

Webpage: DataOwner.jsp

Functionality: This is the login page of the Data Owner module where owner can enter username and password to login to home page. There is also a hyperlink at the bottom of the page on clicking owner can create a new account if he doesn't have one. If entered credentials are wrong this page displays error message.

Code:

```
<%@page contentType="text/html" pageEncoding="UTF-8"%><!--sets the JSP page's content type and page encoding-->
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd"><!--declares the HTML page's document type-->
<html xmlns="http://www.w3.org/1999/xhtml"><!--the HTML element is opened-->
  <head><!--opens the head element-->
    <meta http-equiv="Content-Type" content="text/html; charset=utf-8" /><!--determines the HTML page's character set and
content type-->
    <title>Secure Data Sharing Using Blockchain Technology</title><!--establishes the HTML page's title-->
    <link href="templatemo_style.css" rel="stylesheet" type="text/css" /><!--Links to the HTML page's CSS stylesheet-->
    <style type="text/css">
      <!--
      .style1 {
        color: #00CC00;
        font-weight: bold;
        font-size: 16px;
      }
      -->
    </style><!--end css style block-->
  </head><!--close head element-->
  <body><!--open body element-->
    <div id="templatemo_header_wrapper"><!--open div element with id-->
      <!-- Free Web Templates by TemplateMo.com -->
      <div id="templatemo_header">
        <div id="templatemo_menu">
          <div id="templatemo_menu_left"><!--add div element with id-->
            <ul><!--open unordered list element-->
              <li><a href="index.html">HOME</a></li><!--adds a link to the index.html page in the list item element-->
              <li><a href="DataOwner.jsp" class="current">Data Owner</a></li><!--Adds a list item element with a reference to
the current class and a link to the DataOwner.jsp page-->
              <li><a href="UserLogin.jsp">Data User</a></li><!--a link to the UserLogin.jsp page is added as a list item
element-->
              <li><a href="TA.jsp">Trusted Authority</a></li><!--Links a list item's element to the TA.jsp page-->
              <li><a href="ProxyServer.jsp">Proxy Server</a></li><!--establishes a link to the ProxyServer.jsp page in the list item
element of the list-->
              <li><a href="CSP.jsp">CSP</a></li><!--Inserts a list item element that links to the current class and CSP.jsp page-->
            </ul></div></div><!--end of menu -->
          </div><!-- end of header -->
        </div><!-- end of header wrapper -->
        <div id="templatemo_banner_wrapper">
          <div id="templatemo_banner">
            <div id="templatemo_banner_content">
              <div class="header_01">Secure Data Sharing Using Blockchain Technology</div>
            </div>
            <div class="cleaner"></div>
          </div><!-- end of banner -->
        </div><!-- end of banner wrapper -->
        <div id="templatemo_content_wrapper">
          <br />
          <table width="1000" border="0">
            <tr>
              <td></td>
              <td>
```



```

int count = 0;
String username = request.getParameter("user");
String password = request.getParameter("pass");
String dob = request.getParameter("dob");
String email = request.getParameter("email");
String gender = request.getParameter("gender");
String address = request.getParameter("address");
String mobile = request.getParameter("mobile");
try {
//Setting up connection with database to insert data owner report
    Connection con = Dbconnection.getConnection();
    Statement st = con.createStatement();
    ResultSet rs = Queries.getExecuteQuery("select count(*) from owner where email='" + email + "'");
    if (rs.next()) {
        count = rs.getInt(1);
        if (count == 0) {
            int i = st.executeUpdate("insert into owner values(null,'" + username + "','" + password + "','" + email + "','" + dob + "','"
+ address + "','" + gender + "','" + mobile + "','waiting')");
            if (i == 0) {
                //If no record is inserted, display registration failed
            }
        }
    }
    <script type="text/javascript">
        window.alert("Owner Resiter Fail..!");
        window.location = "OwnerRegister.jsp";
    </script>
    <%
    } else {
//If a record is inserted, display registration successful
    <script type="text/javascript">
        window.alert("New Owner Register Success..!");
        window.location = "OwnerRegister.jsp";
    </script>
    <%
    }
    } else {
//If the owner is a duplicate display owner is already exists
    <script type="text/javascript">
        window.alert("Onwer Alredy Exist For This User ID...");
        window.location = "OwnerRegister.jsp";
    </script>
    <%
    }
    }
    } catch (Exception e) {
        out.println(e);
    }
    <%
}

