

INTERNET TECHNOLOGIES ASSIGNMENT REPORT

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Group: A1
Assignment: 4

PROBLEM STATEMENT

Design an online apparel store using servlets. The store keeps records for its items in a database where some items may be discounted and some other items should be displayed as “new arrivals”. A user may search for a specific item. By default, when a user signs in, based on his/her profile (male/female etc.), show him/her preferred set of clothing. Users will be divided into two groups: some users looking for discounted items mainly, some others looking for new arrivals. So, depending on their preference already set in the database, their shopping experience would be different. You may apply the concept of session and cookies for tracking user behaviour. You may use SessionListener and/or ServletContextListener. Database connectivity code should not be hardcoded in any servlet.

SOLUTION APPROACH

The home page consists of User Login and Register forms. In the register form, user enter his username, password and gender. Based on the gender, the user is redirected to an items details page where he/she is shown a list of discounted items and new arrivals. When any of these items is clicked, more details about the item is shown.

There are three views as follows:-

- **Home Page** – Consists of login and register.
- **Items list** – Shows a list of items according to user’s gender in tabular format.
- **Item details** – Shows additional details about the item clicked, this includes brand, price, ratings, discount, etc.

Four Servlets have been used:-

- **RegisterServlet** – Performs the user registration operation, using the RegisterDAO class, which inserts the new user entry in the database. After completing the registration, requested is redirected to ItemsListServlet.
- **LoginServlet** – Performs the user login, by using LoginDAO class, which queries the database for the entered username and password. In case it is not found, an error page with message “Invalid username or password” is displayed. After successful login, requested is redirected to ItemsListServlet.
- **ItemsListServlet** – Based on the username(stored as a session attribute when user logs in or registers), the gender is determined and a list of new arrivals and discounted items is queried using the ItemsListDAO class. The request is then dispatched to **itemslist.jsp** which is responsible for rendering the list.
- **ItemsDetailServlet** – This servlet is run when user clicks on “More Details” correspondng to any item. It fetches the details of a particular item and dispatches the request to **itemdetails.jsp**

Use of HTTP Session

- In the LoginServlet and RegisterServlet, the **username** is stored as a session attribute. This is done so that the user is remembered when the ItemsList servlet is invoked and the corresponding gender can be determined.
- In the LoginServlet and RegisterServlet, a session attribute **netClicks**, ie the (Clicks on new arrivals – Clicks on discounted items) is set to 0. This attribute is used to determine how many items of each kind of entry is to be shown. For ex – If net Clicks is 0, new arrivals and discounted items will be shown in equal amount(5 each), if it is 1 then 4 new and 6 discounted will be shown, if 2, then 3 new and 7 discounted and so on. In other words more the no of clicks on a particular category, more of its kind will be displayed. In the ItemDetailsServlet, the netClicks value is incremented or decremented based on the category of item.

Use of ContextListener

- In the contextInitialised method of the context listener, the connection string, username and password are read which are set as context parameters in web.xml.
- Using these, a Connection object is created and set as a context attribute.

Use of DAO classes

- DAO classes are used for performing database operations like querying or inserting records. Along with other parameters, the Connection object also needs to be passed as a parameter, when calling a method of DAO class.

Database schema

Two relations User and Item are used for the database.

For User, the attributes are:

- username
- password
- gender

For Item, the attributes are:

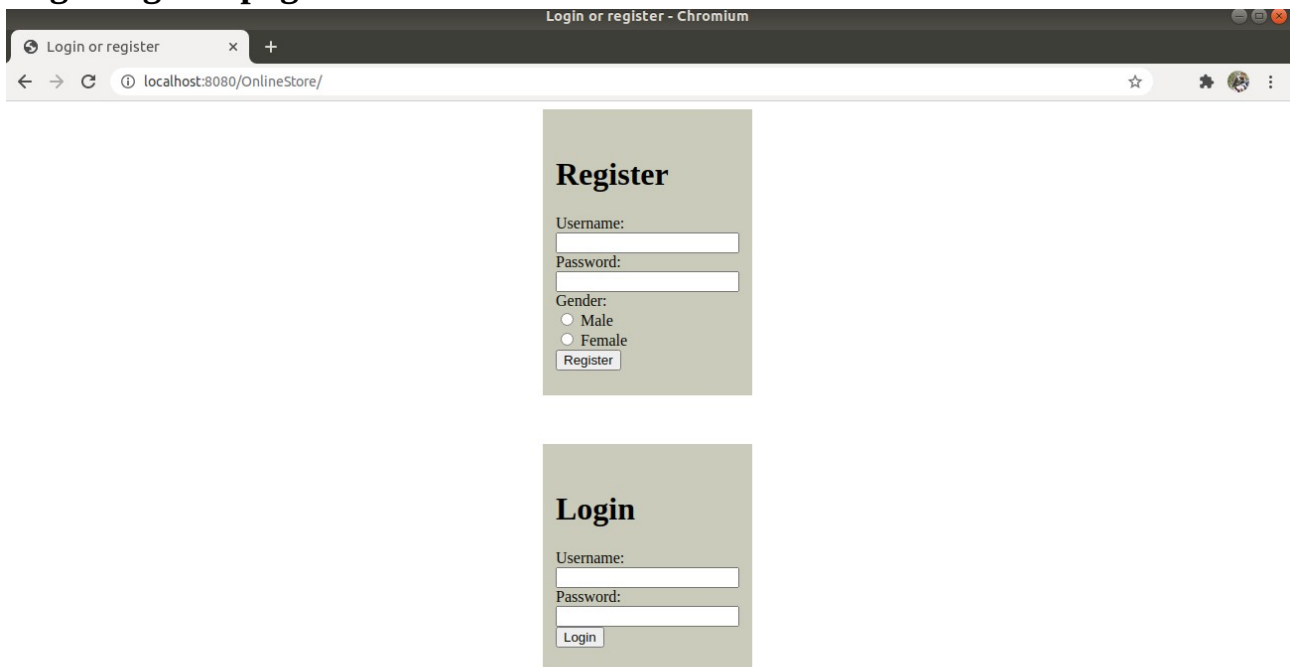
- item_id
- item_name
- price
- gender
- category
- brand
- ratings
- discount

