

# CYBER BOOK MART

## *Project Report*

Done at  
ELECTRONICS RESEARCH AND DEVELOPMENT CENTER OF INDIA

Submitted in partial fulfilment of the requirements  
for the award of the Degree of  
M. Sc. (APPLIED SCIENCES) - COMPUTER TECHNOLOGY  
of Bharathiar University

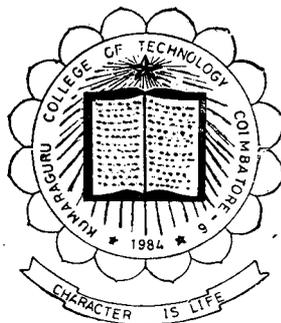
Submitted by  
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P-429

Internal Guide  
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Guided by

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING  
**KUMARAGURU COLLEGE OF TECHNOLOGY**  
COIMBATORE

APRIL - 2000

# Certificate

This is to certify that this project work entitled

**"CYBER BOOK MART"**

Submitted to

**KUMARAGURU COLLEGE OF TECHNOLOGY**  
(Affiliated to Bharathiar University)

in partial fulfillment of the requirements for the award of Degree of  
**M.Sc (APPLIED SCIENCES) - COMPUTER TECHNOLOGY**  
is record of original work done by

**Mr. SUBHASH A. PANIKULAM**  
(Reg. No. 9837Q0032)

during his period of study in the Department of Computer Sciences and Engineering,  
Kumaraguru College of Technology, Coimbatore-641 006, under my supervision  
and guidance and this project work has not formed the basis for the award of  
any Degree / Diploma / Associate ship / Fellowship or similar title  
to any candidate of any University.

*S. Thangaswamy 27/4*

Professor and Head  
Dr. S. Thangaswamy B.E., Ph.D.

*T.M. Kameswaran 25.4.00*

Internal Guide  
Prof. Dr. T.M. Kameswaran B.E., Ph.D.

Submitted for University Examination held on 28/04/2000

*S. Thangaswamy*  
Internal Examiner

*T.M. Kameswaran*  
External Examiner 28/4

## BONAFIDE CERTIFICATE

This is to certify that the project entitled "**CYBER BOOK MART**" using **JDK1.2, JSDK2.1, HTML, Javascript, MS SQL SERVER** under **Windows NT4.0**, is a bonafide record of the work done at the Centre by **Mr. SUBHASH A PANIKULAM**, Kumaraguru College of Technology, in partial fulfillment of the requirements for the award of the **M.Sc(Engg.) Degree in Computer Technology** of Bharathiar University. He has been working on the project in the Centre during the period December 1999 to April 2000.

Certified further that to the best of my knowledge, the work reported herein does not form part of any other thesis on the basis of which a degree or award was conferred on an earlier occasion to this or any other candidates.

Project Co-ordinator

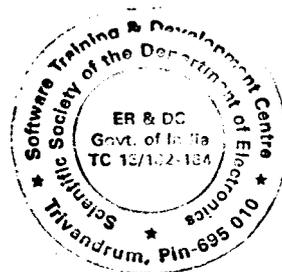


**SARAMMA CHACKO**  
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Trivandrum  
20-04-2000

## DECLARATION

I hereby declare that the project work entitled

### CYBER BOOK MART

At

### ELECTRONICS RESEARCH AND DEVELOPMENT CENTRE OF INDIA

Submitted in partial fulfillment of the requirements for the award of the Degree of  
**M.Sc. (APPLIED SCIENCES) - COMPUTER TECHNOLOGY**  
Is a report of original work done by me during my period of study in

### KUMARAGURU COLLEGE OF TECHNOLOGY

(Affiliated to Bharathiar University)

Coimbatore-641 006.

Under the supervision of

**Prof. Dr. T.M. KAMESWARAN B.E., Ph.D.**

Name of the Candidate  
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Register Number  
**9837Q0032**

Signature of the Candidate



Counter Signed by :



**Prof. Dr. T.M. Kameswaran**

Date : 25-4-2000  
Place : Coimbatore

## ACKNOWLEDGMENT

I wish to express my heartfelt thanks to our Principal , **Dr. K.K. Padmanabhan M.Tech., Ph.D.** for his encouragement and counselling. I also thank **Prof. Dr. S. Thangasamy B.E., Ph.D.**, Head of the department of Computer Science and Engineering, for his valuable advice and guidance.

I express my gratitude to <sup>Mr. R. Kannan</sup> **Dr. T.M. Kameswaran, B.E., M.Sc(Engg.) Ph.D.**, Professor, Department of Computer Science Engineering for providing me constant support and encouragement for successfully completing this project.

I express my sincere thanks to **Mrs. Saramma Chacko** Joint Director, Electronics Research and Development Center Thiruvananthapuram, for providing me this opportunity to do my project in this concern.

I express my thanks to **Miss. C.S. Sunitha M.C.A.**, Research Associate ER&DCI for giving me this opportunity to work under their supervision and has been a constant source of guidance and support throughout my project.

I thank whole heartedly all my friends in this organisation for their cooperation and timely help.

## SYNOPSIS

Now a days, the emerging trends shows that Internet Commerce is becoming more and more important in the cyber based world. '**CYBER BOOK MART**' provides a rich infra structure making the shopping experience seamless, intuitive and secure. The site totally enhances the commerce value chain to achieve business goals.

The system includes four levels of interactors. Customer is the **important** entity, who is capable of purchase a global categories of books listed under this site. Publisher has rights to list his personalized contents and the key element in the business process. Dealer act as a intermediate between the customer and the publisher. Administrator controls overall operations of site for keeping loyalty by providing relevant information.

The site contains all kinds of shopping activities in a nutshell. The shopping transactions are effectively handled by the system with support of database management and automatic mailing of orders. The system provides better customer service through the feed back management. The main aim of this project is to develop a user friendly virtual shop by implementing all the advantages of Internet Commerce.

The software has been developed using the most powerful and secure backend SQL Server version 6.5 and the most widely accepted web oriented as well as application oriented language Java version JDK 1.2 . The features of Servlets are used for processing inputs. Server side cookies are used to transfer data from one Servlet to other.

The project work has been carried out at Electronic Research and Development Center (ER&DC) situated in Thiruvananthapuram.

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# 1. INTRODUCTION

## 1.1 Project Overview

Now a days the emerging trends shows that internet is more and more important in the cyber based world. <sup>Click 'N' Pack</sup> **'CYBER BOOK MART'** is an Online Business Application in which the use of Internet has exploded in the area of Internet commerce.

Many business has discovered that they can offer their products through the web site as more and more consumers turn to the Internet for their shopping needs. This business promoting site provides a portal for ~~book~~ shopping. The system includes for levels of interactors. The most important entity is the customer. The system facilitate the customers to order books from a virtual shop which in tem provide online business to the publisher and promote their selling products online.

The order is then relayed to various dealers or suppliers. Administrator who is the owner of the site controls overall operations.

The system consists of ten major modules.

- Publication registration
- Product administration
- Dealer Registration
- Shopping
- Payment
- Order Processing

- Web Development
- Product Information
- Customer Support

- Shipping
- Money Transaction
- Customer Service
- Administrative

The publication registration module is for the publishers who want to sell their books through the site. The module handles the registration of publications.

During registration publications are allowed to select a password and publication id for further dealings.

In Product Administration module book details are entered into the appropriate databases. This task is done by the registered publications. Data updations and deletions are also carried out.

In dealer registration module registration of dealers are carried out. Registered dealers are given by a dealer id and password for further enhancement.

In shopping module purchase of books are carried out. Customer can locate the items either by using search option or by browsing categories. Virtual shopping cart allows the customer to make a single order list.

In the payment module customer can select any of the payment modes. According to the payment mode a receipt is generated. Receipt include all the purchase details.

In the order processing module dealer identification process is carried out. Order details are the relayed to the dealer. Dealer the handles the shipping process.

In the shipping module shipping details are taken and the order is send to the customer. Sending details and delivery details are the stored in appropriate tables.

In the money transaction process account settlement process is carried out. First the order amount is credited from the customer's account and debited to the administrators account. When the delivery details are verified administrator's account get credited and dealers and publishers accounts are credited.

Customer service module focuses on customers. This module provides options for better customer interaction. Customer can send their reviews about the books. There are also provisions for sending complaints and suggestions. In administrative module cheque and voucher details verification and database administration processes are carried out. Complaint processing is also initiated in this module.

## **1.2 Organizational Profile**

Electronic Research and Development Centre (ER&DC) is a Scientific Society under the department of electronics, Government of India. It is a national centre of excellence with expertise in the areas of Automation and Control, Power Electronics, Computer and Communications, Strategic electronics, Consumer Electronics, and Artificial-Intelligence. It is a pioneer organization in India engaged in application-oriented research and development in electronics and Information technology catering to the needs of the industry, defense and service sectors of the country.

It is a scientific society started in 1974 under the Department of Science and Technology of the Government of Kerala and has completed 10 years as a center for excellence in Electronic Research and Development.

The center has built up a strong expertise over the years in the areas of computers, communication, control and instrumentation, Artificial Intelligence, Power Electronics,

VLSI design etc. The resource available in ER&DC include, among other things, on IBM S/390 - Mainframe system, VLSI Design center and advanced CAD facilities. ER&DCI is providing services to almost all Government and private organizations.

ER&DCI objectives are:-

- To undertake Research and Development in the area of Applied Electronics for Rural Applications.
- Development of Electronic products and system for manufacture in small scale sector research and development industries in both private and public sectors.
- To play a role model for the Electronic Technology department.

### **Organizational Setup:**

There are five ER&DCI's located in our country.

- Calcutta
- Mohali
- Lucknow
- Pune
- Thiruvananthapuram

The center's latest venture is the Software Training and Development Center (STDC) addressing to the needs of the software development market with emphasis given to IBM Mainframe platform. The various other activities of STDC are

- To build highly effective and skilled software professionals to provide relevant education and services to customers to meet their needs.
- To run a high quality Business Education Service.
- To be a leader in Technology and Productivity relating to delivery of Education in computers
- To make the country a leader in Technology and Productivity in Software field.



## 2. COMPUTATIONAL ENVIRONMENT

The following sections describe in detail various specifications needed for the application to perform .

### 2.1 Hardware Requirements

#### SERVER

Processor	:	Intel Pentium Family
RAM	:	48MB <del>64</del> 128
Hard Disk Drive	:	4.3 GB or higher <del>1GB</del>
Keyboard	:	Standards 101/102 or DigiSync Family or Microsoft Natural Key board.
Monitor	:	Display Panel (640x480). Preferably Samtron 13" or LG Studioworks 14" color.
Display Adapter	:	Trident Super VGA.
Network Adapter	:	SMC EtherCard Elite 16 Ultra or PowerNIC Network Interface Card
Floppy Drive	:	3.5" , 1.44 MB
Mouse	:	Logitech Serial Mouse PS/2 compatible Mouse Port
CD-ROM Drive	:	Creative Infra 48 Series

## 2.2 Software Requirements

### Back End

ORACLE 8.0  
Microsoft SQL Server version 7.0.

### Front End

DESIGNED ORIGIN • MS-FRONTEND DESIGN • JAVASCRIPT  
Java 2 release from Sun Microsystems. Specification follows

- ◆ Jdk 1.2 software from Sun Microsystems.
- ◆ Win 32 release for Windows 95,98 and NT on Intel Hardware
- ◆ JDBC 2.0 API
- ◆ JSDK 2.1 Edition
- ◆ Browser supporting all these and especially HTML version 3.2 or higher
- ✕◆ Kawa editor or latest Edit-Pad release.

### **3. SYSTEM ANALYSIS**

System Analysis is a problem solving activity that requires intensive communication between the system requests and the system developer. System Analysis is concerned with becoming aware of the problem identifying the relevant variables, analyzing and synthesizing the various factors and determining an optimal at least a satisfactory solution or program of action. Information obtained through different processes such as gathering and interpreting facts, diagnosing problems, is used to recommended improvements to the new system.

#### **3.1 Importance of Internet Commerce**

##### **Why the Internet and why now?**

There are two reasons for a company to get involved in internet commerce:

Top Line: The ability to reach new customer and create more intimate relationship with all customers.

On the internet, every business has a global presence. Even small and medium sized companies can now easily reach customers around the world. The technology of computing and communications enables the business to know more about its customers, share more of its information with customers, and apply that information to improving relationships and creating sales.

Bottom Line: Drastic cost reductions for distribution and customer service.

The internet dramatically lowers the distribution cost for information, and dramatically improves the ability to keep information current. In a world, where

customers of all kinds are demanding more information about the products and services they purchase, the ability to deliver that information become an important part of making the sale. And on the internet information may *be* the product.

Following are some of the key properties of the internet.

1. Internet is interoperable.

By definition, a computer is connected to the internet if it can communicate with any other computer connected to the internet. There are two factors that make this possible:

the use of standard protocols and the availability of universal naming, addressing, and routing.

2. Internet is global.

Because the internet structure is based on standardized and universal connectivity, it has rapidly become a global network.

3. The Web makes it easy.

The World Wide Web has made highly functional multimedia content easily available to users world wide. People with little or no computer experience can get connected through internet and use web browsers very successfully.

4. The costs of the network are shared across multiple applications and borne by the end users.

Most businesses and consumers connected to the internet pay for their own connections, and they are then free to use the network for any number of purchases. In consequence, a provider of information does not need to

pay for a distribution system, other than its own connection to the network. The users of the service pay for the distribution.

### **Access to a Global Market**

‘Globalization’ is a common world these days, and advances in communication and transportation make it possible for business to operate world wide. Suppliers and customers can be located anywhere. In some cases, countries are lowering or removing barriers to trade encouraging more and more international commerce. The internet is accelerating this trend. In effect, everyone on the internet can have a global presence.

### **Strategic Issues**

We believe the advent of the internet brings with it two strategic issues:  
Concentration versus Empowerment, and new competitive challenges.

### **What do we mean by “Internet Commerce”?**

By Internet commerce we mean the use of the global internet for purchase and sale of goods and services, including service and support after the sale. Internet is an efficient mechanism for advertising and distributing product information. But our focus is for enabling complete business transaction. In internet information may be the product.

### **Other Types Of Electronic Commerce:**

Historically speaking, the best known idea in Electronic-Commerce has been Electronic Data Interchange(EDI) has been tremendously useful for many organizations who have created EDI systems and could afford to make the investment in them.

Internet Commerce, in contrast, transcends many of the restrictions of EDI. The communication can take place over a shared public network, rather than building a specialised network. Or contracting for expensive Value Added Network services. More important, the web enables spontaneous business transactions between buyers and sellers with no prior relations.

### **Business in Internet Commerce:**

First and for most, Internet commerce is for business: Using the network effectively to achieve business goals. The technology improving changes in both computing and communication, provides many tools to be used in reaching those goals. If we do not have a clear idea of our business goals in using the network, then technology cannot help us to achieve them. This is not to say that business goals cannot change to take advantages of the technology. It is entirely appropriate, for example, to choose a new focus on new customer relationships using the internet to communicate with customers. Without the network, such a goal may have been too expensive or difficult to achieve. The internet might enable a company to achieve that goal in a way that it could not before. Business issues for internet commerce cross the entire range of business activities, from attracting customers to fulfilling their orders, and from sales to accounting.

## **Technology Issues**

The invention and subsequent spread of the world wide web, in particular, provided the technical foundation for many different applications, including those for business. The web has been changing rapidly, with rapid growth in usage and dramatic evolution in protocols, systems, and applications. For commerce systems there are two key technology issues: what technology to use and the fast pace of technological change.

## **Commerce Value Chain**

### **1. Attract Customers**

Marketing - get and keep customer interest

### **2. Interact with customers**

Sales – turn interest into orders

### **3. Act on customer instructions**

Order Management – order capture, payment, fulfillment

### **4. React to customer request**

Customer service, technical support.

### 3.2 Requirement Analysis

Requirement analysis is done to get a sound knowledge about the existing system, its advantages and its limitations to use effective methods to overcome these while developing the new system. To get a firm idea about the existing system, the various methods were employed. Ordinary <sup>super markets</sup> ~~book shops~~ were visited and a rough idea about the purchasing of <sup>consumer products</sup> ~~books~~ was attained. An informal discussion with the customers, <sup>and dealers</sup> ~~dealers and publishers~~ was conducted. The features of various shopping sites were studied. A clear idea about the existing system is obtained after requirement analysis.

### 3.3 Existing System

In the existing system of ~~book~~ <sup>two</sup> shopping ~~three~~ models exists.

- \* Retail stores
- \* Direct sales
- \* ~~Mail order~~

Retail stores: - In this model the consumers comes to the <sup>store</sup> ~~book shop~~ and supplier's staff are in place, providing a physical environment in which consumers can shop and buy. Even through the consumer can see and select <sup>the products</sup> ~~books~~, it is time consuming and significant costs are involved in retail stores, including the physical plant, inventory, staff, advertising and so on.

Direct sales :- In this model the supplier visits the customer's residence. Direct sales effort by door-to-door sale people and multilevel marketing existed but have only a limited relationship to its evolution.

Mail Orders :- In this model, the supplier and customer transact business without meeting. Mail orders is based on the printed catalogs from which shoppers choose their books and either mail, call or fax in their orders. Mail orders also can be costly, but it offer's key advantages. It is open 24 hours per day, can reach national or global market without the need for multiple store locations and is highly flexible.

These retail channels all differ along several dimensions such as the following

- \* Price and cost of delivery
- \* Speed of selection
- \* Purchasing Content
- \* Pleasure of shopping experience

E-shopping was introduced as a complement to the existing system. It allows stores to become virtual store-fronts that are always open and lightly staffed at all and offers very different possibilities from the physical world.

Advertisement on the web allows consumers to click on them to make a purchase. But the cost of building and maintaining a web-site for e-shopping is very costly. So the conversion of ordinary retail shops to e-shops is not profitable or not economical. Hence there is a need for a complementary system.

### 3.4 Proposed System

Proposed system is aimed at removing the drawbacks of the existing system. The proposed system <sup>'CLICK n' PACK'</sup> 'CYBER BOOK MART' is a business promoting site in which the use of Internet has exploded in the area of Electronic Commerce. Web surfers can now order <sup>Consumer portals</sup> the ~~books~~ from a rapidly growing on-line shop.

In this site there are four users.

- \* Customer - who wants to buy books on the Internet
- X \* Publications - who wants to sell their books through the Internet.
- X \* Dealer - who wants to track the orders through the Internet.
- \* Administrator- who is the owner of the site.

Publications are allowed to register themselves to selling books on-line. If any dealer want to track the orders they also want to register. There is no cost for registration. The only requirement is that the publications and dealers must have an account in a bank specified by the administrator.