```

Webpage: UserLogin.jsp

Functionality: This is the login page of the Data User module where users can enter username and password to login to home page. There is also a hyperlink at the bottom of the page on clicking User can create a new account if he doesn't have one. If entered credentials are wrong this page displays error message.

Code:

```

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

```

```

<html xmlns="http://www.w3.org/1999/xhtml">
<head>
  <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
  <title>Secure Data Sharing Using Blockchain Technology</title>
  <link href="templatemo_style.css" rel="stylesheet" type="text/css" />
  <style type="text/css">
    <!--
      .style1 {
        color: #00CC00;
        font-weight: bold;
        font-size: 16px;
      }
    -->
  </style>
</head>
<body>
  <div id="templatemo_header_wrapper">
    <!-- Free Web Templates by TemplateMo.com -->
    <div id="templatemo_header">
      <div id="templatemo_menu">
        <div id="templatemo_menu_left"></div>
        <ul>
          <!-- Navigation Menu -->
          <li><a href="index.html">HOME</a></li>
          <li><a href="DataOwner.jsp">Data Owner</a></li>
          <li><a href="UserLogin.jsp" class="current">Data User</a></li>
          <li><a href="TA.jsp">Trusted Authority</a></li>
          <li><a href="ProxyServer.jsp">Proxy Server</a></li>
          <li><a href="CSP.jsp">CSP</a></li>
        </ul>
      </div> <!-- end of menu -->
    </div> <!-- end of header -->
  </div> <!-- end of header wrapper -->
  <div id="templatemo_banner_wrapper">
    <div id="templatemo_banner">
      <div id="templatemo_banner_content">
        <!-- Banner Content -->
        <div class="header_01">Secure Data Sharing Using Blockchain Technology</div>
      </div>
      <div class="cleaner"></div>
    </div> <!-- end of banner -->
  </div> <!-- end of banner wrapper -->
  <div id="templatemo_content_wrapper">
    <br />
    <table width="1000" border="0">
      <tr>
        <!-- Image column -->
        <td></td>
        <!-- Login form column -->
        <td>
          <table align="center" width="400" style="border:1px solid green;" bgcolor="#FFFFFF">
            <!-- User login form -->
            <form name="f" action="Userlog.jsp" method="post" onSubmit="return valid();">
              <tr>
                <!-- Form header -->
                <td height="36" colspan="2" align="center" bgcolor="#979700" class="paragraping2">
                  <span style="color:#FFFFFF"><strong>User Login Here</strong><strong></strong></span>
                </td>
              </tr>
            </form>
          </table>
        </td>
      </tr>
    </table>
  </div>