SALIENT FEATURES UNIQUE TO MY SOLUTION

- Use Model View Controller Architecture.
- Uses HTTP session for tracking user preferences.

SCREENSHOTS

Login/register page



The screenshot shows a web browser window titled "Login or register - Chromium". The address bar displays "localhost:8080/OnlineStore/". The page content is divided into two main sections, each with a light beige background.

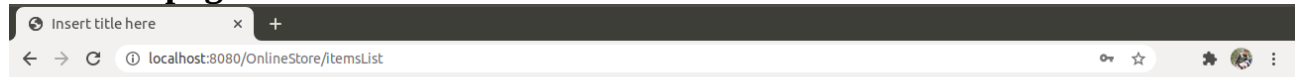
Register Section:

- Header: **Register**
- Form fields:
 - Username:
 - Password:
 - Gender: ☐ Male ☐ Female
- Button:

Login Section:

- Header: **Login**
- Form fields:
 - Username:
 - Password:
- Button:

Items list page



Welcome to items page, abhishek !

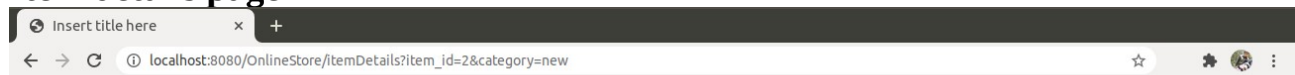
New Arrivals

Item name	Brand	Price	Details
Regular Men Grey Jeans	Ben Martin	₹ 699.0	Show details
Slim Men Black Jeans	Urbano Fashion	₹ 595.0	Show details
Slim Men Black Jeans	LZard	₹ 795.0	Show details
Regular Men Black Jeans	LZard	₹ 735.0	Show details
Yellow T-Shirt	Try This	₹ 440.0	Show details

Discounted Items

Item name	Brand	Price	Details
Regular Fit Dark Blue Trousers	Peter England	₹ 565.0	Show details
Slim Fit Blue Trousers	Peter England	₹ 565.0	Show details
Solid round neck sweater	Jack & Jones	₹ 945.0	Show details
Striped high neck sweater	Jack & Jones	₹ 745.0	Show details
Black T-shirt	Jack & Jones	₹ 345.0	Show details

Item details page



Item details

Slim Men Black Jeans

Urbano Fashion

₹ 595.0

Discount 0%

Ratings: 3.5 stars

[Back to list](#)

Items List page(after a few clicks on new arrivals)

Insert title here

localhost:8080/OnlineStore/itemsList

Welcome to items page, abhishek !

New Arrivals

Item name	Brand	Price	Details
Regular Men Grey Jeans	Ben Martin	₹ 699.0	Show details
Slim Men Black Jeans	Urbano Fashion	₹ 595.0	Show details
Slim Men Black Jeans	LZard	₹ 795.0	Show details
Regular Men Black Jeans	LZard	₹ 735.0	Show details
Yellow T-Shirt	Try This	₹ 440.0	Show details
Green T-Shirt	Try This	₹ 460.0	Show details
Black T-Shirt	Rebound	₹ 380.0	Show details
Regular Fit Trousers	FUBAR	₹ 705.0	Show details

Discounted Items

Item name	Brand	Price	Details
Regular Fit Dark Blue Trousers	Peter England	₹ 565.0	Show details
Slim Fit Blue Trousers	Peter England	₹ 565.0	Show details