Customers are allowed to register themselves for ordering <sup>the products</sup> books on-line. Validations are carried out on the basis of order information provided by the customer to confirm the order. Once the order is confirmed ~~settlement of account~~ traction is carried out ~~and the order is then send to the local dealer.~~ <sup>Administrator</sup> Dealer will handle the shipment.

In the account settlement procedure two transactions take place. In the first transaction order amount is credited to customer's account and debited to administrator's account. In the second transaction publications and dealer's account get debited administrator's account get credited. During this transaction some percentage of total

once the orders are being placed the administrator processes the orders and delivers the products at the customer's door step on the date specified by the customer. In case of repeat orders the products are being replaced.  
order amount is been debited to administrator's account as a commission. There is no direct transaction between customer and vendor.

### **3.5 Advantages of the proposed system**

#### **❖ Better Customer Interaction**

The ability to reach new customers and create more intimate relationship with all customers.

#### **❖ Global Accessibility**

The shop is open 24 hours, can reach a global market and is highly flexible.

#### **❖ Market Base Expansion**

The site can open up information's system to entirely new groups of users including employees, customers, suppliers and business men who did not have to access to them.

#### **❖ Cost Reduction**

The cost of the network are shared across multiple applications and borne by the end user.

#### **❖ Shorter Time To Market**

The shop is able to introduce new books and information into the market, get immediate customer reaction to it, without sending a physical distribution infrastructure or buying shelf space at a retailer or distributor.

#### **❖ Virtual Storage**

Theoretically unlimited selection from the database freed from the constraints of floor space, printed space and cost of a catalog or minutes of television air time.

❖ **Increased Profits**

The shop can reach more people and gain exposure in new markets not covered by the manual system. It will reduce manual cost of maintaining marketing operations.

❖ **Improved Customer Service**

Up to date information about books can be given making it more convenient for the customers to serve them selves.

❖ **Multiplicity**

The site is able to handle any number of customers simultaneously and can provide product information to every user

### 3.6 Infra Structure

- ◆ Search

- ⇒ Item List

→ Category list

- ◆ Browse By Category

- ⇒ Subcategories

- ⇒ Item List

- ⇒ More Information

- ⇒ User Reviews

- ⇒ Shopping Cart

- ⇒ Update

- ⇒ Delete

- ⇒ Registration

- ⇒ Login

- ⇒ Check Out

- ⇒ Payment

- ⇒ Receipt

- ◆ Official

- ✗ ⇒ Dealer's Page

- ⇒ Registration

- ⇒ Login

- ⇒ Modification

- ⇒ Sending Details Entry

- ⇒ Delivery Details Entry
- ⇒ Sending Orders
- ⇒ Customer Service
  - ⇒ Sending Mail
- ⇒ Publisher's Page
  - ⇒ Registration
  - ⇒ Login
  - ⇒ Modification
  - ⇒ Product Administration
    - ⇒ Data Entry
    - ⇒ Adding New Category
    - ⇒ Data Updation
    - ⇒ Deletion

◆ Particulars

- ⇒ New Arrivals
  - ⇒ Categories
  - ⇒ Item List
- ⇒ Top Ten Books
  - ⇒ Item List
- ⇒ Our Publications
  - ⇒ Publication List
  - ⇒ Item List

◆ Customer Service

⇒ Reviews

⇒ Complaints

⇒ Feed Back

⇒ ~~Contact Us~~

◆ Order Status

⇒ Updation

⇒ New Receipt

⇒ Cancellation

⇒ ~~Cheque Details~~

◆ ~~Contact Us~~

◆ ~~Help~~

## 4. SYSTEM DESIGN AND DEVELOPMENT

System Design is a modeling process. It can be defined as a transition from a user's view to view of programmers (developers) and database personnel. It concentrates on translating requirement specification to design specification. This system design phase acts as a bridge between the requirement specification and the implementation phase.

The major steps in the design phase are input design, output design, database design and dealing with coding issues. The first step is to define the input and output screens according to the requirements specified by the client. The next step is the database design which concentrates on choosing the database which suits most to the application environment.

### 4.1 Input Design

In the input design the user oriented inputs are converted into computer recognizable format. The collection of input data is the most expensive part of the systems in terms of equipment used, time and number of clients involved. In the input design data is accepted and it can be readily used for data processing or can be stored in a database for further use. Input Design is that part of design phase which requires the most attention. Data should be accurate because in accurate data is the most common cause of errors in data processing. The input screens are very user friendly. Different names are associated with each data entry screen and each data item which makes data entry an easy job.

Each data entry screen contains separate buttons for getting the help screen and to reset the form. The user can access the 'help' feature from any screen. To clear the details entered by the client, he should not go to each item and delete the content, but press the button corresponding to reset the data entry form. While entering the data, proper validation checking are carried out and necessary messages will be alerted by the software if incorrect data has been entered.

Different maps are created during the interface design phase.

### ***Map for entering Publication details***

This form is for the publications who want to sell their books through the site. The publication can follow the hyperlink on the home page to invoke the web page for entering the their details. The publication's name, location, email address, fax number, phone number, site address (if any) should be specified. The publication must have an account in the bank specified by the administrator. So the account details such as account number, bank, branch name and account type Should be specified by the publication.

After entering the above details the publication should select a publication id and password. To remember the password a hint question and answer should be entered. The publication id selected should be unique.

### ***Map for entering Dealer details***

This form is for the Dealers who want to track the orders through the site. The dealer can follow the hyperlink on the home page to invoke the web page for entering the their details. The dealer's name, location, email address, fax number, phone number and zip code should be specified. The dealer must have an account in the bank specified by the administrator. So the account details such as account number, bank, branch name and account type Should be specified by the publication.

After entering the above details the dealer should select a dealer id and password. To remember the password a hint question and answer should be entered. The dealer id selected should be unique.

### ***Map for modifying the details***

To modify the details of dealer and publication, they have to specify their id and password. If the entered details are correct modification screen will be displayed on the client browser window. Some fields are editable and some are not. The client can change the fields and press the 'submit' button. The corresponding record will be updated.

### ***Map for entering customer details***

The form for entering the customer details will be displayed when the customer initiates the 'proceed to check out' process. Customer's name, gender, address, phone number, email address and zip code should be specified. The customer should select a user id and password. The user id selected should be unique. A hint question and answer related to the user id should be specified.

### ***Map for entering product details***

In order to enter the products (books) details the publication should login first. In the 'Login form' publication should enter the publication id and the password and then press the 'submit' button. If the entered details are correct a data entry screen will be displayed. The ISBN number, category, subcategory, title, author, price, weight and description should be entered. If any new category has to be entered click the 'New Category' hyper link. A new window will be displayed. Then enter the new category name, subcategories and a category code. After closing the window data entry can be continued.

### ***Map for updating the details***

To update the details the code/ISBN number of the book should be entered. Then the corresponding details will be displayed. After updating the details press the 'update' button. Then the corresponding record will be updated. To delete the item, press the 'delete' button. Then the corresponding record will be deleted.

### ***Map for entering sending details***

In sending details form, the receipt number and sending date should be specified by the dealer and press the 'submit' button. Then the corresponding details will be entered in to the table.

### ***Map for entering the delivery details***

In the delivery details form, the receipt number, voucher number and delivery details should be entered by the dealer and press the 'submit' button. Then the corresponding details will be entered into the table.

## **4.2 Output Design**

In the output design, the emphasis is on producing the hardcopy as softcopy of information requested for Outputs are the most important and direct source of information to the clients. Intelligent and friendly outputs will improve the relationships between the client and the system and supports the client and for decision making. Outputs are also used to provide a permanent hardcopy of results for later considerations. The major outputs include

### ***Cash Receipt***

The receipt is produced at the end of shopping process. The receipt contains receipt number, purchase date, purchased item's details, price, quantity, sub total, shipping and handling charge and net total. Also it contains address of the receiving person. If the payment mode is cheque, then the address to which the cheque to be send is also displayed.

### ***Sales Report***

Sales report contains sales details per month. It includes dealer id, ISBN number, quantities, price, sending date, dealer wise total and net total. Dealer id and ISBN number are displayed as hyperlink. When the link will be clicked, more details displayed.

### ***New Arrivals List***

The new arrivals list contains the details of newly arrived books. A category list will be displayed. When any of the category is selected, the new arrivals corresponding to that category will be listed. The list contains book title, author, price and 'add to cart' button. Book titles are displayed as hyperlink. When make a click on the link more details will be displayed.

### ***Top ten Books List***

It provides details of the first ten of the most sailed books. The details include title, author, price and 'add to cart' button.

### ***Publication List***

Publication list contains the details of the registered publishers. The details include publishers address and a link which displays the book details of that publication.

### ***HTML Outputs***

This contains all information presented to the customer once he/ she logs on to the network and asks for their details. Various HTML/Servlet pages include loan account details page, Transaction details page, balance page and loan details page. These are presented as four HTML pages and information is retrieved via servlets.

### ***4.3 Database Design***

Database design is an important part of the system design phase. In a database environment, the available data is used by several users. Instead of each program managing its own data, data across applications are shared by authorized users with the database software managing the data as an entity. The primary objectives of a database design include fast response time to inquiries, more information at low cost, control of redundancy, clarity and ease of use, data and program independence, accuracy and integrity of the system, fast recovery and availability of a powerful end-user language. The theme behind a database is to handle information as an integrated whole thus making access to information easy, quick, inexpensive and flexible for the users.

Data directory specifies the major element in the system, and care should be taken while designing, in order to avoid unnecessary duplication of data. The entire package depends on how the data are maintained in the system. Several tables are maintained in the system to store data required for processing of various data as well as storing intermediate or final processed results. The stored data are accessed by different modules to meet their needs.

The different tables that are maintained in the system are (PROD\_DETAILS, CATEGORY, SUBCATAGORY, NEW ARRIVALS, ORDER\_DETAILS, ORDER\_STATUS, SHIPPING, SHIP\_CHARGE, PUBLICATION\_TAB, DEALER\_TAB and USERS) *MSTOCK, CUSTOMER, CART, BILL*

#### 4.4 Process Design

This aims at translating the design of the system produced during the design phase into the code in a chosen programming language. For code design, we make use of Java Servlets, HTML, Java Script and SQL/Server. *Back the page design will be done by MS-POWERPAGE 2000. ABOVE PROVIDED*

##### **Java Servlets**

Servlets are generic extensions to Java enabled servers. The most common use is to extend web servers, providing a very secure, portable and easy-to-use replacement for CGI. A servlet is a dynamically loaded module that services requests from a webserver. Because the servlet is running on the server side, it doesn't depend on the client's compatibility.

The JavaServlet API provides standardization of the server to servlet interface. This provides the same benefit as the CGI standards.

Because the servlets are Java programs, they run in a JVM. Most servlet implementations enable servlets to be preloaded to increase servlet performance. The security features of JVM, Java runtime system and Java language all contribute to reducing the security risks faced by servlets. Because servlets are written in Java, they may be instantly ported to any other webserver that supports the servlet API.

Java applets are programs that are embedded directly into webpages. The applet is fine for very thin clients, but as the applet grow in size, the time for downloading becomes unacceptable.

The main features of servlets includes

- **Secure** - Servlet run on server side, inheriting the security provided by the webserver. Servlets can also take advantage of the JavaSecurity Manager.

- **Persistent** - Servlets can maintain state between requests, when a servlet is loaded, it stays resident in memory while serving incoming requests.
- **Efficient** - A servlet's initialization code is executed only the first time the webserver loads it. After the servlet is loaded, handling new requests is only a matter of calling a service method. This is a much more efficient technique than loading a completely new executable with every request.
- **Robust** - Because servlets are developed access to the entire JDK, they are very powerful and robust solutions. It provides a very well defines exception hierarchy for error handling. It has a garbage collector to prevent problems with memory leaks. In addition, it includes a very large class library that includes network support, file support, database access distributed object components, security and many other classes.

### ***Java Script***

JavaScript is an easy to learn scripting language designed to create dynamic online applications. These applications link together objects and resources on both the client and the server. JavaScript is a language created at Netscape Communications Corporation. It is not a compiled language. It does not use class libraries, and is generally nested with HTML. Standalone applications can't be developed with JavaScript, but very complex programs can be constructed that will run within the Netscape Navigator environment. But Java is a real, full-fledged, object oriented platform independent interpreted language. Java code requires the Java interpreter to be present on the target machine and its code is not nested. Java can be used to generate completely stand-alone programs.

The client-side features of JavaScript are

- **JavaScript is simple**

Because JavaScript is a simple scripting language, the webpage developer can create a dynamic webpage without needing to become a programmer.

➤ JavaScript is dynamic

A webpage becomes dynamic when it responds to events generated by the user or other objects. JavaScript transfers event management to the client side. This makes WebPage design more flexible, more dynamic and more responsive.

➤ JavaScript is object based

JavaScript is not an object-oriented language but it interacts with objects. An object oriented programming language includes classes, inheritance and strong variable typing all of which JavaScript lacks.

JavaScript gives access to the entire web page we can modify properties of the page. We can create new documents or update parts of the form. JavaScript lets us change the appearance of any part of the web document, not just a limited area.

JavaScript is interpreted. The code we write in JavaScript is the code that the browser executes. There is no intermediate step of creating executable code from the source code.

## ***HTML***

HTML represents a way to take ordinary text and turn it into hypertext, just by adding special elements that instruct web browsers how to display its contents. These special elements are called markup tags. HTML keeps everything on the World Wide Web anchored to a common ground. Multimedia is being integrated into HTML for web use at a very rapid rate.

The purpose of a markup language is to give either machines or humans clues about the structure, content and behavior of a document. There are two types of markup: descriptive and procedural. HTML is a descriptive markup language. A descriptive markup language describes the structure and behavior of documents. This allows an author to concentrate on content and structure and less on formatting and presentation.

The other kind of markup language, procedural, describes formatting rather than structure. An example is “troff”, the dinosaur UNIX markup language.

The special control characters that separate HTML markup from ordinary text are the left and right angle brackets. Technically speaking HTML is not a programming language, nor can an HTML document be called program. It combines instructions within

the data to tell a display program, called a browser, how to render the data that the document contains. Eventhough it is not a programming language *perse*, HTML controls to manage a document's appearance, and the linkage mechanisms necessary to provide hypertext capabilities.)

## **SQL SERVER**

The best track record is often the reason to consider a software package. Although the functionality and interfaces of micro computer based systems like dBase IV are appealing, their multi-user capabilities, access controls and SQL compatibility have been added on. Though SQL SERVER demands greater expertise on the part of application develop, an application developed on SQL Server will be able to keep pace with growth and change.

SQL Server provides better security for data. 'Grant' and 'Revoke' commands limits access to information down to row and column levels. Views are a valuable feature for limiting access to all major tables in a database

Disaster recovery in SQL Server is excellent. If an interruption occurs in processing, a rollback statement can reset the database to a point before the disaster. If a restore is necessary, SQL Server has roll forward command for re-creating the database to its most recent save point. Oracle uses SQL commands for its operations that is close to ANSI standard and highly compatible with IBMs DB2 and DS/SQL. SQL Server also supports application development.

At any point of time, an SQL Server database can be processing thousands of rows of information, handling hundreds of simultaneous user requests and performing complex data manipulations all while providing the highest level of performance and data integrity. To accomplish these tasks, the SQL Server database divides the work between a number of discrete programs each of which operates independently of one another and has a specific role to play. These programs are refereed as 'Oracle Background

Processes' and are the key to effectively handling the many operational stresses placed upon the database.

The SQL Server database is a powerful yet complicated data storage and retrieved system capable of supporting enormous workloads while maintaining high levels of performance, security and data integrity.

Several levels of data security is provided by SQL Server. Table level security is very widely used for many applications.

These includes the use of various 'Constraints' like 'Integrity Constraint', 'Null Constraint' etc. All these can be effectively applied throughout the applications. Oracle also supportr the usage of more complicated applications like PL/SQL which enhances the usage of tables to a great extent.

## 4.5 System Development

System Development is a series of operations performed to manipulate data to produce output from a computer system. This is highly dependent on the programming language used. The principal activities performed during the developments phase can be divided into a major related sequences. They are

1. Internal
2. External

The major external system development activities are done by implementation, planning, equipment acquisition and installation.

The major internal system development activities done for the system where computer program development and performance testing.

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### ***Modular Description:***

The system is fragmented into ten modules, namely

1. Publication Registration
2. Product Administration
3. Dealer Registration
4. Shopping
5. Payment
6. Order Processing
7. Shipping
8. Money Transaction

9. Customer Service

10. Administration

### **1. Publication Registration**

This module is for the publications, who want to sell their books through the internet. At first, the policies and the conditions of administrator will be displayed. When the publication agrees the Registration Form will be displayed. Publication must enter the details in that form. Publication must have an account in the bank specified by the administrator. Verification of Registration details and account details will be carried out. Publication can select Publication ID and Password. These id and password can be used for further enhancement.

### **2. Product Administration**

This module is handled by the Registered publications. There are two options .One is for data entry and another is for data updation. Using data entry option publication can be entered details of new books. Data updation option can be used to make any updations or to delete the entered book details. Before doing any updation or insertion publication should login first.

### 3. Dealer Registration

In this module , dealers who want to track the orders through the Internet can register themselves in the dealers list. The conditions and policies of administrator will be displayed. If the dealer agrees , the Registration Form will display. Dealer must have an account in the bank specified by the administrator. Registration details must include dealers details and account details. Dealer can select a dealer id and password. These id and password can be used for further enhancement.

### 4 Shopping

( This module is initiated by the customer. Customer can select the items in two ways. One is a search option and another is a 'browse by category') In the search option customer can give title , author or ISBN of books. ( Then the matched items will be displayed as hyperlinks. Customer can click the category of his choice. Then the subcategories will be displayed . When the customer clicks any subcategory , the corresponding <sup>product</sup> ~~books~~ details will be displayed . Each item is associated with a 'add to ~~cart~~ <sup>cart</sup> button. Customer can click this button to add the items to the shopping cart.

Shopping cart is a dynamic HTML form which allows the customers to accumulate the items they want to buy and perform the basic function such as total cost calculations. Using shopping cart , buyers can continue adding items from the site; add, delete or change line items ; and place a single order at the end of the shopping experience.

After preparing interested item list using shopping cart customer can place the order. Before processing order customer must enroll himself in the customer's list. Here

all the personal details are taken.) The customer is free to select his own userid and password; which has to be used to make further purchases. After Registration shipping information is collected. Customer can send the order as a gift to someone. In this case the address of the receiver must be entered.