```



```

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
    <title>Secure Data Sharing Using Blockchain Technology</title>
    <link href="templatemo_style.css" rel="stylesheet" type="text/css" />
    <!--Style element is used to style the title of the project-->
    <style type="text/css">
      <!--
      .style1 {
        color: #00CC00;
        font-weight: bold;
        font-size: 16px;
      }
      -->
    </style>
  </head>
  <body>
    <div id="templatemo_header_wrapper">
      <!-- The below block is used to display other tabs so that user can navigate -->
      <div id="templatemo_header">
        <div id="templatemo_menu">
          <div id="templatemo_menu_left"></div>
          <ul>
            <li><a href="index.html">HOME</a></li>
            <li><a href="DataOwner.jsp">Data Owner</a></li>
            <li><a href="UserLogin.jsp" class="current">Data User</a></li>
            <li><a href="TA.jsp">Trusted Authority</a></li>
            <li><a href="ProxyServer.jsp">Proxy Server</a></li>
            <li><a href="CSP.jsp">CSP</a></li>
          </ul>
        </div> <!-- end of menu -->
      </div> <!-- end of header -->
    </div> <!-- end of header wrapper -->
    <!--This block is used to display the title of the project-->
    <div id="templatemo_banner_wrapper">
      <div id="templatemo_banner">
        <div id="templatemo_banner_content">
          <div class="header_01">Secure Data Sharing Using Blockchain Technology</div>
        </div>
        <div class="cleaner"></div>
      </div> <!-- end of banner -->
    </div> <!-- end of banner wrapper -->
    <div id="templatemo_content_wrapper">
      <br />
      <table width="1000" border="0">
        <tr>
          <!-- To ask for user details like username, password, dob for registration -->
          <td></td>
          <td>
            <table align="center" width="400" height="500" style="border:1px solid green;" bgcolor="#FFFFFF">
              <form name="f" action="UserReg.jsp" method="post" onSubmit="return valid();">
                <tr>
                  <td height="36" colspan="2" align="center" bgcolor="#979700" class="paragraping2"><span
style="color:#FFFFFF"><strong>User Register Here</strong></strong></span></td>
                </tr>
              </table>
            </td>
          </tr>
        </table>
      </div>
    </div>
  </body>
</html>

```

[illegible]

```
</div> <!-- end of content wrapper -->
</html>
```

Webpage: OwnerHome.jsp

Functionality: This is the home page of the Data Owner module where a welcome message will be displayed and there are 4 tabs namely Home, Upload Files, View Files and Logout. On clicking them, Owner will be navigated to Home, upload files, view files and login pages respectively.

Code:

<!--This page is used to allow users to register in data user module by giving their details-->

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
    <title>Secure Data Sharing Using Blockchain Technology</title>
    <link href="templatemo_style.css" rel="stylesheet" type="text/css" />
    <!--Style element is used to style the title of the project-->
    <style type="text/css">
      <!--
      .style1 {
        color: #00CC00;
        font-weight: bold;
        font-size: 16px;
      }
      -->
    </style>
  </head>
  <body>
    <div id="templatemo_header_wrapper">
      <!-- The below block is used to display other tabs so that user can navigate -->
      <div id="templatemo_header">
        <div id="templatemo_menu">
          <div id="templatemo_menu_left"></div>
          <ul>
            <li><a href="index.html">HOME</a></li>
            <li><a href="DataOwner.jsp">Data Owner</a></li>
            <li><a href="UserLogin.jsp" class="current">Data User</a></li>
            <li><a href="TA.jsp">Trusted Authority</a></li>
            <li><a href="ProxyServer.jsp">Proxy Server</a></li>
            <li><a href="CSP.jsp">CSP</a></li>
          </ul>
        </div> <!-- end of menu -->
      </div> <!-- end of header -->
    </div> <!-- end of header wrapper -->
    <!--This block is used to display the title of the project-->
    <div id="templatemo_banner_wrapper">
      <div id="templatemo_banner">
        <div id="templatemo_banner_content">
          <div class="header_01">Secure Data Sharing Using Blockchain Technology</div>
        </div>
        <div class="cleaner"></div>
      </div> <!-- end of banner -->
    </div> <!-- end of banner wrapper -->
    <div id="templatemo_content_wrapper">
      <br />
      <table width="1000" border="0">
        <tr>
```


[illegible]

```

        out.println("<font color='red'><blink>Invalid Username and Password</blink></font>");
    }
    %></b></font></td>
</tr>
</form>
</table>
</td>
</tr>
</table>
</div> <!-- end of content wrapper -->
</html>

```

Webpage: Upload.jsp

Functionality: This page is accommodated in Data Owner module, where a owner can upload a text file to database by selecting a file and giving a name and owner can also check the contents of the file in this page. A unique key will be generated for every file.

Code:

```

<!-- This code is used to display upload files page in data owner module -->
<%@page import="com.sun.org.apache.xerces.internal.impl.dv.util.Base64"%>
<%@page import="javax.crypto.SecretKey"%>
<%@page import="javax.crypto.KeyGenerator"%>
<%@page import="java.util.Random"%>
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
        <title>Secure Data Sharing Using Blockchain Technology</title>
        <link href="templatemo_style.css" rel="stylesheet" type="text/css" />
        <!--style element used for styling the title of the project-->
        <style type="text/css">
            <!--
            .style1 {
                color: #00CC00;
                font-weight: bold;
                font-size: 16px;
            }
            -->
        </style>
    </head>
    <body>
        <!-- This part displays menu used to navigate to other tabs from Upload Files tab -->
        <div id="templatemo_header_wrapper">
            <div id="templatemo_header">
                <div id="templatemo_menu">
                    <div id="templatemo_menu_left"></div>
                    <ul>
                        <li><a href="OwnerHome.jsp">HOME</a></li>
                        <li><a href="Upload.jsp" class="current">Upload</a></li>
                        <li><a href="DO_ViewFiles.jsp">View Files</a></li>
                        <li><a href="DataOwner.jsp">logout</a></li>
                    </ul>
                </div> <!-- end of menu -->
            </div> <!-- end of header -->
        </div>
        <div id="templatemo_content_wrapper">
            <br />

```

[illegible]

```
String message = request.getParameter("message");
if (message != null && message.equalsIgnoreCase("fail")) {
    out.println("<font color='red'><blink>Invalid Username and Password</blink></font>");
}
```

```
    %></b></font></td>
```

```
</tr>
```

```
</form>
```

```
</table>
```

```
</td>
```

```
</tr>
```

```
</table>
```

```
<!--To display the file contents in text area element so that user can view it before uploading using
```

file reader API-->

```
<script type='text/javascript'>
```

```
    function loadFileAsText()
```

```
    {
```

```
        var fileToLoad = document.getElementById("file").files[0];
```

```
        var fileReader = new FileReader();
```

```
        fileReader.onload = function (fileLoadedEvent)
```

```
        {
```

```
            //var filename = fileToLoad.files.item[0].name;
```

```
            var textFromFileLoaded = fileLoadedEvent.target.result;
```

```
            document.getElementById("textarea").value = textFromFileLoaded;
```

```
        };
```

```
        fileReader.readAsText(fileToLoad, "UTF-8");
```

```
    }
```

```
</script>
```

```
</html>
```

Webpage: DO_ViewFiles.jsp

Functionality: This page is accommodated in Data Owner module, where a owner can see all the files he uploaded in database in a tabular format along with contents of the file and date uploaded.

Code:

```
<!-- This code is used to display files uploaded by owner in data owner module -->
```

```
<%@page import="com.sun.org.apache.xerces.internal.impl.dv.util.Base64"%>
```

```
<%@page import="javax.crypto.SecretKey"%>
```

```
<%@page import="javax.crypto.KeyGenerator"%>
```

```
<%@page import="java.util.Random"%>
```

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

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
```

```
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
```

```
<html xmlns="http://www.w3.org/1999/xhtml">
```

```
    <head>
```

