Online Purchase System
Old CD Store
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Introduction:

Old CD store is a online CD store that gives the opportunity to purchase CDs and pay for them via giving credit card and some extra information. It is the responsibility for the store to connect connection with bank and make transaction. This is like a online purchase system.

Program Design:

1. We designed the program using java.
2. First we make a TCP connection with the web browser that opens out homepage of the store.
3. Then the user can see the CDs ,their rates.
4. After choosing the item, a user need to fill up a form and submit if.
5. Using POST and GET method we got the information of the user and the webpage.
6. Now a TCP connection will be established with bank where user's account information has been kept.
7. The bank then check if the user is a valid account holder in the bank and have sufficient balance to purchase or transact.
8. If not, then the error message will be shown via console and web.
9. If the user is valid and have sufficient balance then transaction approval will be granted and the available credit and total purchase will be updated in bank database.

Description:

For making the online purchase system we need to handle POST and GET command.

Handling GET method:

After running the store.java and Bank.java the user need to open browser and type ip/port. This will send a GET request. In response to the request the store will give read the content of the index file and sends the index.html.

Handling POST method:

After filling up the form and clicking the submit button the html backend will send a POST request to the store. Then the store will first read the header.After that, the store will read the payload which will be form of like "name = x&family=y……..". So then we need to split the payload 2 times. Then we calculate the total cost user need to pay for buying the CD. Then forming dataoutputstream we send it to the bank server.

Transaction Verification:

Whenever bank server receives a message from store server about user, it verifies the validity of the user by checking into the "database.txt" file using FileReader and BufferedReader classes . If the user is valid, then it sends out a message to the store that transaction has been approved . Then bank server checks out whether there is sufficient money for the transaction or not. If there is sufficient money for transaction , then transaction is made and the balance and credit field of the corresponding user in the database is updated. Update of database has been done using replaceAll() method. If there is insufficient money in the credit card , then the process of transaction is canceled and connection of the store is closed.On the other hand, if the user is invalid , then bank server doesn't approve transaction and the connection of the store server is closed.

Resources:

We took the help of W3school for designing html pages.

For getting the idea about how to work in JAVA for creating HTML web browser , we took help from https://medium.com/ web site .