A checkout screen will be displayed after collecting the shipping information. It contains list of purchased items, subtotal, shipping charge and total amount to be paid by the customer. At this time customer can either continue shopping or he can proceed to the next process.

## **5. Payment**

In this module customer can select the payment methods. There two Payment methods.

- credit Card
- Cheque / DD

If the customer selects the credit card mode, he has to enter the credit card type, card number, expiry date and date of birth of the card holder. Then a credit card verification process is initiated. Credit card verification is handled by a third party organization. When the credit card is confirmed, receipt generation process is initiated. During this process, all details of purchase, order status and shipping informations are stored in the corresponding tables. Receipt number is generated and the receipt will be displayed. It contains the details of purchase, net amount, receipt number, order date and shipping address. If the customer selects the cheque/DD mode, then the address of the

cheque to be send is displayed. Customer must remember the receipt number for further dealings.

## **6. Order Processing**

In this module shipping information is taken and the appropriate dealer of customer's location is identified. To identify the dealer, DEALER\_TAB which contains the information about the registered dealers, is searched. Dealer identification is a recursive process. First customer's pincode and dealer's pincode are compared. If any matches occurs, a dealer will be selected randomly. Order details are then send to the dealer through email.

## **7. Shipping**

This module is handled by the dealer. Dealer verifies the order details and then availability of stock is checked. If all the items are available, order is then send to the customer. If any of the ordered items are not available, dealer can either contact to the nearest dealer or sending orders to the publication through the site. Dealer also informs the customer about the delay of sending orders.

When the customer got the order, a signed order will send back to the dealer. Delivery details are then stored in the appropriate table. A copy of voucher is then send to the administration.

## **8. Money Transaction**

In the money settlement procedure, two transactions take place. In the first transaction the order amount is credited to the customer's account and debited to the administrator's account. In the second transaction publisher's and dealer's account get debited and administrator's account get credited. During this transaction some percentage of the total order amount is debited to administrator's account as a commission. There is no direct transaction between the customer and vendor.

## **9. Customer Service**

In this module the main focus is the customer. The services that are given to the customer are listed. There are four services

- Sending Reviews
- Sending Complaints
- Order Status
- Site Feedback

Sending reviews option is for the customer to send his opinion about the <sup>books</sup> books he purchased. Randomly selected reviews will be displayed later along with the details. Sending complaints option is for the customer to send their complaints about the orders. Order status option offers a facility to the customer to find more information about his placed orders. The receipt number, which is given to him at the end of purchasing, can be used. If the current status is 'pending' he can cancel or update the orders. If the customer selects the cheque/DD details. The customer irrespective of whether he is registered or not can use the site feedback option to give his options and suggestions about the site.

## **10. Administrative**

This module is handled by the administrator. Administrator has control on all modules. Other functions handled by the administrator are

- Cheque Details Verification
- Voucher Details Verification
- Database Maintenance

When the customer's cheque reaches administrator's office, its details are verified and initiates the orders process. Dealer send the copies of vouchers. Administrator verifies the voucher details and initiates the money transaction process. Database may be accumulated with dummy records. Administrator verifies the databases and removes the unnecessary records.

## **5. SYSTEM TESTING**

This forms another major part of any System Development process. Care should be given during the whole process of testing. The performance of the system is measured in this phase.

### **5.1 Code Testing and Debugging**

Testing is a process of executing a program with the interest of finding an error. A good test is one that has a high probability of finding the yet undiscovered error. Testing should systematically uncover different classes of errors in a minimum amount of time with minimum amount of effort. Two classes of inputs are provided to the test process. They are

- a) A software configuration that includes a Software Requirement Specification, a Design Specification and a Source Code.
- b) A test configuration that includes a test plan and procedure, any testing tools that are to be used and test cases and their expected results.

Testing is divided into three distinct operations viz. Modular Testing, Integration Testing and System Testing. In the series of testing the following tests are implemented.

### ***Integration Testing***

Though each program works individually, they should work after linking them together. This is also referred to as Interfacing. Data may be lost across interface and one module can have an adverse effect on another.

Subroutines, after linking, may not do the desired function expected by the main routine. Integration testing is a systematic technique for constructing program structure while at same time, conducting test to uncover errors associated with the interface. In the testing, the programs are constructed and tested in small segments.

### ***Password Testing***

The Logon process is tested with some separate logon trials. Password is mainly meant for security. Passwords are stored in tables and changed via the administrator. Incorrect entries will be screened. After four consecutive trials provision is made for the application to exit. Also already created passwords won't be allowed to use again. The use of alphanumeric will be advised.

### ***Data Validation Testing***

Data validation is done to see whether the corresponding entries made in the tables are correct. Proper validation checks are done in case of insertion and updation of tables. Duplication of data has to avoided to the maximum extent.

If any such cases arise, then proper error messages or warnings, if any, has to be displayed. A double confirmation is made before deleting any specific entries.

White Box testing is a test case design method that uses the control structure of other procedural designs to divide the test cases. The different test cases are

- i. Guarantee that all independent parts within a module have been exercised at least once.
- ii. Exercise all logical decisions on their true/false side.
- iii. Execute all loops at their boundaries and within their operational bounds.
- iv. Exercise internal data structure to ensure their validity.

Each module was tested and the tested modules were linked and integration test was carried out.

### ***Test Data***

The system analyst will provide the test data, specially designed to show that the system will operate successfully in all its aspects and produce expected results under expected conditions. The test should take place at the same environment. Preparation of test data and the checking of results should be carried out in conjunction with the

appropriate users and operational departments. The test objectives should be clear. Also the extent to which the system should be tested must be planned.

### ***Debugging***

The potential ability of Java to handle exceptions was used extensively during the debugging process. All type of exceptions were caught and explicitly handled. Java language exceptions were caught generally whereas other exceptions like SQL exceptions were caught separately and various modes of their variations were found. Errors in case of back-end tables were used to display to the user in a number of ways. Exceptions occur at many of the stages like what happens during start of a program to any abnormal operations done or any missing threads. Various errors occurred in the cases of variables which carried same name and caused a lot of problems when all modules were linked.

## **6. IMPLEMENTATION ISSUES**

### **6.1 Security Issues**

#### **❖ *The Importance Of Security***

When the Internet was small, its users consisted of not-for-profit academic and research institutions. One can not determine which part of the Internet are commercial by looking at the data that is being transmitted.

Because the Internet is largely unguarded, it is vulnerable to thieves who want to gain access to credit card numbers. The computer network involved in the Internet transmit data that anybody along the line can access. Furthermore, practically anyone in the world who wants an Internet account can get one easily.

The security concerns in Internet commerce can be divided into two types.

- \* Data Base Security
- \* Data And Transaction Security

#### **❖ *Data Base Security***

Database security uses various authorization methods to make sure that only valid users and programs have access to information resources such as databases. Access control mechanisms must be set up to ensure that properly authenticated users are allowed access only to those resources that they are entitled to use. Such mechanisms include password protection and firewalls.

## **FIREWALL**

A firewall is an electronic filter that secures individual company networks from networks that connect to the web server. The simplest firewall is a packet filter that one set up to prevent outsiders from accessing particular areas of your network. These packet filters can prevent remote login and there by prevent other people from gaining access to the data on the computer.

These firewall systems work by forcing one to specify a filter. The filter usually is specified in a software program in the form of a table that one can edit on his system. The filter contains rules that specify the types of packets that can and can't pass through the firewall.

### **❖ *Data And Transaction Security***

Data and transaction security ensures the privacy and confidentiality in Electronic messages and data packets. The goal is to defeat any attempt to assume another identity while involved with electronic mail or other forms of data communication.

Two methods of security currently are being developed.

- \* Secure Socket Layer (SSL)
- \* S-HTTP (Secure Hyper Text Transfer Protocol)

## **SSL**

The SSL is an authentication protocol used to send encrypted information over the Internet. It was originally developed by Netscape to secure transfer information between the TCP/IP protocol and the application layer.

The primary goal of the SSL protocol is to provide privacy and reliability between two communicating applications. The protocol is composed of two layers. At the lowest level, layered on top of some reliable transport protocol is the SSL record protocol. The SSL record protocol is used for encapsulation of various higher level protocols. One such encapsulated protocol, the SSL Handshake protocol allows the server and client to authenticate each other and to negotiate an encryption algorithm and cryptographic keys before the application protocol transmits or receives its first bytes of data.

SSL has been characterized as extremely secure, primarily because the connection security also incorporate the use of md5. The protocol therefore provides connection integrity as well as authentication.

SSL was unveiled to the world and largely accepted by security circles, primarily because the system combined some of the most powerful encryption techniques currently available.

## **S-HTTP**

S-HTTP is an often discussed but seldom seen protocol. S-HTTP's main feature is that it does not require users to engage in a public key exchange. It does not require client--side public key certificates, supporting symmetric session key operation modes.

This is significant because it means that spontaneous private transactions can occur without requiring individual users to have an established public key.

Although S-HTTP does not require public key exchange style authentication, it supports such authentication which is an additional benefit. S-HTTP also supports message authentication and integrity in much the same fashion as SSL.

Secure HTTP provides a means to verify message integrity and sender authenticity for a HTTP message via the computation of a message authentication code, computed as a keyed basis over the document using a shared secret.

## **7. SCOPE FOR FUTURE DEVELOPMENT**

This system is designed in such a way that addition of new modules can be done without much difficulty. through this site only books can be purchased now. The site can be modified to facilitate the purchase of other products as well.

The system also has the provision to include the sales of second hand products. In future it is possible to introduce Internationalization (i18n), is the process of designing an application so that it can be adopted to various languages and regions without engineering changes.

The system can be changed easily depending on changes in the organisation policies. The reconstruction of system will increase the flexibility of the system. The things mentioned above will be carried out in future.

## ✓ 8. CONCLUSION

This project incorporates all the requirements of a full-fledged shopping site. This system has been developed as versatile and user friendly as possible keeping in mind the advanced features in this technology.

Using JDK1.2, JSDK2.1 and ~~SQL~~ <sup>ORACLE, INC</sup> Server, the system was developed and tested with all possible samples of data. As a whole, the system was well planed and designed.

The performance of the system proved to be efficient. All the intracters receives an over all benefits through the system. The system provides flexibility for incorporating new features, which may be necessary in future.

## DATABASE TABLE STRUCTURE

The most important aspect of building an application system is the design of tables. The data stored in the tables must be organized according to the user requirements.

The important tables that are accessed along with their fields are given below:

**Table Name:        PROD\_DETAILS**

For storing the details of books

Primary Key: ISBN

Foreign Key: PUBLIID,CATECODE

Field Name	Field type	Size	Constraints	Decription
ISBN	varchar	20	Not Null	ISBN number of the book
CATECODE	varchar	20	Not Null	Category code
SUBCATE	varchar	20	Not Null	Subcategory name
PUBLIID	varchar	20	Not Null	Publication id
TITLE	varchar	50	Not Null	Title of the book
AUTHOR	varchar	50	Not Null	Author name
PRICE	float	7,2	Not Null	Price
WEIGHT	float	8,3	Not Null	Weight
DESC	text		Not Null	Description
PICTURE	image		Not Null	Picture
HITS	int	5		No of sales

**Table Name: CATEGORY**

For storing different categories of books

Primary Key: CATECODE

Field Name	Field Type	Size	Constraints	Description
CATECODE	varchar	20	Not Null	Category Code
CATENAME	varchar	20	Not Null	Category Name

**Table Name: SUBCATEGORY**

For storing subcategories

Foreign Key: CATECODE

Field Name	Field Type	Size	Constraints	Description
CATECODE	varchar	20	Not Null	Category Code
SUBCATE	Varchar	20	Not Null	Subcategory Name

**Table Name:       USERS**

For storing user details

Primary Key: USERID

<b>Field Name</b>	<b>Field Type</b>	<b>Size</b>	<b>Constraints</b>	<b>Description</b>
NAME	varchar	20	Not Null	Name of the user
GENDER	varchar	6	Not Null	Gender
ADDRESS	varchar	40	Not Null	First line of address
STREET	varchar	20	Not Null	Street
CITY	varchar	20	Not Null	City
STATE	varchar	20	Not Null	State
COUNTRY	varchar	20	Not Null	Country
ZIP	varchar	10	Not Null	Zip code
PHONE	varchar	13	Not Null	Phone number
EMAIL	varchar	20	Not Null	Email address
USERID	varchar	20	Not Null	User id
PASSWORD	varchar	20	Not Null	Password
HINTQ	varchar	100	Not Null	Hint question
HINTA	varchar	100	Not Null	Hint answer

**Table Name: ORDER\_DETAIL**

For storing order details

Primary Key: RECEIPTNO

Foreign Key: PUBLIID

Field Name	Field Type	Size	Constraints	Description
RECEIPTNO	varchar	10	Not Null	Receipt number
ISBN	Varchar	20	Not Null	ISBN number
TITLE	Varchar	20		Title
PRICE	Float	7,2		Price
QTY	Int	4		Quantity
TOTAL	Float	7,2		Total price
PUBLIID	Varchar	20	Not Null	Publication id

**Table Name: ORDER\_STATUS**

For storing the status, order date, etc

Primary Key: RECEIPTNO

Foreign Key: USERID, DEALERID

Field Name	Field Type	Size	Constraints	Description
RECEIPTNO	Varchar	10	Not Null	Receipt number
USERID	Varchar	20	Not Null	User id
NETAMOUNT	Float	7,2		Total amount
ORDER_DATE	Datetime			Order date
STATUS	Varchar	10		Order status
SEND_DATE	Datetime			Sending date
DEALERID	Varchar	20	Not Null	Dealer id
PAY_MODE	Varchar	20	Not Null	Payment mode

**Table Name: SHIPPING**  
 For storing shipping details  
 Primary Key: RECEIPTNO

Field Name	Field Type	Size	Constraints	Description
RECEIPTNO	Varchar	20	Not Null	Receipt number
NAME	Varchar	20	Not Null	Name
ADDRESS	Varchar	20	Not Null	First line of the address
STREET	Varchar	20	Not Null	Street
CITY	Varchar	20	Not Null	City
STATE	Varchar	20	Not Null	State
COUNTRY	Varchar	20	Not Null	Country
ZIP	Varchar	20	Not Null	Zip number
PHONE	Varchar	20	Not Null	Phone number

**Table Name: DELIVERY**  
 For storing delivery details  
 Primary Key: RECEIPTNO  
 Foreign Key: DEALERID

Field Name	Field Type	Size	Constraints	Description
RECEIPTNO	Varchar	10	Not Null	Receipt number
DEALERID	Varchar	20	Not Null	Dealer id
VOUCHER_NO	Varchar	20	Not Null	Voucher number
DELIVERY_DATE	Datetime		Not Null	Delivery date

**Table Name: DEALER\_TAB**

For storing dealer details

Primary Key: DEALERID

Field Name	Field Type	Size	Constraints	Description
DEALER	Varchar	20	Not Null	Dealer's name
ADDRESS1	Varchar	20	Not Null	First line of the address
ADDRESS2	Varchar	20	Not Null	Second line of the address
CITY	Varchar	20	Not Null	City
STATE	Varchar	20	Not Null	State
COUNTRY	Varchar	20	Not Null	Country
ZIP	Varchar	20	Not Null	Zip number
PHONE	Varchar	13	Not Null	Phone number
EMAIL	Varchar	20	Not Null	Email address
FAX	Varchar	20	Not Null	Fax number
BANK	Varchar	20	Not Null	Bank name
ACCNO	Varchar	16	Not Null	Account number
ACCTYPE	Varchar	20	Not Null	Account type
BRANCH	Varchar	20	Not Null	Branch name
DEALERID	Varchar	20	Not Null	Dealer id
PASSWORD	Varchar	20	Not Null	Password
HINTQ	varchar	100		Hint question
HINTA	Varchar	100		Hint answer
REGDATE	datetime		Not Null	Registering date

**Table Name: PUBLICATION\_TAB**

For storing publishers details

Primary Key: PUBLIID

Field Name	Field Type	Size	Constraints	Description
PUBLICATION	Varchar	20	Not Null	Publication
ADDRESS1	Varchar	20	Not Null	First line of the address
ADDRESS2	Varchar	20	Not Null	Second line of the address
CITY	Varchar	20	Not Null	City
STATE	Varchar	20	Not Null	State
COUNTRY	Varchar	20	Not Null	Country
ZIP	Varchar	20	Not Null	Zip number
PHONE	Varchar	13	Not Null	Phone number
EMAIL	Varchar	20	Not Null	Email address
FAX	Varchar	20	Not Null	Fax number
URL	Varchar	50	Not Null	Uniform Resource Locator
BANK	Varchar	20	Not Null	Bank name
ACCNO	Varchar	16	Not Null	Account number
ACCTYPE	Varchar	20	Not Null	Account type
BRANCH	Varchar	20	Not Null	Branch name
PUBLIID	Varchar	20	Not Null	Publication id
PASSWORD	Varchar	20	Not Null	Password
HINTQ	Varchar	100		Hint question
HINTA	Varchar	100		Hint answer
REGDATE	Datetime		Not Null	Registering date

**Table Name: NEWARRIVALS**  
 For storing details of new arrivals  
 Primary Key: ISBN

Field Name	Field Type	Size	Constraints	Description
ISBN	Varchar	20	Not Null	ISBN number
TITLE	Varchar	20	Not Null	Title
AUTHOR	Varchar	20	Not Null	Author name
PRICE	Float	7,2		Price
ARRIVAL_DATE	Datetime		Not Null	Arrival date

**Table Name: SALES\_TAB**  
 For storing sales details  
 Foreign Key: DEALERID, PUBLIID, ISBN

Field Name	Field Type	Size	Constraints	Description
DEALERID	Varchar	20	Not Null	Dealer id
PUBLIID	Varchar	20	Not Null	Publication id
ISBN	Varchar	20	Not Null	ISBN number
QTY	Int	4		Quantity
PRICE	Float	7,2		Price
TOTAL	Float	7,2		Total
DEL_DATE	Datetime		Not Null	Delivery date

**Table Name: REVIEW**  
 For storing review details  
 Foreign Key: USERID, ISBN

Field Name	Field Type	Size	Constraints	Description
USERID	Varchar	20	Not Null	User id
ISBN	Varchar	20	Not Null	ISBN number
TITLE	Varchar	20		Title
REVIEW	Text			Review
REVIEW_DATE	Datetime		Not Null	Review date

**Table Name: COMPLAINTS**  
 For storing complaints  
 Foreign Key: USERID

Field Name	Field Type	Size	Constraints	Description
USERID	Varchar	20	Not Null	User id
COMPLAINT	Text		Not Null	Complaints
DATE	Datetime		Not Null	Date

**Table Name: SHIP\_CHARGE**  
 For storing shipping charge details

Field Name	Field Type	Size	Constraints	Description
WEIGHT	Float	8,3	Not Null	Weight
CHARGE	Float	7,2	Not Null	Shipping charge

## **CLASS DIAGRAM**

A class diagram is used to show the existence of Classes and their Relationships in the logical design of the system. A single class diagram represents all or part of the class structure of a system

Three most important elements of a class structure are class, class relationships and class utilities.