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

```
        <title>Secure Data Sharing Using Blockchain Technology</title>
```

```
        <link href="templatemo_style.css" rel="stylesheet" type="text/css" />
```

```
        <!--style element used for styling the title of the project-->
```

```
        <style type="text/css">
```

```
            <!--
```

```
            .style1 {
```

```
                color: #00CC00;
```

```
                font-weight: bold;
```

```
                font-size: 16px;
```

```
            }
```

```
            -->
```

```
        </style>
```

```
    </head>
```

```

<body>
<div id="templatemo_header_wrapper">
  <!-- This part displays menu used to navigate to other tabs from Upload Files tab -->
  <div id="templatemo_header">
    <div id="templatemo_menu">
      <div id="templatemo_menu_left"></div>
      <ul>
        <li><a href="OwnerHome.jsp">HOME</a></li>
        <li><a href="Upload.jsp">Upload</a></li>
        <li><a href="DO_ViewFiles.jsp" class="current">View Files</a></li>
        <li><a href="DataOwner.jsp">logout</a></li>
      </ul>
    </div> <!-- end of menu -->
  </div> <!-- end of header -->
</div>
<div id="templatemo_content_wrapper">
  <br />
  <!--getting logged in owner detail using session storage-->
  <%String username = (String) session.getAttribute("username");
  String mskey = (String) session.getAttribute("mskey");
  String email = (String) session.getAttribute("email");
  String id = (String) session.getAttribute("id");
  %>
  <center>
    <h3>View All Uploaded Files</h3>
    <!--table to display the file name, content and date-->
    <table width="1000" border="0">
      <%@page import="com.action.Queries"%>
      <%@page import="java.sql.ResultSet"%>
      <center>
        <table border="1">
          <tr>
            <th>FileName</th> <th>File Data</th><th>Date</th>
          </tr>
          <%try {
            ResultSet r = Queries.getExecuteQuery("select * from file where owner='"+ id + "'");
            while (r.next()) {
              %>
              <tr>
                <td><%=r.getString("filename")%></td>
                <td><textarea cols="50" rows="10"><%=r.getString("filedata")%></textarea></td>
                <td><%=r.getString("date")%></td>
              </tr>
            <%
              }
            } catch (Exception e) {
              System.out.println(e);
            }%>
          </table>
        </center>
        <script type='text/javascript'>
          function loadFileAsText()
          {
            var fileToLoad = document.getElementById("file").files[0];
            var fileReader = new FileReader();
            fileReader.onload = function (fileLoadedEvent)
            {
              //var filename = fileToLoad.files.item[0].name;

```

```

        var textFromFileLoaded = fileLoadedEvent.target.result;
        document.getElementById("textarea").value = textFromFileLoaded;

    };
    fileReader.readAsText(fileToLoad, "UTF-8");
}
</script>
</html>

```

Webpage: UserHome.jsp

Functionality: This is the home page of the Data User module where a welcome message will be displayed and there are 4 tabs namely Home, Search Files & download and Logout. On clicking them, User will be navigated to Home, Search files & download and logout pages respectively.

Code:

```

<%@page contentType="text/html" pageEncoding="UTF-8"%> <!--This Import statement sets the character encoding to UTF-8
and the content type to text/html-->
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml"> <!-- This Statement indicates the code as being composed in the XHTML 1.0
Transitional namespace to the browser-->

```

```

    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=utf-8" /> <!-- this statment specifies the encoding and type
of the document for web browsers-->

```

```

        <title>Secure Data Sharing Using Blockchain Technology</title> <!-- we are listing project title using title tag-->

```

```

        <link href="templatemo_style.css" rel="stylesheet" type="text/css" /> <!--here in this we are referring
templatemo_style.css class-->

```

```

        <!-- The browser is informed that the code is CSS code by the type="text/css" property -->

```

```

        <style type="text/css">

```

```

            <!--
            .style1 {
                color: #00CC00;
                font-weight: bold;
                font-size: 16px;
            }
            -->

```

```

        </style>

```

```

    </head>

```

```

    <!--start of body tag which contains visible content of webpage-->

```

```

    <body>

```

```

        <div id="templatemo_header_wrapper">

```

```

            <!-- Free Web Templates by TemplateMo.com -->

```

```

            <div id="templatemo_header">

```

```

                <div id="templatemo_menu">

```

```

                    <div id="templatemo_menu_left"></div>

```

```

                    <ul>

```

```

                        <li><a href="UserHome.jsp" class="current">Home</a></li>

