session.getAttribute("adminVar").toString();
System.out.println("session:"+adminFlag);
}
try
{
if(!(request.getParameter("currentTab").isEmpty()))
currentTab = request.getParameter("currentTab");
else
currentTab = "home";
}
catch(Exception e)
{
System.out.print(e);
}
%>
<html>
<head>
<title>Metro Rail</title>
<meta http-equiv="Content-Type" content="text/html; charset=us-ascii" />
<link rel="stylesheet" type="text/css" href="css/styles.css" />
<script language="JavaScript" type="text/javascript">
functionredirectToTab(tab)
{
document.getElementById("currentTab").value = tab;
document.forms["homejspform"].submit();
}
function logout()
{
//alert("logout");
}
</script>
</head>
</html>
```

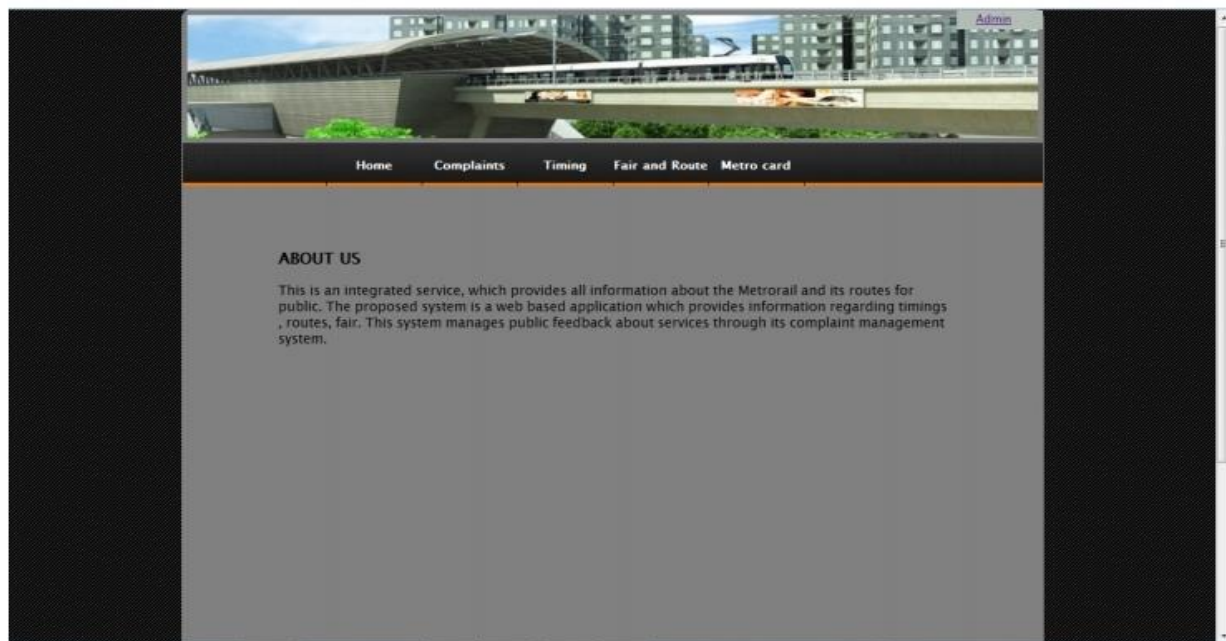