### **Identified Classes With Main Services**

1. Home Page  
Instantiates related objects
2. Sub Category  
Browse by category
3. Book details  
Show Details
4. Show Cart  
Amount Calculation  
Cart Display
5. Cart Editing  
Update  
Delete
6. Add to Cart  
Cart Addition
7. Shopping Cart (Package)  
Add  
Remove  
Return Information  
Updation  
Return more Information  
Connection
8. Publisher Logon  
Register Info Verification
9. Publisher Registration  
Database Updation
10. Publisher Modification  
Details Modification
11. Administration  
Product Entry

- Updation
- Deletion
- 12. Ordering
  - Order verification
  - Dealer Identification
- 13. User Logon
  - Logon Verification
- 14. User Registration
  - Database Updation
- 15. Shipping details
  - Accepting Shipping info
  - Database Updation
  - Shipping Charge Calculation
- 16. Order Status
  - Receipt Number Evaluation
  - Receipt Review
- 17. Check Out
  - Order Finalizing
  - Back to Shop
- 18. Receipt
  - Receipt number calculation
  - Show Receipt
  - Database updation
- 19. Order Mailing
  - Mail Customer Order
- 20. Thanks Message
  - Message With Sending Info
- 21. Search
  - Search by ISBN
  - Search by Category
  - Search by sub Category
  - Search by Author
  - Search by Publication
  - Search by Title
- 22. Review
  - Database Updation
  - Preview Mgt
- 23. Complaints
  - Complaint Mgt
  - Database Updation
- 24. Site Feed Back
  - Feedback Management
  - Database Updation
- 25. Dealer Registration
  - Registration Verification

- 26. Dealer Logon
  - Logon Verification
- 27. Dealer Modification
  - Details Modification
- 27. Details Entry
  - Entry Verification
  - Database Updation



# CLASS DIAGRAM

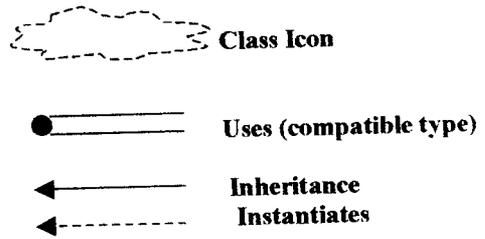
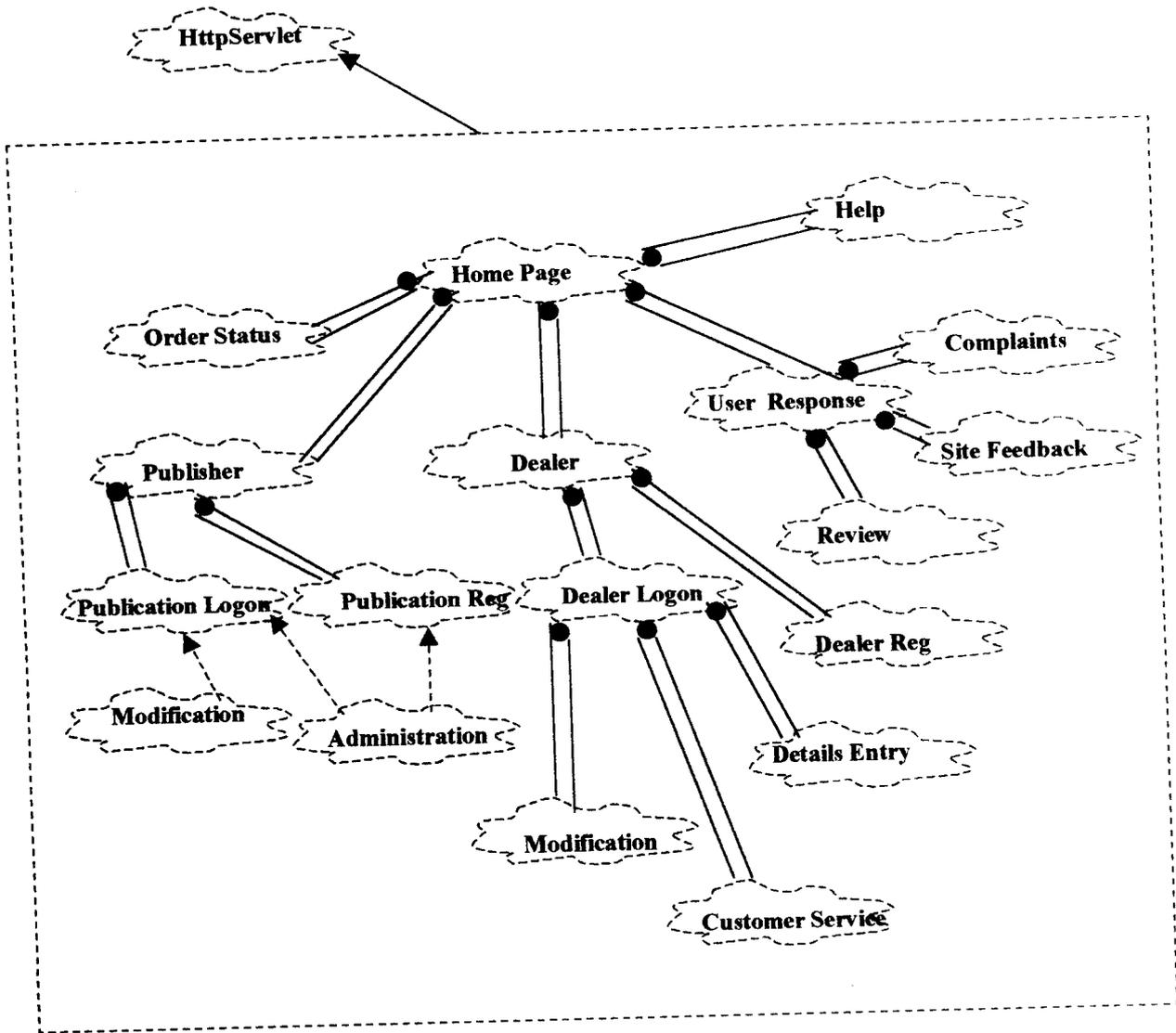