```

```

                        <li><a href="SearchFile.jsp">Search File</a></li>

```

```

                        <li><a href="UserLogin.jsp">LogOut</a></li>

```

```

                    </ul>

```

```

                </div> <!-- end of menu -->

```

```

            </div> <!-- end of header -->

```

```

        </div> <!-- end of header wrapper -->

```

```

        <div id="templatemo_banner_wrapper"> <!-- start of templatemo banner wrapper-->

```

```

            <div id="templatemo_banner">

```

```

                <div id="templatemo_banner_content">

```

```

                    <div class="header_01">Secure Data Sharing Using Blockchain Technology</div>

```

```

                </div>

```

```

            <div class="cleaner"></div>

```

```

</div> <!-- end of banner -->
</div> <!-- end of banner wrapper -->
<div id="templatemo_content_wrapper">
  <br />
  <table width="1000" border="0">
    <tr>
      <td align="center">
        <!--Retrieve the session's ID, email, mskey, and username.-->
        <%String username = (String) session.getAttribute("username");
        String mskey = (String) session.getAttribute("mskey");
        String email = (String) session.getAttribute("email");
        String id = (String) session.getAttribute("id");
        %>
        <!--prints welcome with username.-->
        <h2>Welcome: <%=username%></h2>
      </td>
      <td>
      </td>
    </tr>
  </table>
</div> <!-- end of content wrapper -->
<br><br><br>
  <div id="templatemo_footer_wrapper">
    <div id="templatemo_footer">
      <div class="cleaner"></div>
    </div>
  </div> <!-- end of footer -->
</html>

```

Webpage: SearchFile.jsp

Functionality: This page is accommodated in Data User module, where a user can search for the files that are uploaded to database by Data Owner. On searching with a file name, files will be retrieved from database and displayed in a tabular format.

Code:

```

<!--Import Statements-->
<!--author-anjan-->
<%@page import="java.sql.ResultSet"%> <!--This import statement calls ResultSet class which contains methods which helps to
set,get data from ResultSet and update data within ResultSet -->
<%@page import="com.action.Queries"%> <!--This import statement calls a custom class which has methods for running SQL
queries on a database-->
<%@page contentType="text/html" pageEncoding="UTF-8"%> <!--This Import statement sets the character encoding to UTF-8
and the content type to text/html-->
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml"> <!-- This Statement indicates the code as being composed in the XHTML 1.0
Transitional namespace to the browser-->
  <head> <!-- Start of Head Tag-->
    <meta http-equiv="Content-Type" content="text/html; charset=utf-8" /> <!-- this statment specifies the encoding and type
of the document for web browsers-->
    <title>Secure Data Sharing Using Blockchain Technology</title> <!-- we are listing project title using title tag.-->
    <link href="templatemo_style.css" rel="stylesheet" type="text/css" /> <!--here in this we are referring
templatemo_style.css class-->
    <!-- The browser is informed that the code is CSS code by the type="text/css" property -->
    <style type="text/css">
      <!--
      .style1 {
        color: #00CC00;
        font-weight: bold;
        font-size: 16px;