Ln 16, Col 3 90% Windows (CRLF) UTF-8 12:05 PM 5/4/2020

Activate Windows
Go to Settings to activate Windows.

HOME PAGE

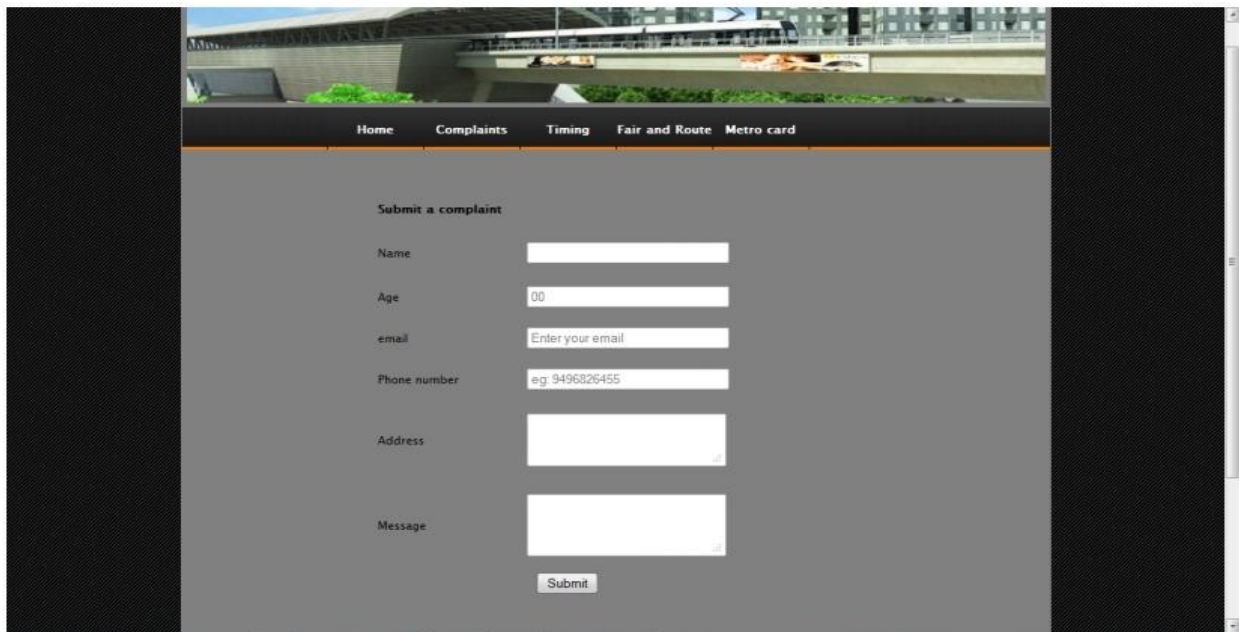
```
*metro.html - Notepad
File Edit Format View Help
| document.forms["homejsform"].submit();
}
function logout()
{
  //alert("logout");
  window.location.href = "logout.jsp";
}
</script>
</head>
<body>
<div class="container">
<div style="float:left;width:100%;height:2px;" >
<% if(adminFlag=="false") {%>
<div class="adminLogin"><a href="#" class="login"onClick="redirectToTab('adminLogin')">Admin</a>
</div>
<%>
else{%>
<div class="adminLogin"><a href="#" class="login"onClick="logout()">Logout</a>
</div>
<%>
<%>
</div>
<div class="header">