Figure 4.1  
62

CLASS DIAGRAM

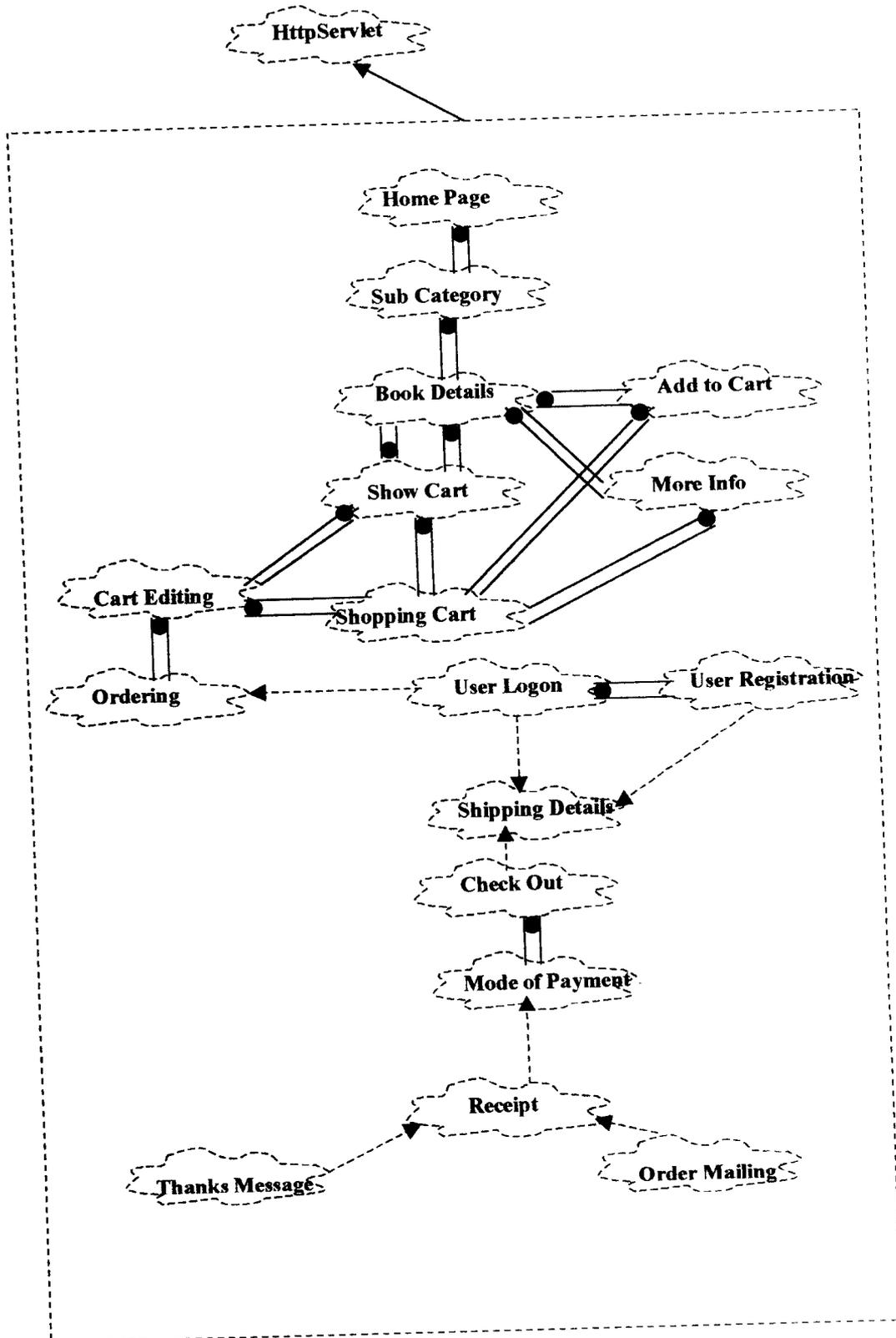


Figure 4.2  
63

**Level 1: DFD**

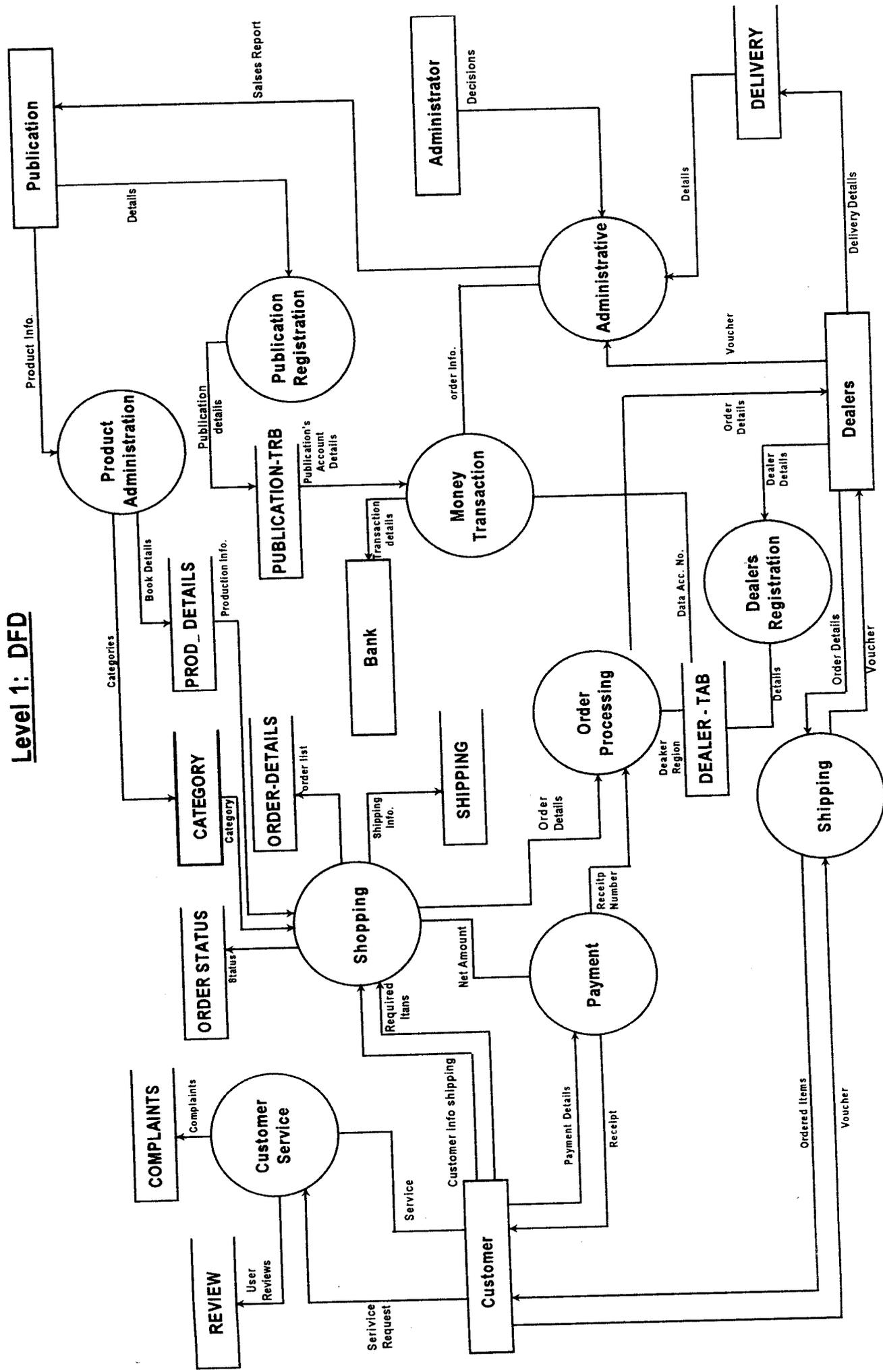


Figure 4.3  
64

# Level:2 DFD: Publication Registration

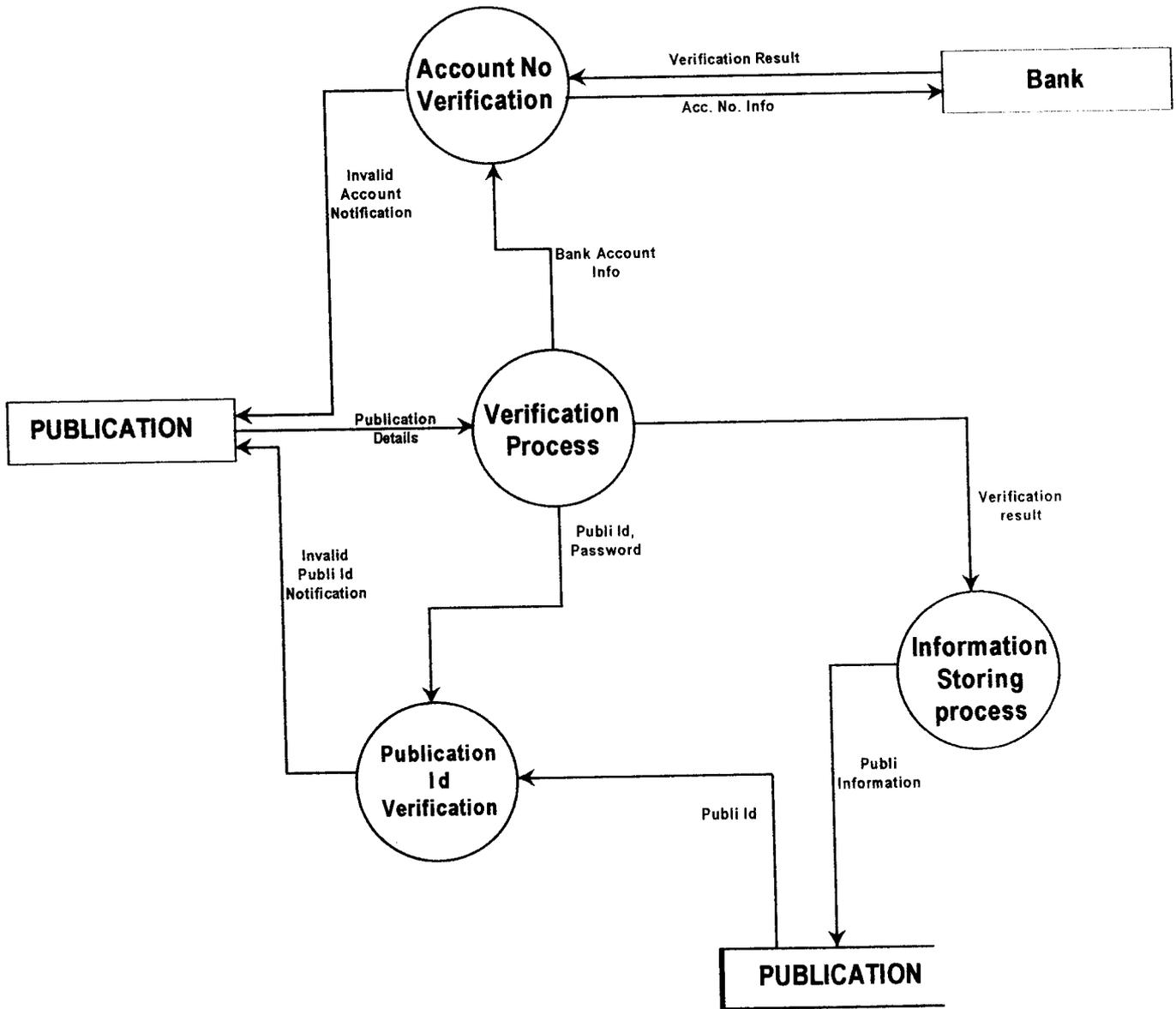


Figure 4.4  
65

# Level 2: DFD Product Administration

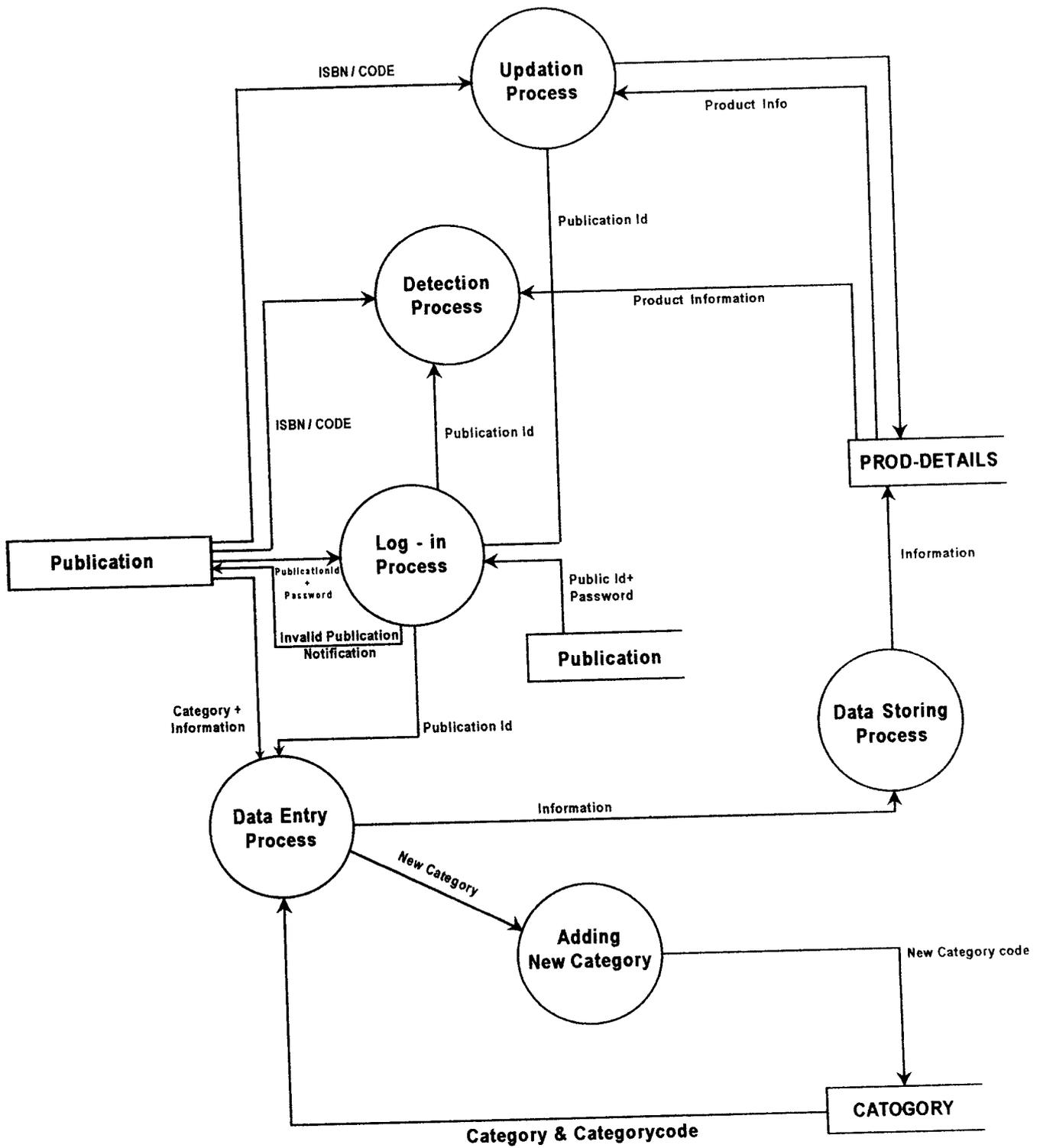


Figure 4.5  
66

## Level 2: DFD Dealer Registration

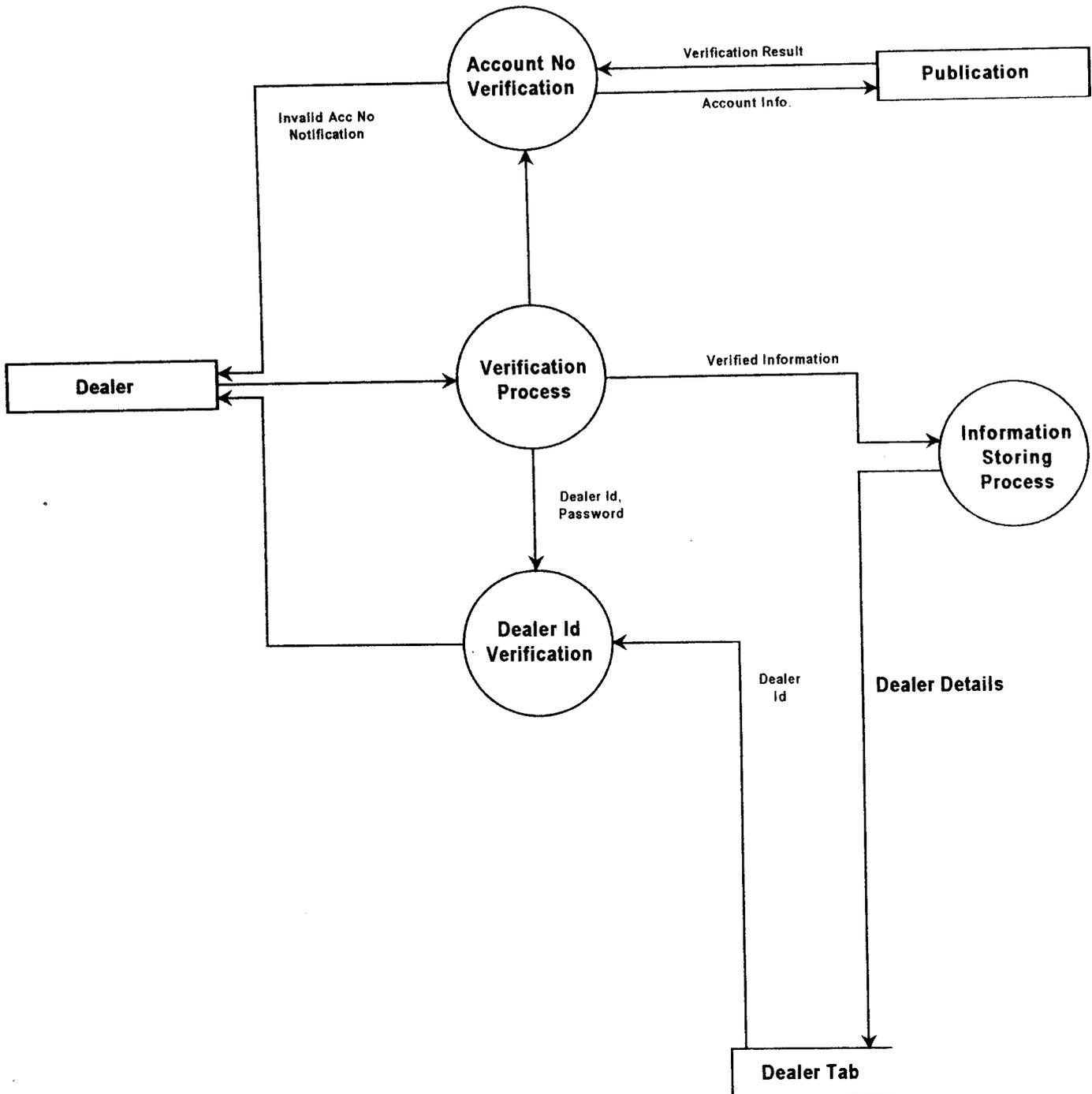


Figure 4.6  
67

# Level 2: DFD Shopping

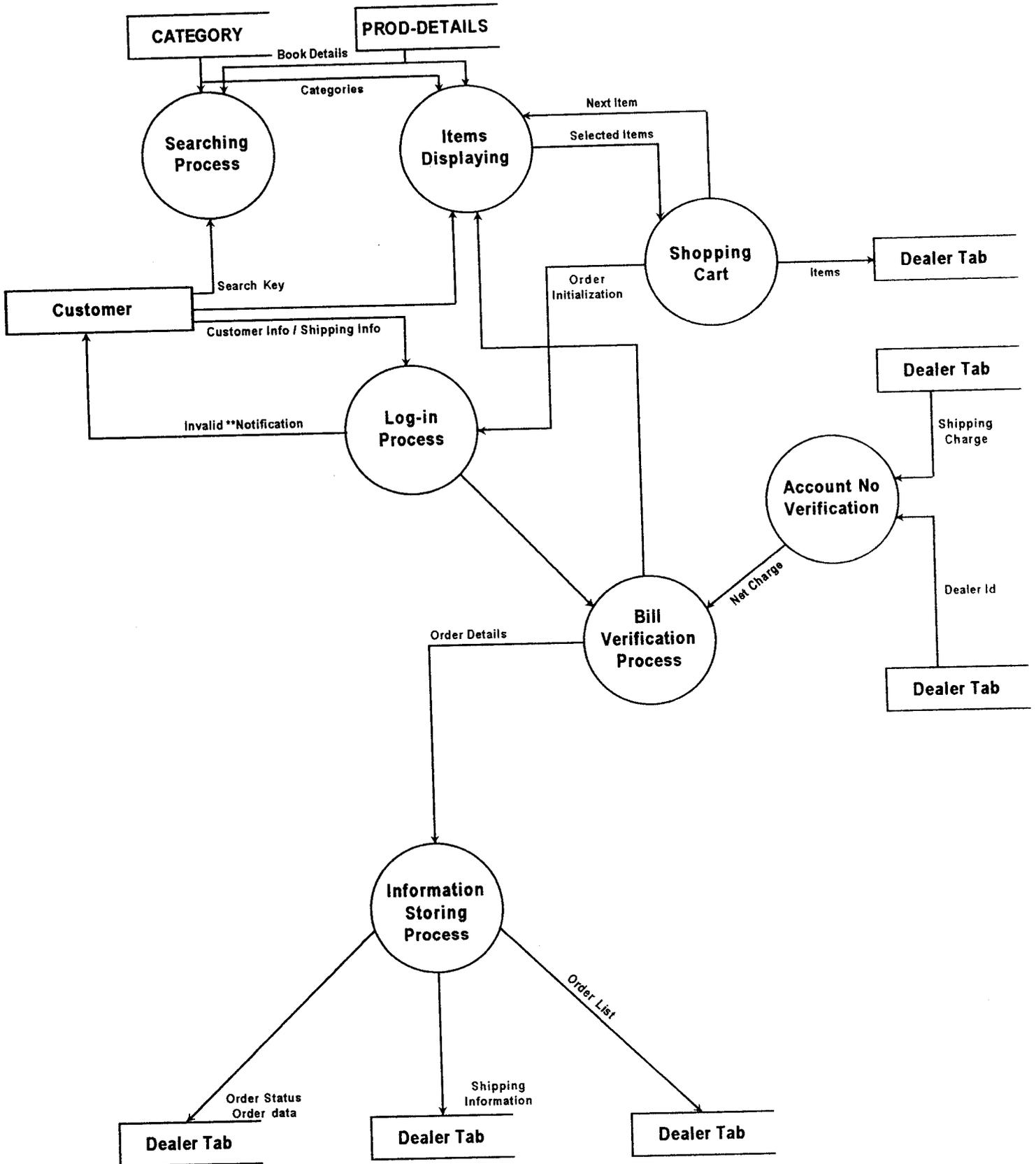


Figure 4.7  
68