```

```

    }
    -->
</style>
</head>
<!--start of body tag which contains visible content of webpage-->
<body>
    <div id="templatemo_header_wrapper">
        <!-- Free Web Templates by TemplateMo.com -->
        <div id="templatemo_header">
            <div id="templatemo_menu">
                <div id="templatemo_menu_left"></div>
                <ul>
                    <li><a href="UserHome.jsp">Home</a></li>
                    <li><a href="SearchFile.jsp" class="current">Search File</a></li>
                    <li><a href="UserLogin.jsp">LogOut</a></li>
                </ul>
            </div> <!-- end of menu -->
        </div> <!-- end of header -->
    </div> <!-- end of header wrapper -->
    <div id="templatemo_banner_wrapper"> <!-- start of templatemo banner wrapper-->
        <div id="templatemo_banner">
            <div id="templatemo_banner_content">
                <div class="header_01">Secure Data Sharing Using Blockchain Technology</div>
            </div>
            <div class="cleaner"></div>
        </div> <!-- end of banner -->
    </div> <!-- end of banner wrapper -->
    <div id="templatemo_content_wrapper">
        <!--Retrieves the session's ID, email, mskey, and username.-->
        <%String username = (String) session.getAttribute("username");
        String mskey = (String) session.getAttribute("mskey");
        String email = (String) session.getAttribute("email");
        String id = (String) session.getAttribute("id");
        %>
        <br />
        <center>
            <!--Shows "SEARCH FILES HERE" as the heading.-->
            <h3>SEARCH FILES HERE </h3>
            <form action="SearchAction.jsp" method="post">
                <table border="1" width="400">
                    <tr>
                        <!--Enter Key-->
                        <th>Enter Key:</th><td> <input type="text" name="keyword" placeholder="Enter Keyword"
required/><td></td>
                    </tr>
                    <tr>
                        <th></th> <td><input type="submit" value="Search" /> <input type="reset" value="Reset" /><td></td>
                    </tr>
                </table>
            </form>
        </center>
    </div> <!-- end of content wrapper -->
    <div id="templatemo_footer_wrapper">
        <div id="templatemo_footer">
            <div class="cleaner"></div>
        </div>
    </div> <!-- end of footer -->
</body>

```


</html>

Webpage: Download.jsp

Functionality: This page is used in Data User module, where a user can download the files he searched for in SearchFile tab.

Code:

```
<%@page import="com.action.Queries"%>
<%@page import="java.io.PrintWriter"%>
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<%
    // Retrieves the session's ID, email, mskey, and username.
    String username = (String) session.getAttribute("username");
    String mskey = (String) session.getAttribute("mskey");
    String email = (String) session.getAttribute("email");
    String id = (String) session.getAttribute("id");
    // Obtains the filename and ID by looking through the request parameters.
    String fid = request.getParameter("fid");
    String fname = request.getParameter("fname");
    // Access the session attribute to obtain the data to be downloaded.
    String data = (String) session.getAttribute("data");
    // To keep track of the download, adding a record to the download table.
    Queries.executeUpdate("insert into download values(null,'" + id + "','" + username + "','" + fname + "',now())");
    // Indicates that the response is an attachment by setting the Content-Disposition header.
    response.setHeader("Content-Disposition", "attachment;filename=\"" + fname + "\"");
    // Sends the information to the web browser.
    out.write(data);
%>
```

Webpage: TA.jsp

Functionality: This is the login page of the Trusted Authority module where Authorized person can enter his username and password to login to home page. If Invalid credentials are entered, error message will be displayed.

Code:

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
        <title>Secure Data Sharing Using Blockchain Technology</title>
        <link href="templatemo_style.css" rel="stylesheet" type="text/css" />
        <style type="text/css">
            <!--
            .style1 {
                color: #00CC00;
                font-weight: bold;
                font-size: 16px;
            }
            -->
        </style>
        <!-- Header Menu -->
    </head>
    <body>
        <div id="templatemo_header_wrapper">
            <div id="templatemo_header">
                <div id="templatemo_menu">
                    <div id="templatemo_menu_left"></div>
                    <ul>
                        <li><a href="index.html">HOME</a></li>
                        <li><a href="DataOwner.jsp">Data Owner</a></li>
```

[illegible]

```

</table>
</div> <!-- end of content wrapper -->
<br><br><br>
    <div id="templatemo_footer_wrapper">
        <div id="templatemo_footer">
            <div class="cleaner"></div>
        </div>
    </div> <!-- end of footer -->
</html>

```

Webpage: ProxyServer.jsp

Functionality: This is the login page of the Proxy Server module where Proxy server person can enter his username and password to login to home page. If Invalid credentials are entered, error message will be displayed.

Code:

```

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
        <title>Secure Data Sharing Using Blockchain Technology</title>
        <link href="templatemo_style.css" rel="stylesheet" type="text/css" />
        <style type="text/css">
            <!--
            .style1 {
                color: #00CC00;
                font-weight: bold;
                font-size: 16px;
            }
            -->
        </style>
    </head>
    <body>
        <!-- Header Menu --%>
        <div id="templatemo_header_wrapper">
            <!-- Free Web Templates by TemplateMo.com -->
            <div id="templatemo_header">
                <div id="templatemo_menu">
                    <div id="templatemo_menu_left"></div>
                    <ul>
                        <li><a href="index.html">HOME</a></li>
                        <li><a href="DataOwner.jsp">Data Owner</a></li>
                        <li><a href="UserLogin.jsp">Data User</a></li>
                        <li><a href="TA.jsp">Trusted Authority</a></li>
                        <li><a href="ProxyServer.jsp" class="current">Proxy Server</a></li>
                        <li><a href="CSP.jsp">CSP</a></li>
                    </ul>
                </div> <!-- end of menu -->
            </div> <!-- end of header -->
        </div> <!-- end of header wrapper -->
        <div id="templatemo_banner_wrapper">
            <div id="templatemo_banner">
                <div id="templatemo_banner_content">
                    <div class="header_01">Secure Data Sharing Using Blockchain Technology</div>
                </div>
                <div class="cleaner"></div>
            </div> <!-- end of banner -->
        </div> <!-- end of banner wrapper -->
    </body>
</html>

```



```

<html xmlns="http://www.w3.org/1999/xhtml">
<head>
  <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
  <title>Secure Data Sharing Using Blockchain Technology</title>
  <link href="templatemo_style.css" rel="stylesheet" type="text/css" />
  <style type="text/css">
    <!--
      .style1 {
        color: #00CC00;
        font-weight: bold;
        font-size: 16px;
      }
    -->
  </style>
</head>
<body>
  <!-- Header Menu -->
  <div id="templatemo_header_wrapper">
    <div id="templatemo_header">
      <div id="templatemo_menu">
        <div id="templatemo_menu_left"></div>
        <ul>
          <li><a href="index.html">HOME</a></li>
          <li><a href="DataOwner.jsp">Data Owner</a></li>
          <li><a href="UserLogin.jsp">Data User</a></li>
          <li><a href="TA.jsp">Trusted Authority</a></li>
          <li><a href="ProxyServer.jsp">Proxy Server</a></li>
          <li><a href="CSP.jsp" class="current">CSP</a></li>
        </ul>
      </div> <!-- end of menu -->
    </div> <!-- end of header -->
  </div> <!-- end of header wrapper -->
  <div id="templatemo_banner_wrapper">
    <div id="templatemo_banner">
      <div id="templatemo_banner_content">
        <div class="header_01">Secure Data Sharing Using Blockchain Technology</div>
      </div>
      <div class="cleaner"></div>
    </div> <!-- end of banner -->
  </div> <!-- end of banner wrapper -->
  <div id="templatemo_content_wrapper">
    <br />
    <table width="1000" border="0">
      <tr>
        <td></td>
        <!-- Form details for logging in as we do not have registration pages for CSP, TA and Proxy modules -->
        <td>
          <table align="center" width="400" style="border:1px solid green;" bgcolor="#FFFFFF">
            <form name="f" action="CSPlog.jsp" method="post" onSubmit="return valid();">
              <tr>
                <td height="36" colspan="2" align="center" bgcolor="#979700" class="paragraping2">
                  <span style="color:#FFFFFF"><strong>Cloud Service Provider
Login</strong><strong></strong></span></td>
                </tr>
                <tr>
                  <td height="52" class="paragraping">USERNAME:</td>
                  <td><input type="text" name="user" class="input1"></td>
                </tr>
            </form>
          </table>
        </td>
      </tr>
    </table>
  </div>

```

[illegible]