</div>
<div class="navdiv">
<div class="main-nav">
<ul>
<li><a href="#" class="link1" onClick="redirectToTab('home')">Home</a></li>
<li><a href="#" class="link2" onClick="redirectToTab('complaints')"> Complaints</a></li>
<li><a href="#" class="link3" onClick="redirectToTab('timing')">Timing</a></li>
<li><a href="#" class="link4" onClick="redirectToTab('fair')">Fair and Route</a></li>
<li><a href="#" class="link5" onClick="redirectToTab('recharge')">Metro card</a></li>
<% if(adminFlag=="true") {%>
<li><a href="#" class="link6" onClick="redirectToTab('admin')">Admin</a></li>
<%>
</ul>
</div>
</div>
Ln 37, Col 2 90% Windows (CRLF) UTF-8
Type here to search [Taskbar icons] 12:05 PM 5/4/2020
```



COMPLAINT PAGE

```
*metro.html - Notepad
File Edit Format View Help
$( "#complaintForm" ).submit( function ( )
{
    $.ajax( { type: "post", url: "addComplaintsAjax.jsp",
    data: $( "#complaintForm" ).serialize(),
    success: function( msg )
    {
        alert( msg );
        document. getElementById( "user" ).value= "";
        document. getElementById( "age" ).value= "";
        document. getElementById( "email" ).value= "";
        document. getElementById( "phone" ).value= "";
        document. getElementById( "address" ).value= "";
        document. getElementById( "c_msg" ).value= "";
    }
    } );
} );
</script>
</head>
<body>
<div class= "complaintTable">
<form id= "complaintForm" name= "complaintForm" class= "complaintForm" method= " post" action= "">
<table width= "400" border= "0">
<tr>
<th height= "35" align= "left">
<p><b>Submit a complaint</b></p>
</th>
</tr>
<tr>
<td height= "35" align= "left">
<p>Name</p>
</td>
<td align= "left" style= "padding-left: 7px;">
<p><input type= "text" name= "user" id= "user" size= "30" required/></p>
</td>
</tr>
<tr>
<td height= "35" align= "left">
<p>Age</p>
</td>
<td align= "left" style= "padding-left: 7px;">
<input type= "number" min= "10" max= "100" step= "1" pattern= "[1-9][09]" placeholder= "00" required name= "age" id= "age" size= "30" />
</td>
</tr>
<tr>
<td align= "left" style= "padding-left: 7px;">
<p>email</p>
</td>
<td align= "left" style= "padding-left: 7px;">
<input type= "text" name= "email" id= "email" size= "30" required/>
</td>
</tr>
<tr>
<td align= "left" style= "padding-left: 7px;">
<p>Phone number</p>
</td>
<td align= "left" style= "padding-left: 7px;">
<input type= "text" name= "phone" id= "phone" size= "30" required/>
</td>
</tr>
<tr>
<td align= "left" style= "padding-left: 7px;">
<p>Address</p>
</td>
<td align= "left" style= "padding-left: 7px;">
<input type= "text" name= "address" id= "address" size= "30" required/>
</td>
</tr>
<tr>
<td align= "left" style= "padding-left: 7px;">
<p>Message</p>
</td>
<td align= "left" style= "padding-left: 7px;">
<input type= "text" name= "c_msg" id= "c_msg" size= "30" required/>
</td>
</tr>
<tr>
<td colspan= "2" align= "center">
<input type= "submit" value= "Submit" />
</td>
</tr>
</table>
</div>
</body>
</html>
```



APPLICATION FOR METRO CARD

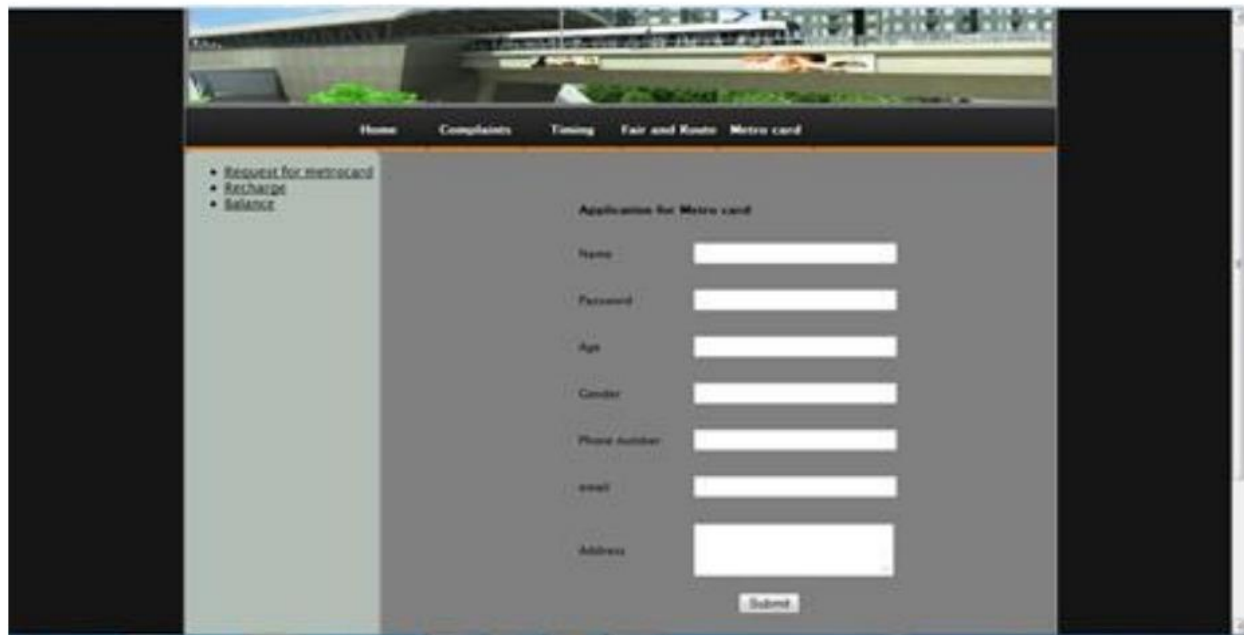
```
*metro.html - Notepad
File Edit Format View Help
<head>
<metahttp-equiv="Content-Type"content="text/html; charset=ISO-8859-1">
<title>Insert title here</title>
<linkrel="stylesheet" type="text/css"href="css/recharge.css"/>
<scripttype="text/javascript"src="jquery/jquery-2.0.2.js"></script>
<scripttype="text/javascript">