# Level 2: DFD Payment

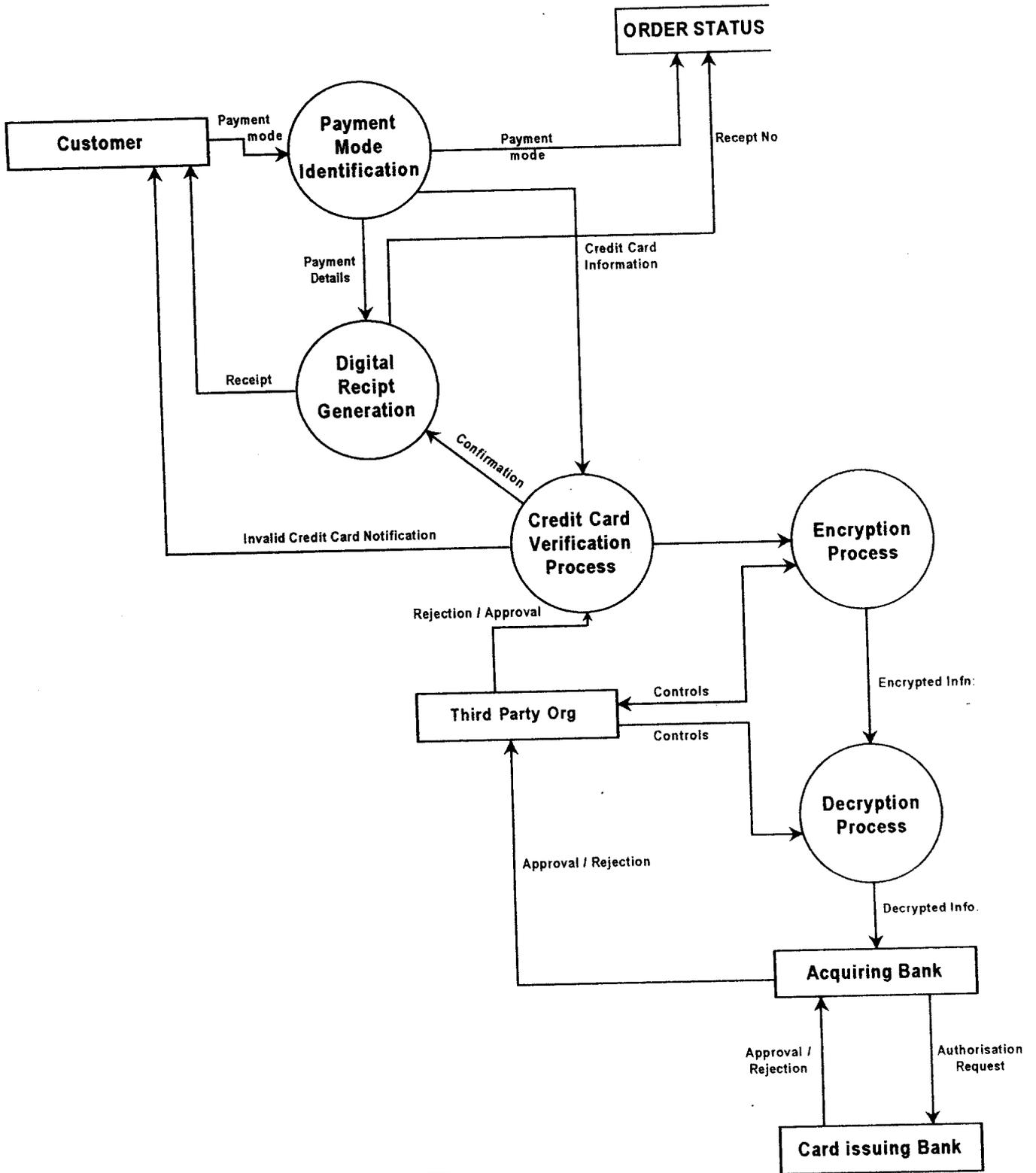


Figure 4.8  
69

# Level:2 DFD Orders Processing

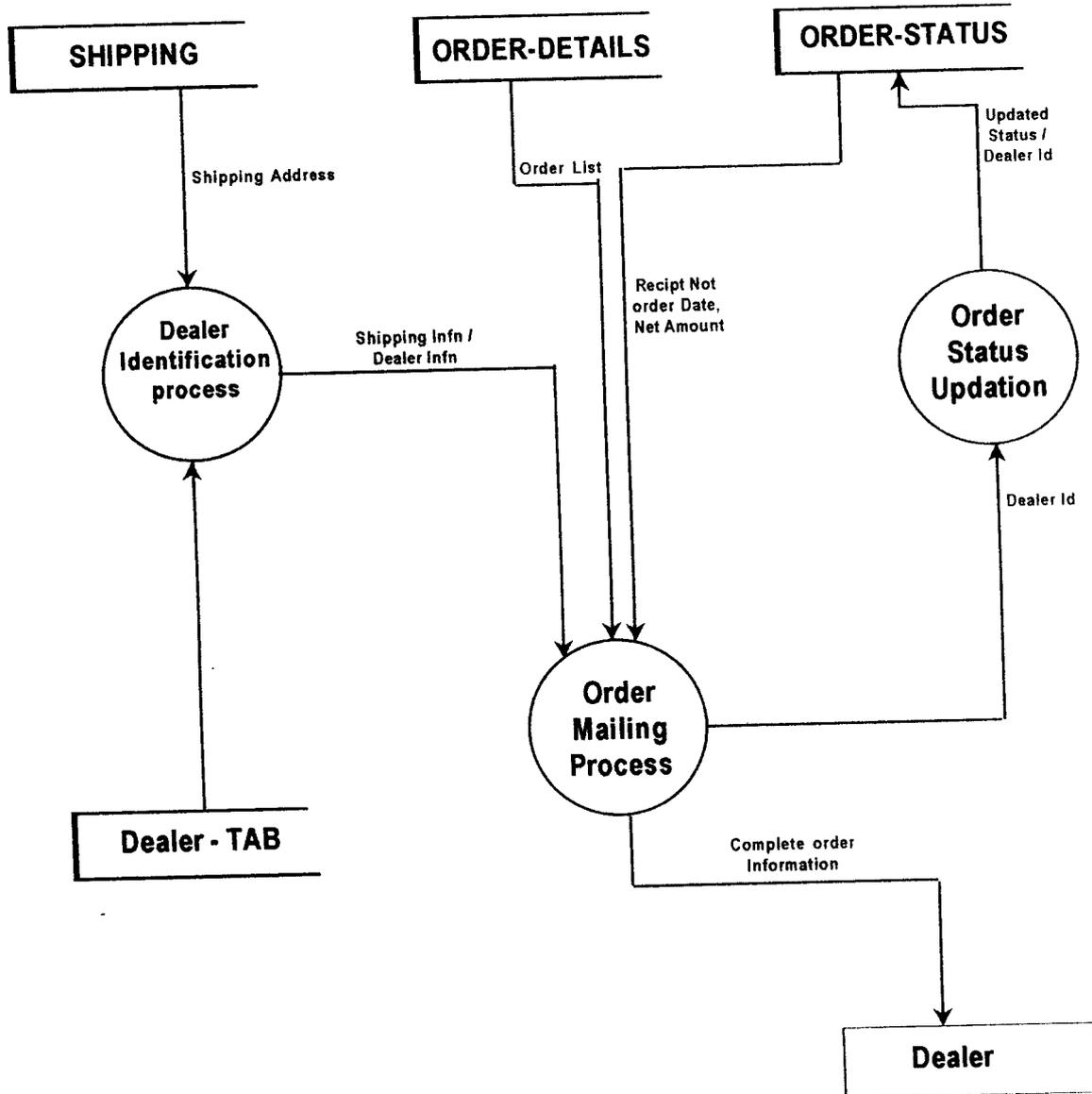


Figure 4.9  
70

# Level 2: DFD Shipping

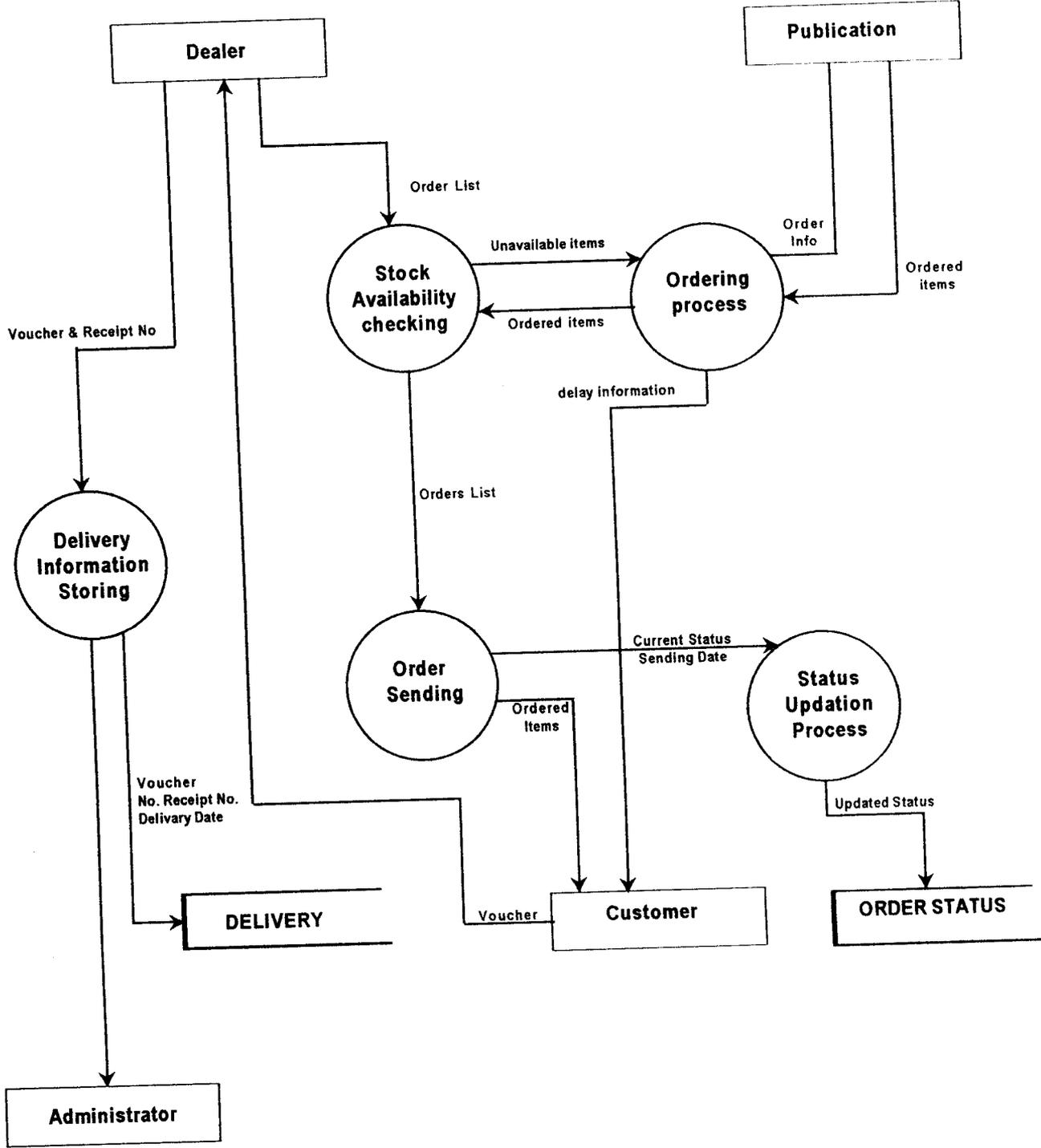


Figure 4.10  
71

## Level 2: Money Transaction

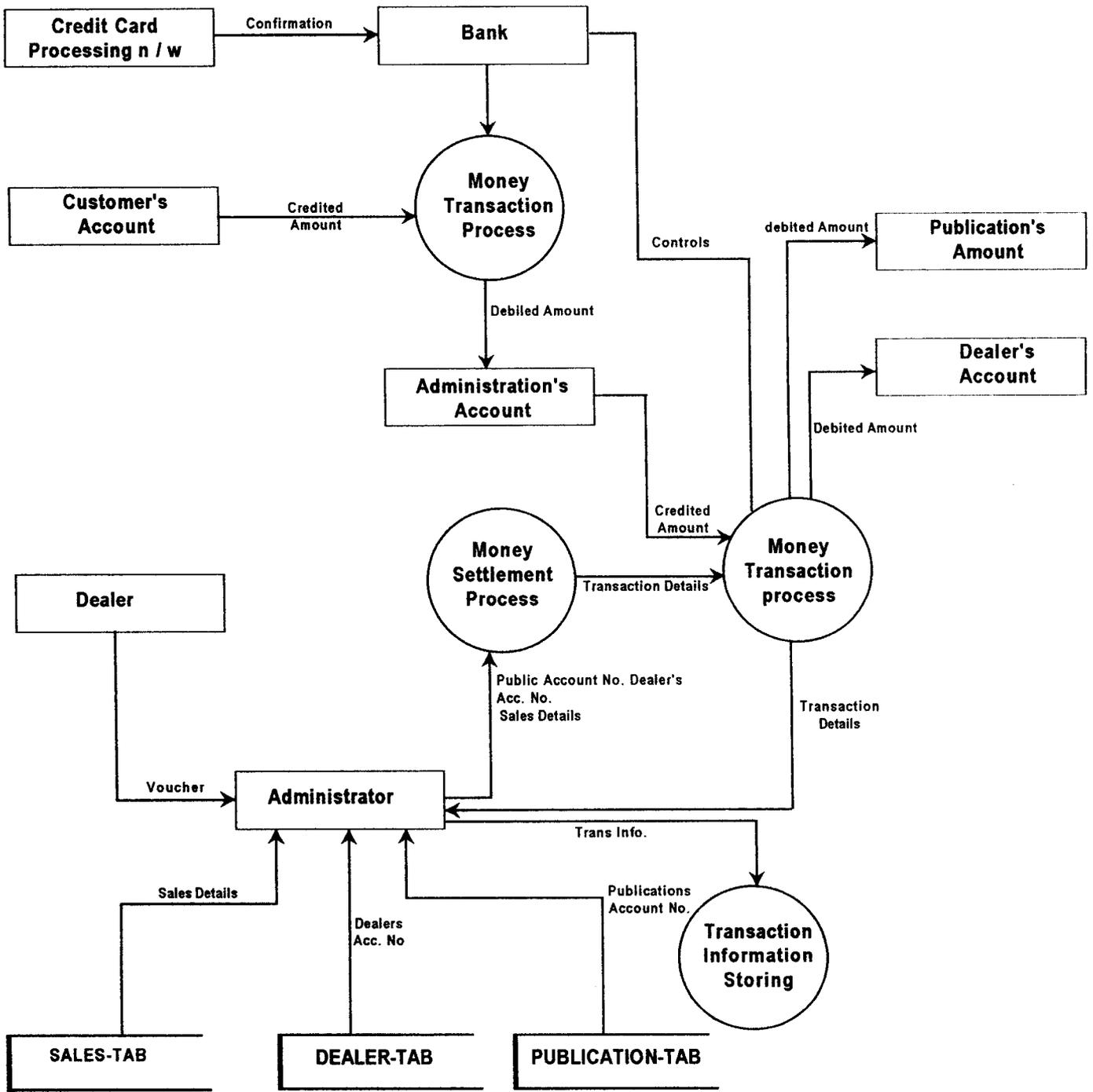


Figure 4.11  
72

## Level 2: DFD Customer Service

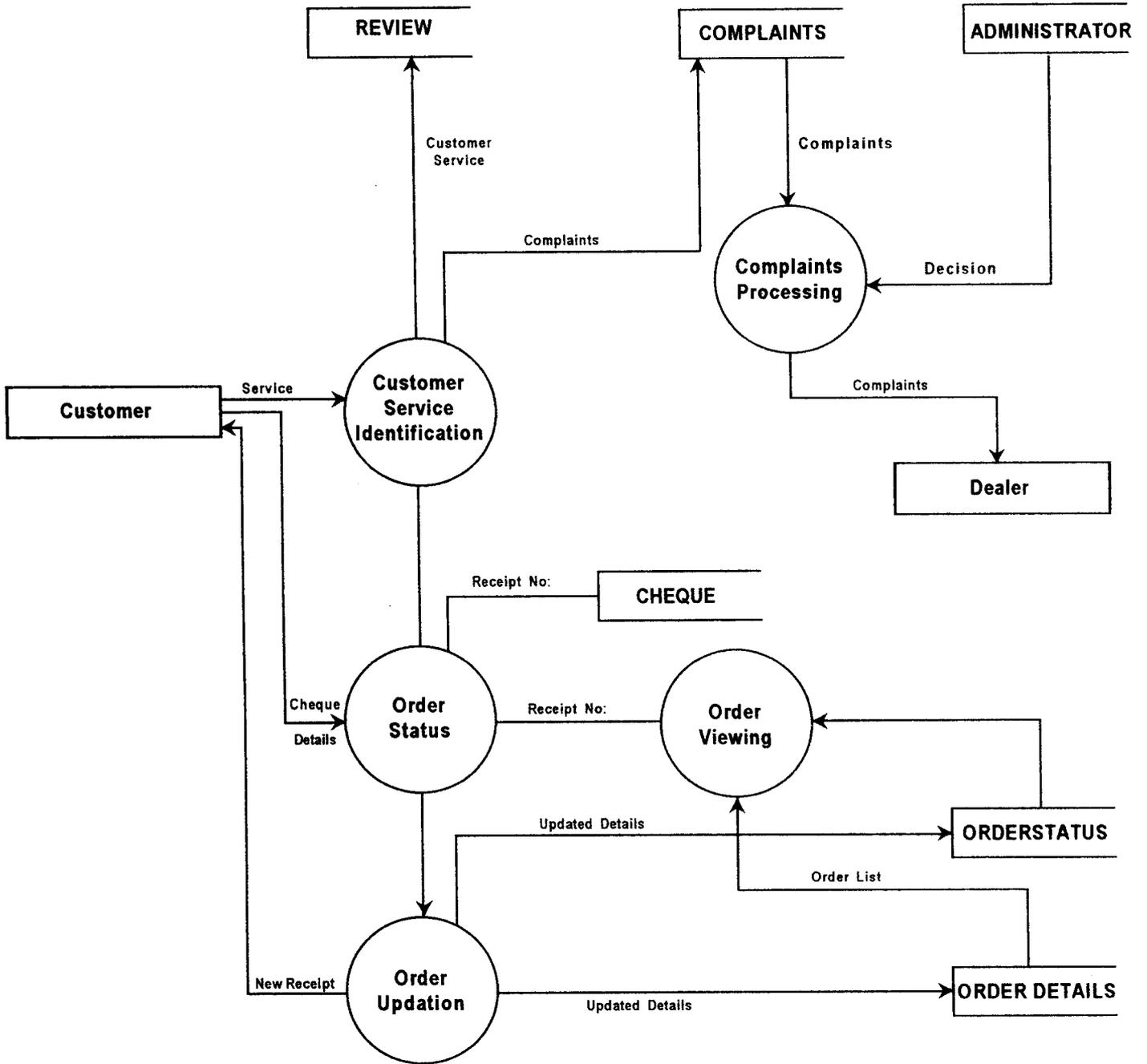


Figure 4.12  
73

# Level 2: Administrative

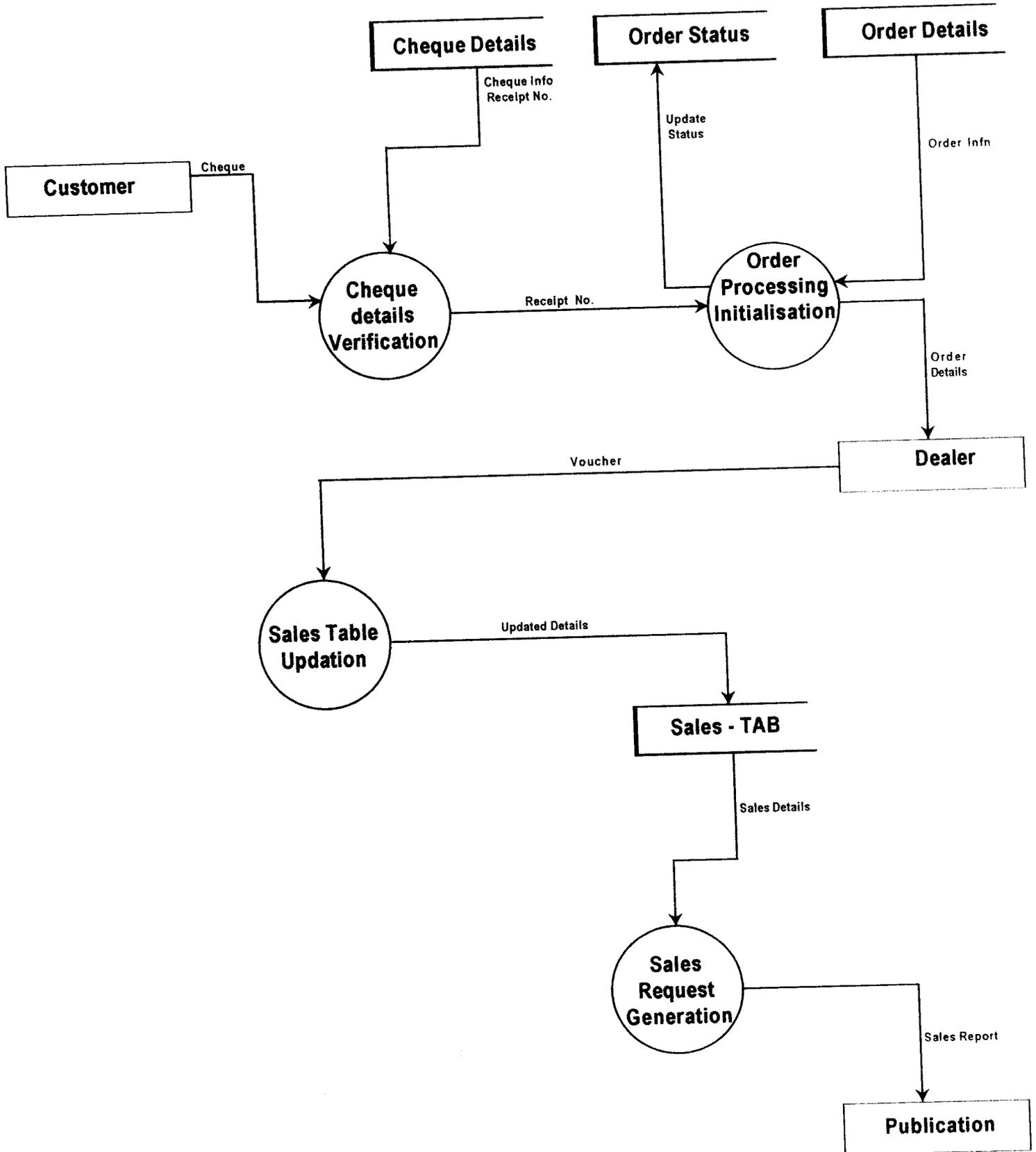
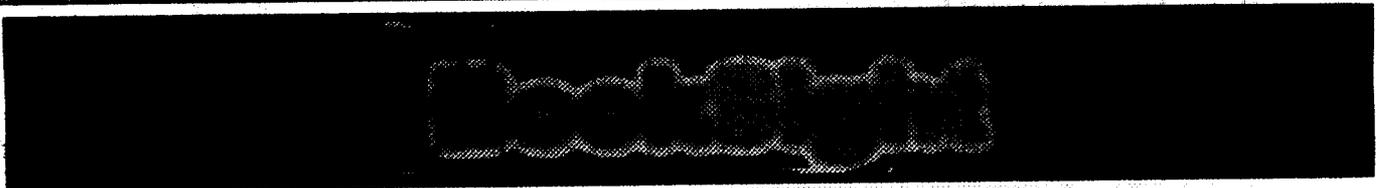