$(document).ready(function(){
  $('Form').submit(function(event){//prevent from refresh event.preventDefault();
  });

  $('#metroCardApplicationForm').submit(function ()
  {
    $.ajax({ type: "post", url: "addMetroCardFormAjax.jsp", data: $('#metroCardApplicationForm').serialize(), success:
function(msg){
  alert(msg);
  document.getElementById("loadDiv").innerHTML = "";
  jQuery("#loadDiv").load('applicationForCard.jsp');
  }
  });
  });
});
</script>
</head>
<body>

<divclass="rechargeTableDiv">
<formid="metroCardApplicationForm"method="post"action="">
<tablewidth="400"border="0">
<tr>
<thheight="35"align="left"colspan="2">
<p><b>Application for Metro card</b></p>
</th>
</tr>
<tr>
<tdheight="35"align="left">
<p>Name</p>
</td>
<tdalign="left"style="padding-left:7px;">
<p><inputtype="text"requiredname="user"id="user"size="30"/></p>
</tr>
<tr>
<tdheight="35"align="left">
<p>Password</p>
</td>
</tr>
</table>
</div>
</body>
</html>
```

Activate Windows
Go to Settings to activate Windows.



RECHARGE PAGE

```
*metro.html - Notepad
File Edit Format View Help
<p><input type="text" required name="age" id="age" size="30" /></p>
</td>
</tr>
<tr>
<td height="35" align="left">
<p>Gender</p>
</td>
<td align="left" style="padding-left: 7px;">
<p><input type="text" required name="gender" id="gender" size="30" /></p>
</td>
</tr>
<tr>
<td height="35" align="left">
<p>Phone number</p>
</td>
<td align="left" style="padding-left: 7px;">
<p><input type="text" required name="phone" id="phone" size="30" /></p>
</td>
</tr>
<tr>
<td height="35" align="left">
<p>email</p>
</td>
<td align="left" style="padding-left: 7px;">
<p><input type="text" required name="email" id="email" size="30" /></p>
</td>
</tr>
<tr>
<td height="35" align="left">
<p>Address</p>
</td>
<td align="left" style="padding-left: 7px;">
<p><input type="text" required name="address" id="address" style="width: 200px; height: 50px;" /></p>
</td>
</tr>
<tr>
<td colspan="2" align="center">
<input type="submit" value="Submit" id="add" />
</td>
</tr>
</table>
</form>
</div>
</body>
</html>
```

Activate Windows
Go to Settings to activate Windows.



TRAIN NO PAGE

```
*metro.html - Notepad
File Edit Format View Help

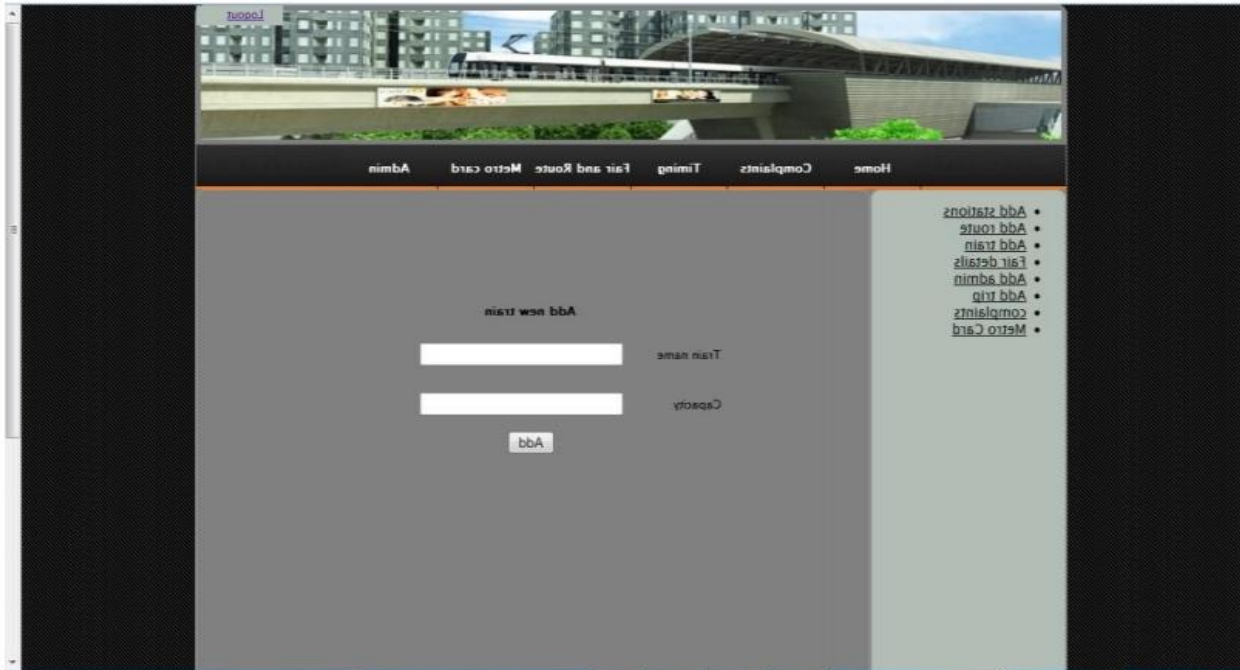
static Connection con = null;
static Statement stmt = null;
static ResultSet rs = null;

public static Connection getConnection() {
    try {
        Class.forName("com.mysql.jdbc.Driver");
        con = DriverManager.getConnection("jdbc:mysql://localhost:3306/metrorail", "root", "");
    } catch (Exception e) {
        System.out.println("Exception" + e);
    }
    return con;
}

public static boolean executeUpdate(String query) {
    boolean f = false;
    try {
        con = getConnection();
        stmt = con.createStatement();
        int b = stmt.executeUpdate(query);
        if (b > 0) {
            f = true;
        } else {
            f = false;
        }
    } catch (Exception e) {
        System.out.println("Exception" + e);
    }
    return f;
}

public static ResultSet executeQuery(String sql) {
    try {
        con = getConnection();
        stmt = con.createStatement();
        rs = stmt.executeQuery(sql);
        return rs;
    } catch (Exception e) {
        System.out.println("Exception" + e);
    }
    return null;
}
}