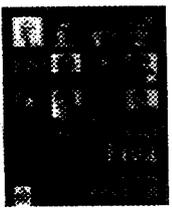
Figure 4.13  
74



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Programming Price:Rs  
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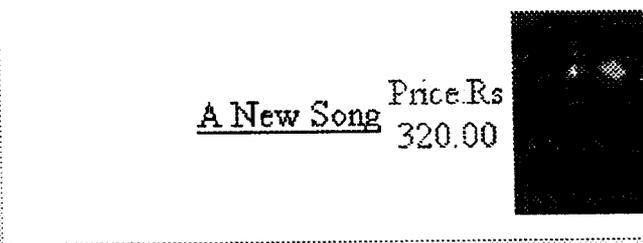
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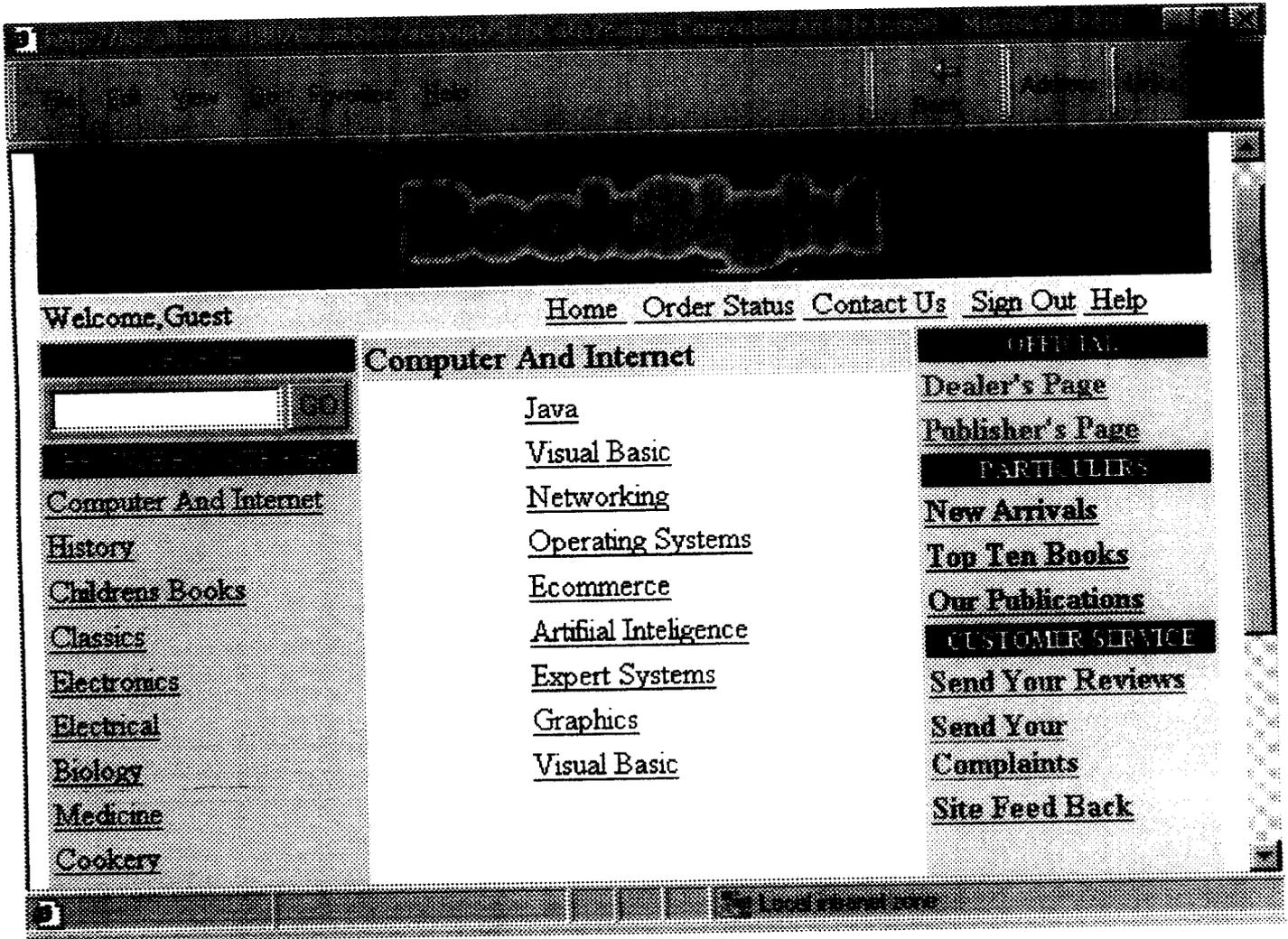


A New Song Price:Rs  
320.00

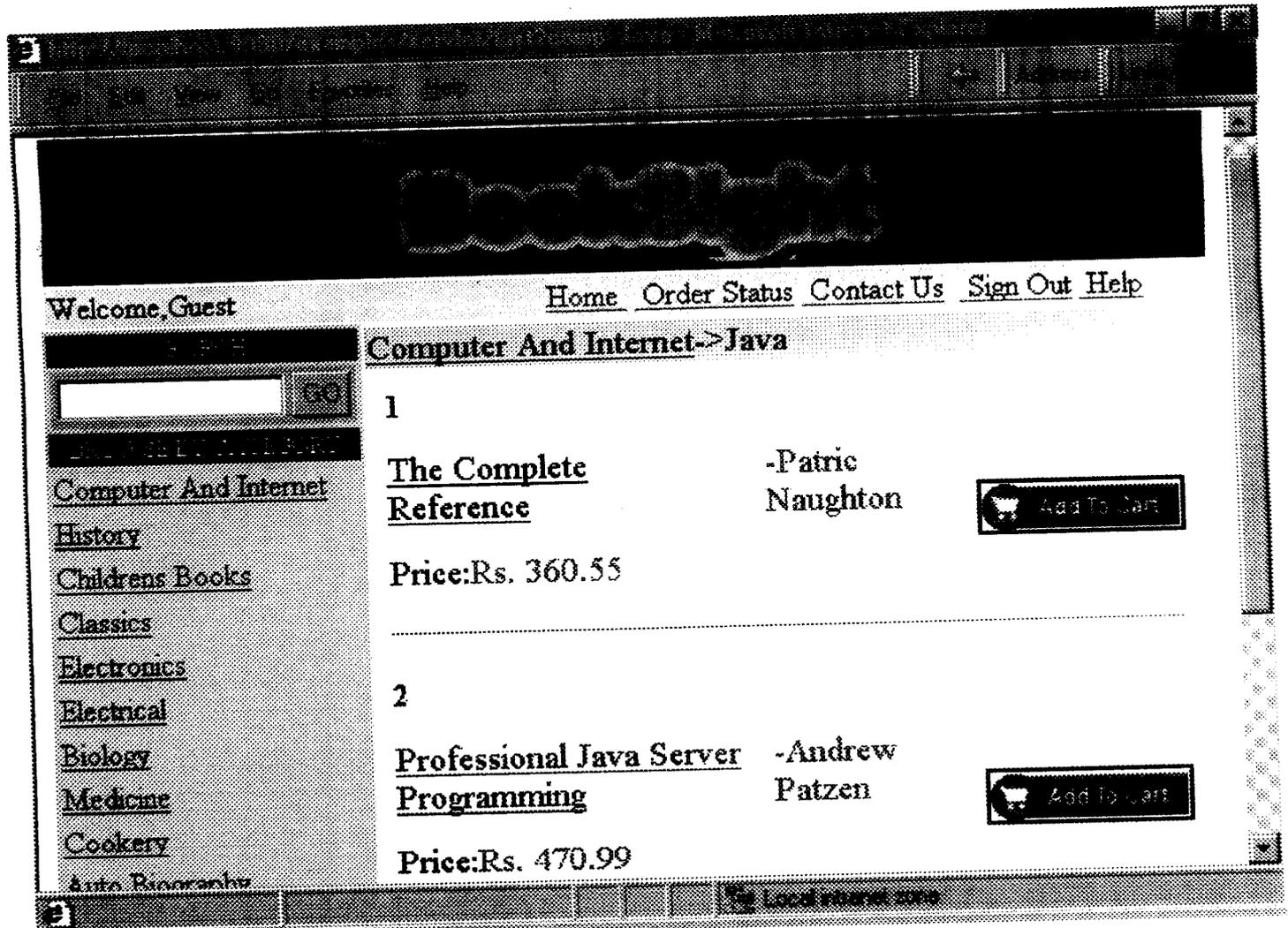


Flash 4 Bible Price:Rs  
277.99

Screen 41



Screen 4'2



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1

The Complete Reference -Patric Naughton

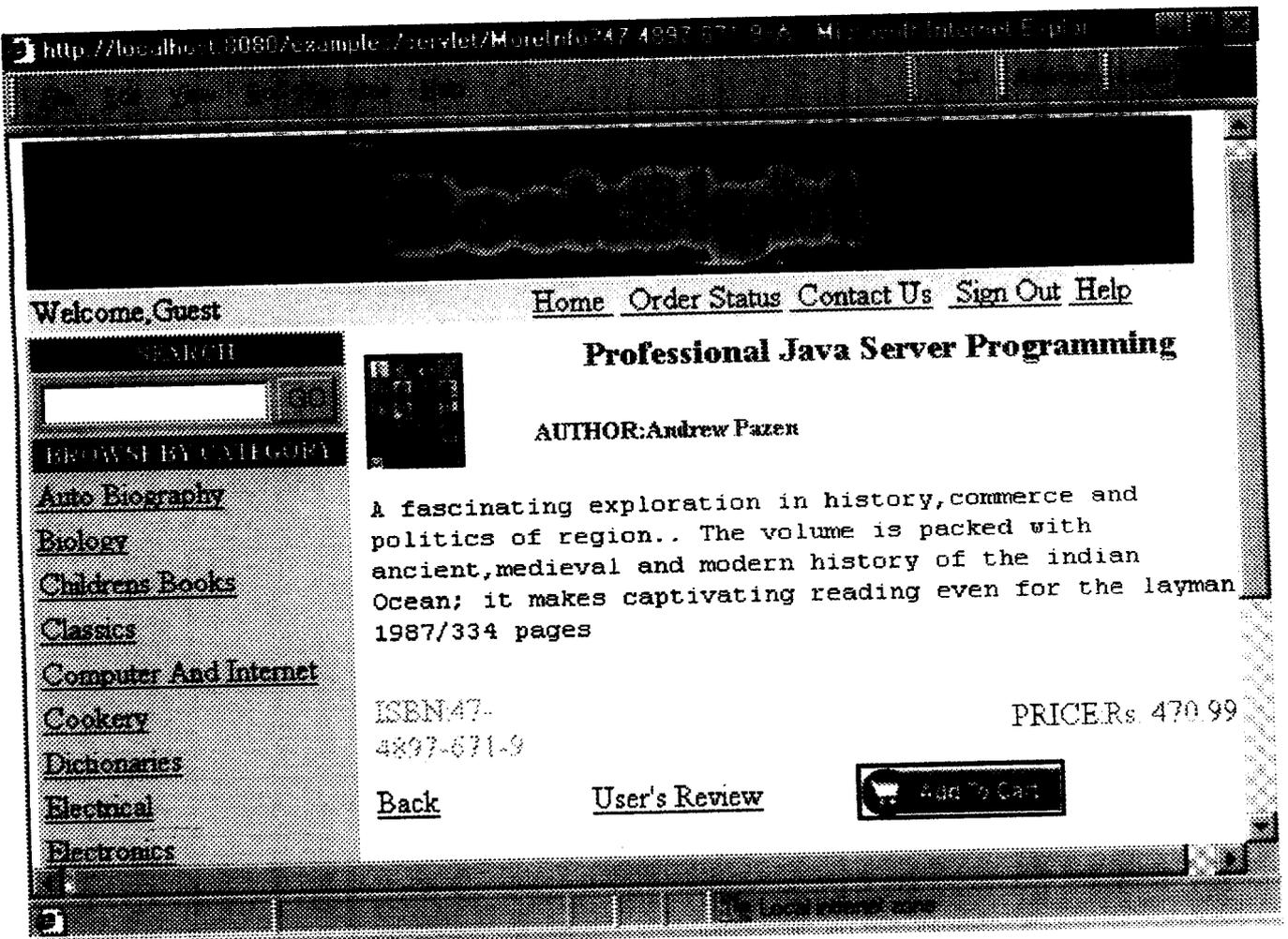
Price:Rs. 360.55

2

Professional Java Server Programming -Andrew Patzen

Price:Rs. 470.99

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77



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http://localhost:8080/examples/servlet/Car?B1\_2945\_014\_4\_5 Microsoft Internet Explorer

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 **Shopping Cart**

**Your Selected Items**

	Title	Qty	Price	Total
<input type="checkbox"/>	<u>The Complete Reference</u>	1	360.55	360.55
<input type="checkbox"/>	<u>Three Deltas</u>	1	150.0	150.0
<input type="checkbox"/>	<u>The Politics Of Urban Redevelopment</u>	1	110.0	110.0
			Sub Total	620.55

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Screen 4.5



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## Shopping Cart

### Your Selected Items

	Title	Qty	Price	Total
<input type="checkbox"/>	<u>The Complete Reference</u>	1	360.55	360.55
<input type="checkbox"/>	<u>Three Deltas</u>	1	150.0	150.0
<input checked="" type="checkbox"/>	<u>The Politics Of Urban Redevelopment</u>	1	110.0	110.0
			Sub Total	620.55

DELETE

UPDATE

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[Proceed To Checkout](#)

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Enter Your Userid And Password

USERID

PASSWORD

**SIGN IN**

[Change Your Password?](#)

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**NEW USER?**

[REGISTER NOW](#)

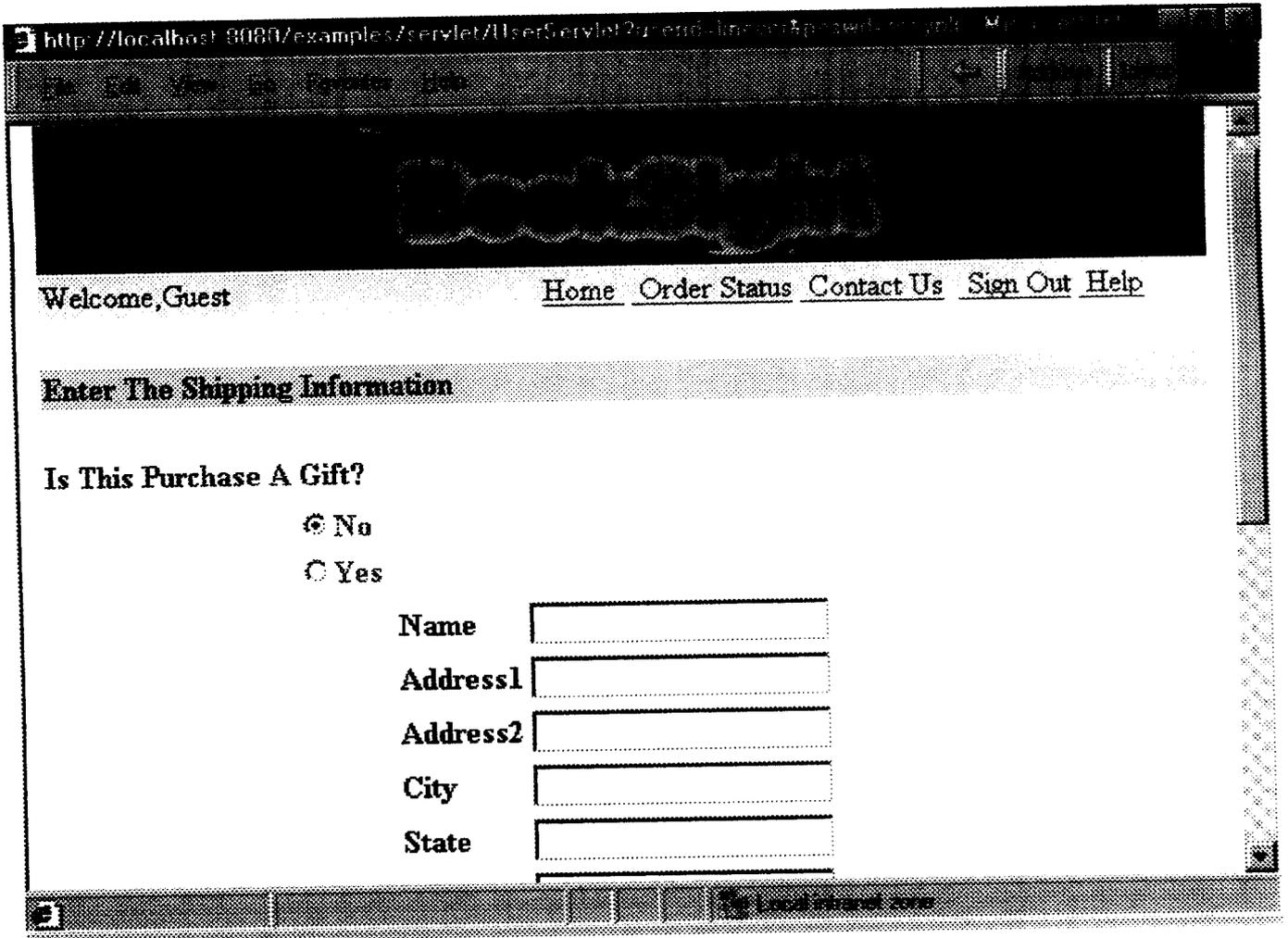
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### REGISTRATION FORM

NAME	<input type="text" value="R K Nayer"/>
GENDER	<input type="text" value="Male"/>
ADDRESS	<input type="text" value="Tc 25/3377, Chirakkulam Road"/>
STREET	<input type="text" value="Statue"/>
CITY	<input type="text" value="Trivandrum"/>
STATE	<input type="text" value="Kerala"/>
COUNTRY	<input type="text" value="India"/>
ZIP/PIN CODE	<input type="text" value="680890"/>
PHONE	<input type="text" value="0487-356856"/>
EMAIL	<input type="text" value="rknayer@yahoo.com"/>
USERID	<input type="text" value="rknayer"/>

Screen 4.8



http://localhost:8080/examples/servlet/Checkout?addressName=name&address=address

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**CHECKOUT**

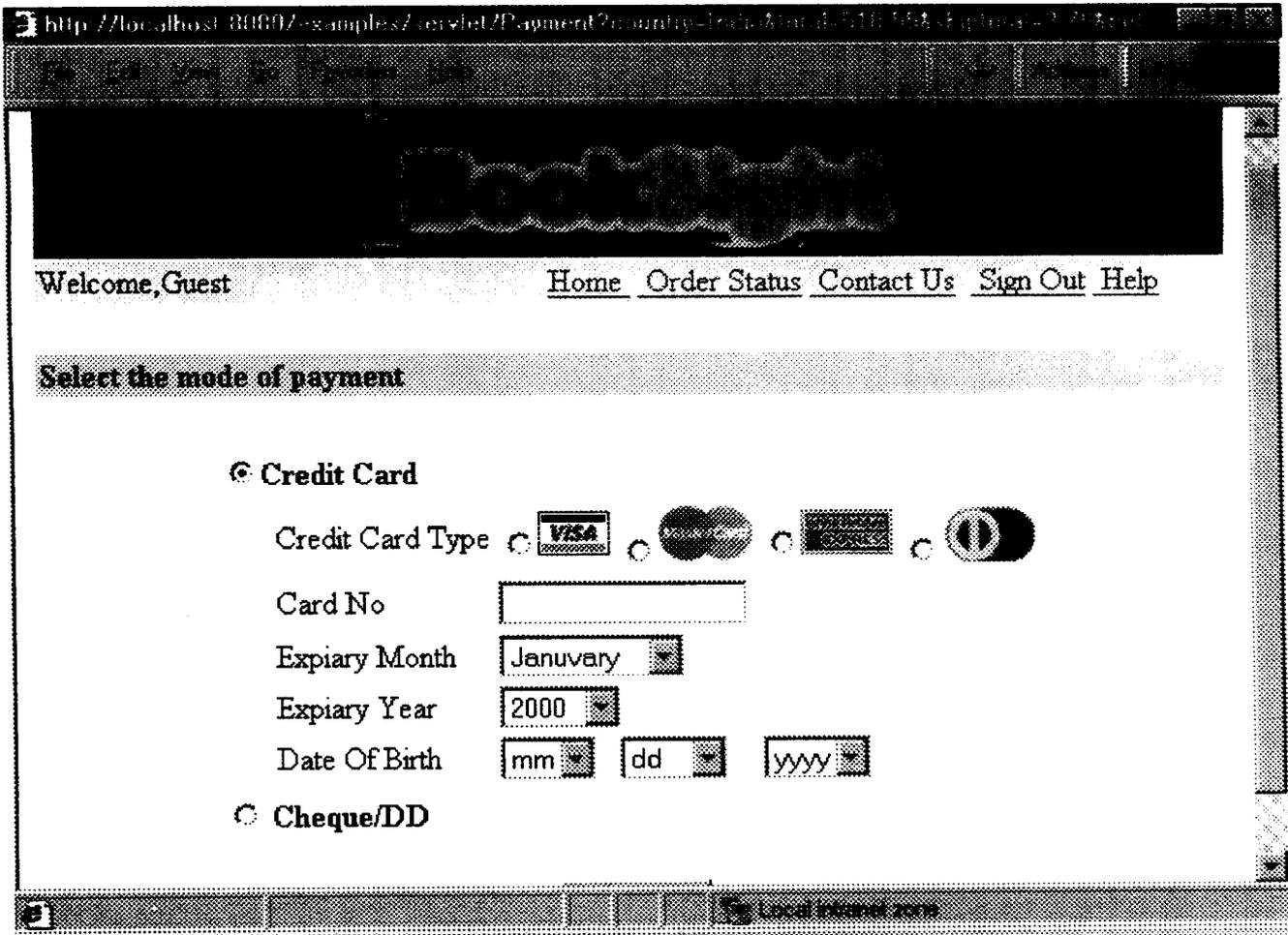
**YOUR REQUESTED ITEMS**

#	ITEM	QUANTITY	PRICE	TOTAL
1	The Complete Reference	1	360.55	360.55
2	Three Deltas	1	150.0	150.0
<b>Total</b>				510.55
<b>Shipping &amp; Handling</b>				3.76
<b>Net Total</b>				514.31