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```



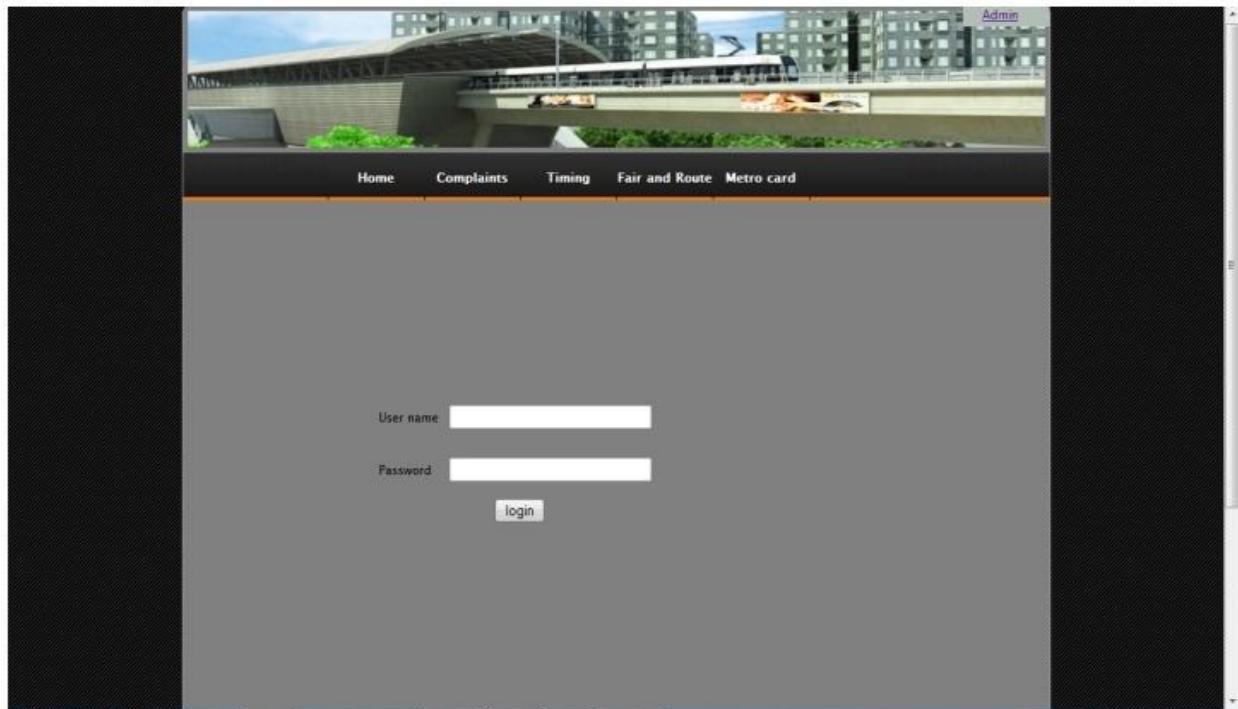
ADMIN PAGE

```
*metro.html - Notepad
File Edit Format View Help
|>

7. Admin login page .
<%@page language="java" contentType="text/html; charset=ISO-8859-1" pageEncoding="ISO-8859-1"%>
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">
<html>
<head> <meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1">
<title>Insert title here</title>
<link rel="stylesheet" type="text/css" href="css/adminLogin.css"/> </head> <body>
<div class="tableForm"> <form id="login" method="post" action="loginServlet">
<table width="300" border="0">
<tr>
<td height="35" align="left">
<p>User name</p> <
</td>
<td align="left" style="padding-left: 7px;">
<p><input type="text" name="user" id="user" size="30"/></p>
</td>
</tr>
<tr>
<td height="35" align="left">
<p>Password</p>
</td>
<td align="left" style="padding-left: 7px;">
<p><input type="text" name="password" id="password" size="30"/></p>
</td>
</tr>
<tr>
<td colspan="2" align="center">
<input type="submit" value="login" id="submit"/>
</td>
</tr>
</table>
</div>
</body>
</html>
```

Activate Windows
Go to Settings to activate Windows.

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12:12 PM 5/4/2020



CONCLUSION

The system has been developed with much care and free of errors and at the same time it is efficient and less time consuming. The purpose of this project was to develop a web application for metro rail management.

This project helped us in gaining valuable information and practical knowledge on several topics like designing web pages using html &css, usage of responsive templates, designing of android applications, and management of database using mysql. The entire system is secured. Also the project helped us understanding about the development phases of a project and software development life cycle. We learned how to test different features of a project.

FUTURE ENHANCEMENT

It is worth mentioning that this research work is open for further enhancement, with the expectation that it becomes more robust and better enhanced.

Some of these features include the following;

1. A fully functional platform so that booking could be made.
2. Provision of content scheduler to eliminate outdated information.

REFERENCE

1. www.w3schools.com
2. www.google.com
3. www.creatly.com
4. PHP AND MYSQL from Dynamic Websites.
5. Taken help from Solo learner.