[BackToShoppingCart](#)

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Screen 4.11



P-425

http://localhost:8080/examples/servlet/Receipt?ccnumber=641006&month=January&year=2000

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**RECEIPT**

NO: L5729      DATE: 04/19/2000

#	ITEM	QTY	PRICE	TOTAL
1	The Complete Reference	1	360.55	360.55
2	Three Deltas	1	150.0	150.0
			Total Price	510.55
			Shipping & Handling	3.76
			Net Amount	514.31

This order will send to the following address:

Local intranet name

Screen 4.12



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### ORDER STATUS

USERID	<input type="text" value="lincyr"/>
PASSWORD	<input type="text" value="*****"/>
RECEIPT NO	<input type="text" value="L5729"/>
<input type="button" value="SUBMIT"/>	

Screen 4.13

http://localhost:8080/examples/servlet/Status?send\_invoice&password=conf@ano.L5729

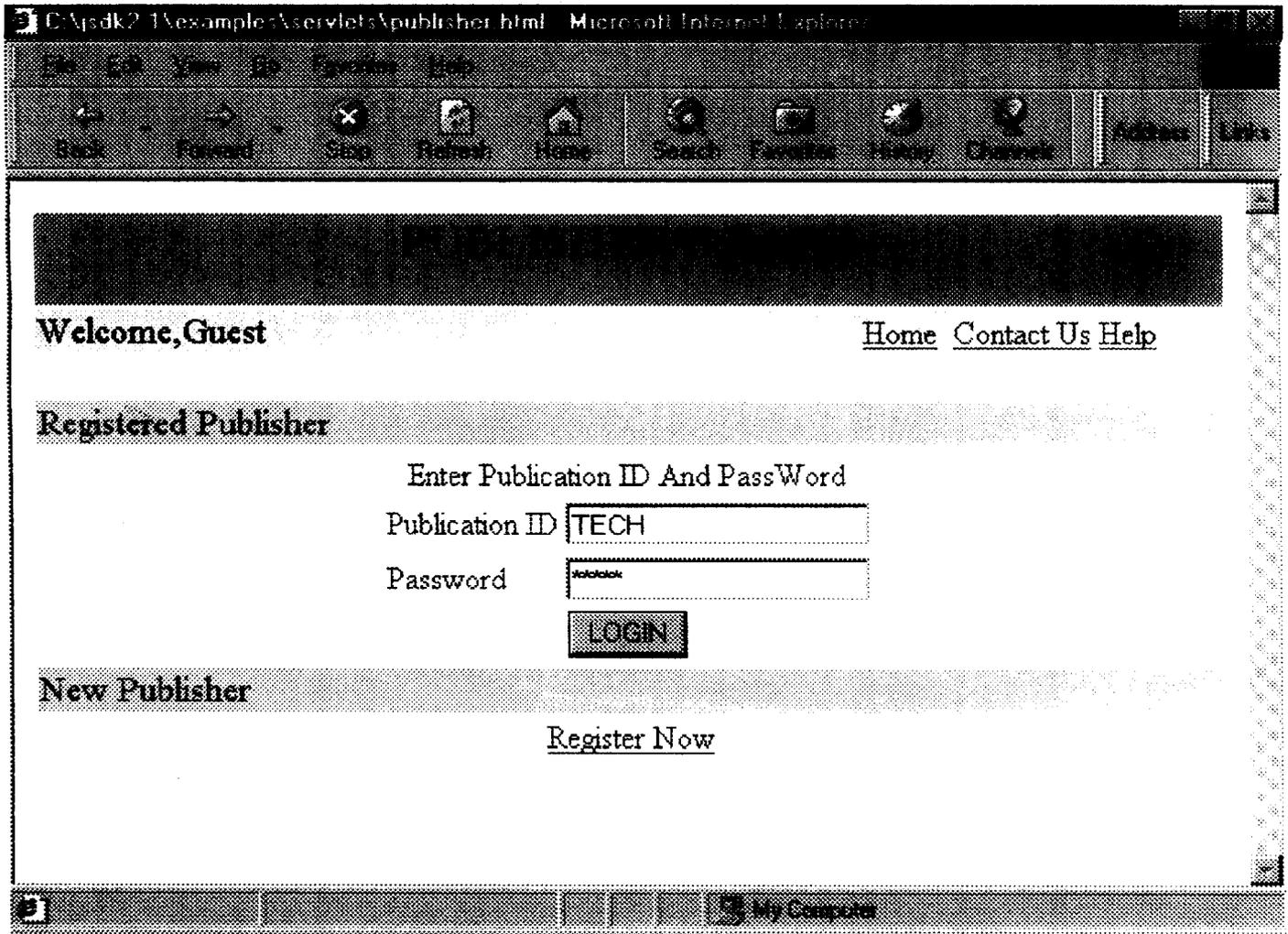
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Current Status: PENDING

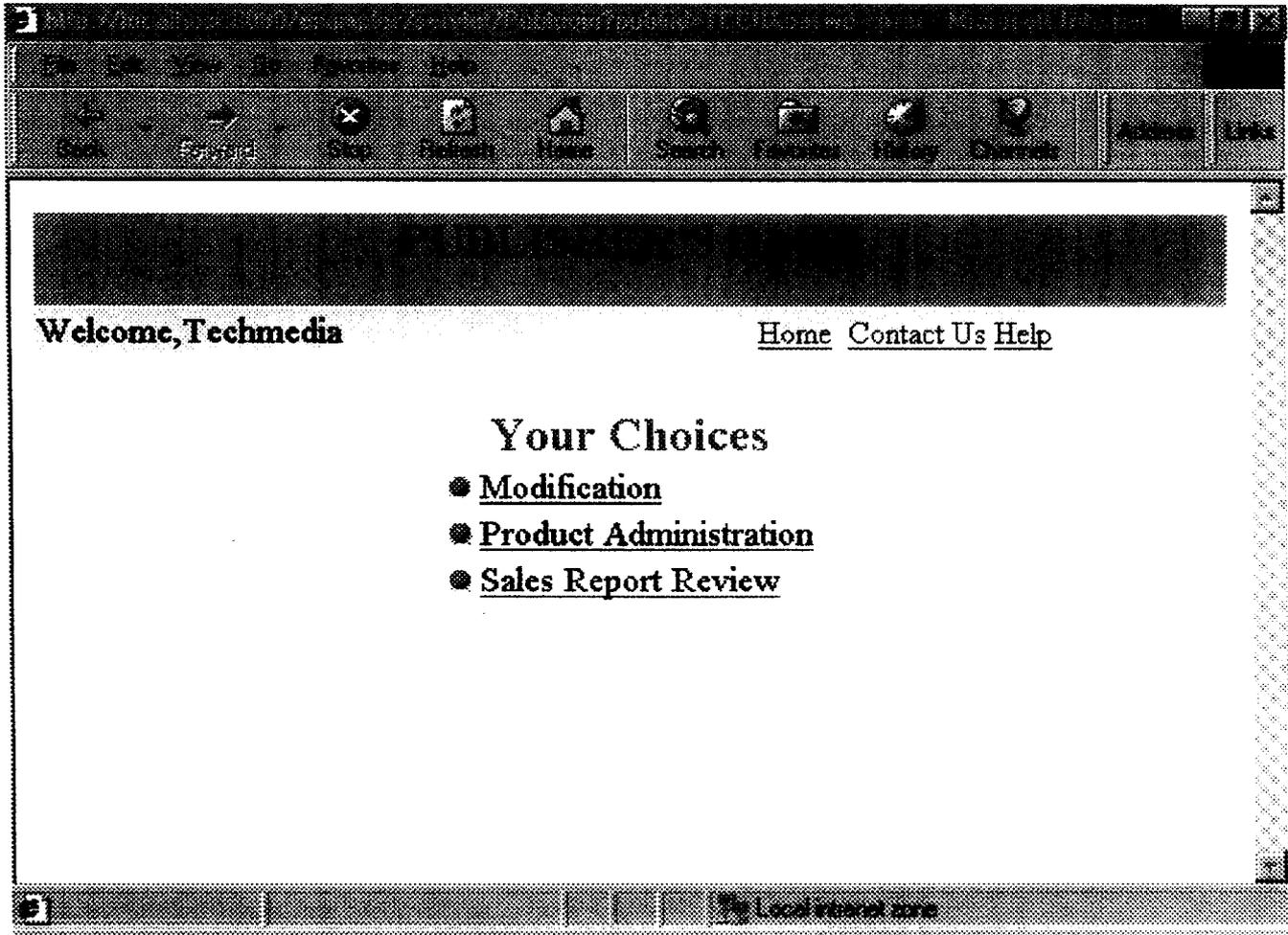
Receipt No:L5729		Order Date:2000-04-19 00:00:00		
	ITEM	QUTY	PRICE	TOTAL
<input type="checkbox"/>	The Complete Reference	1	360.55	360.55
<input type="checkbox"/>	Three Deltas	1	150.0	150.0
Total Price				510.55
Shipping & Handling				3.76
Net Amount				514.31
<input type="button" value="UPDATE"/>		<input type="button" value="CANCEL ALL"/>		<input type="button" value="NEW RECEIPT"/>

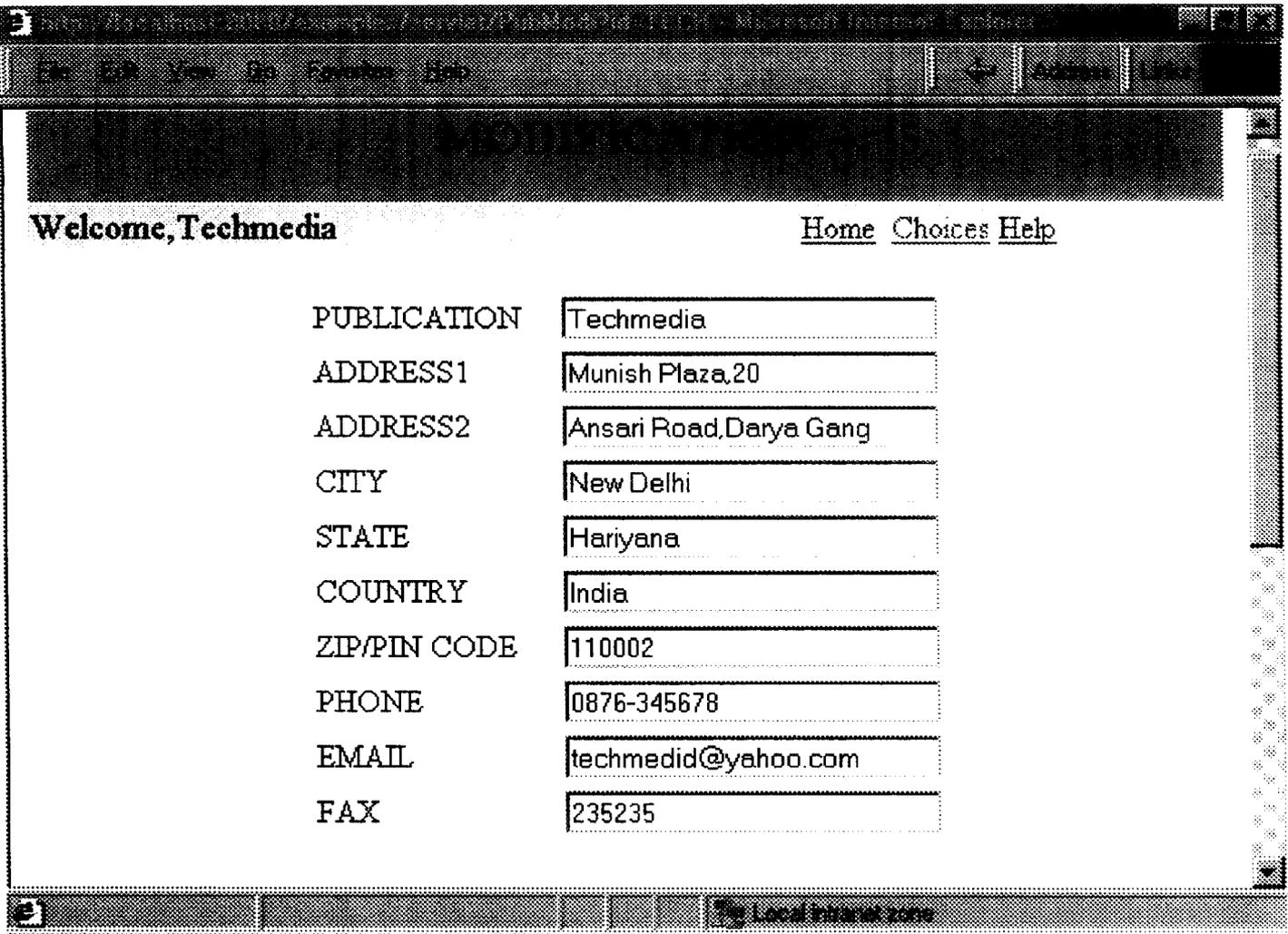
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Screen 4.14



Screen 4-15





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PUBLICATION	Techmedia
ADDRESS1	Munish Plaza,20
ADDRESS2	Ansari Road,Darya Gang
CITY	New Delhi
STATE	Haryana
COUNTRY	India
ZIP/PIN CODE	110002
PHONE	0876-345678
EMAIL	techmedid@yahoo.com
FAX	235235

Screen 4.17

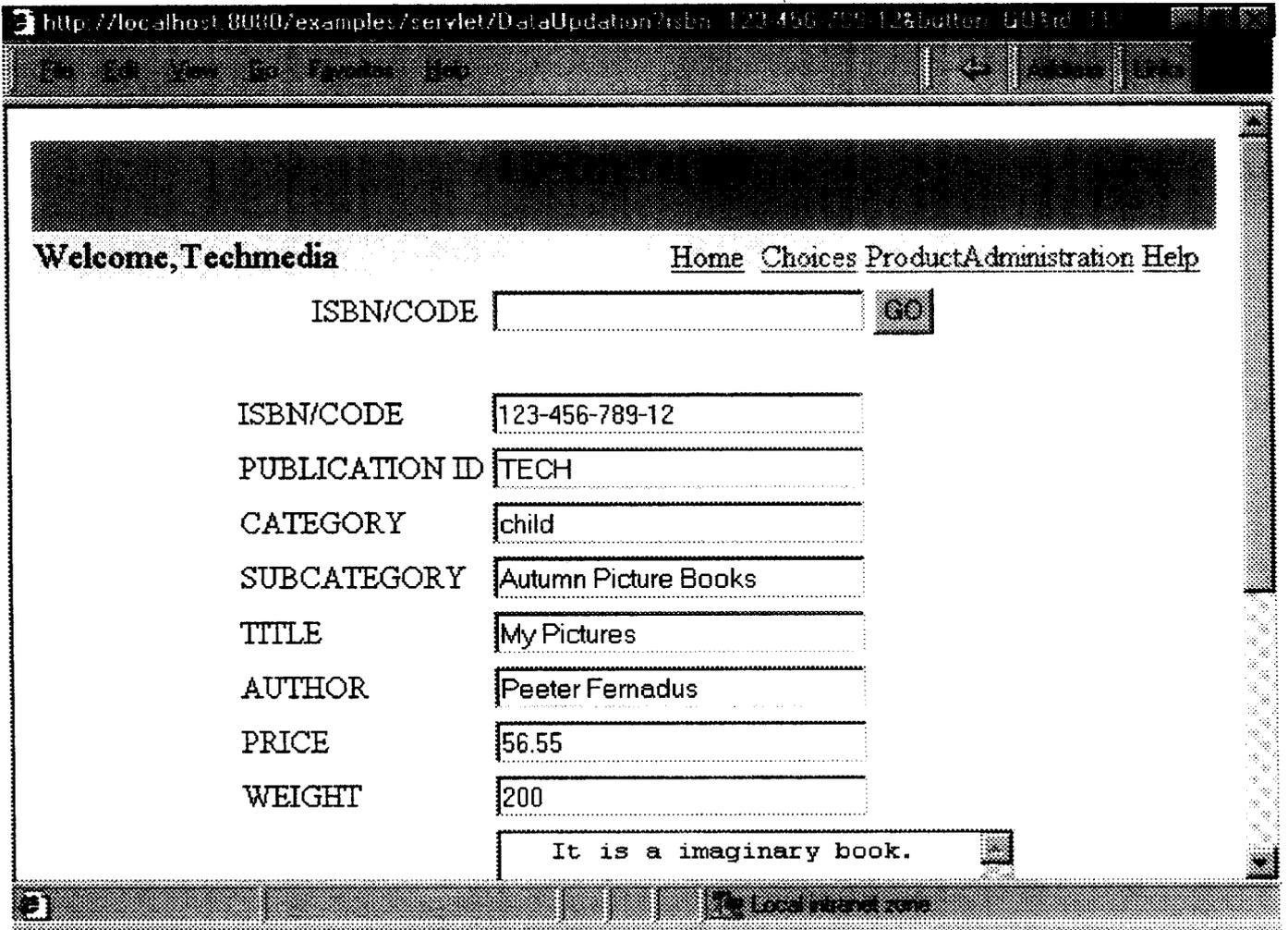
# DATA ENTRY

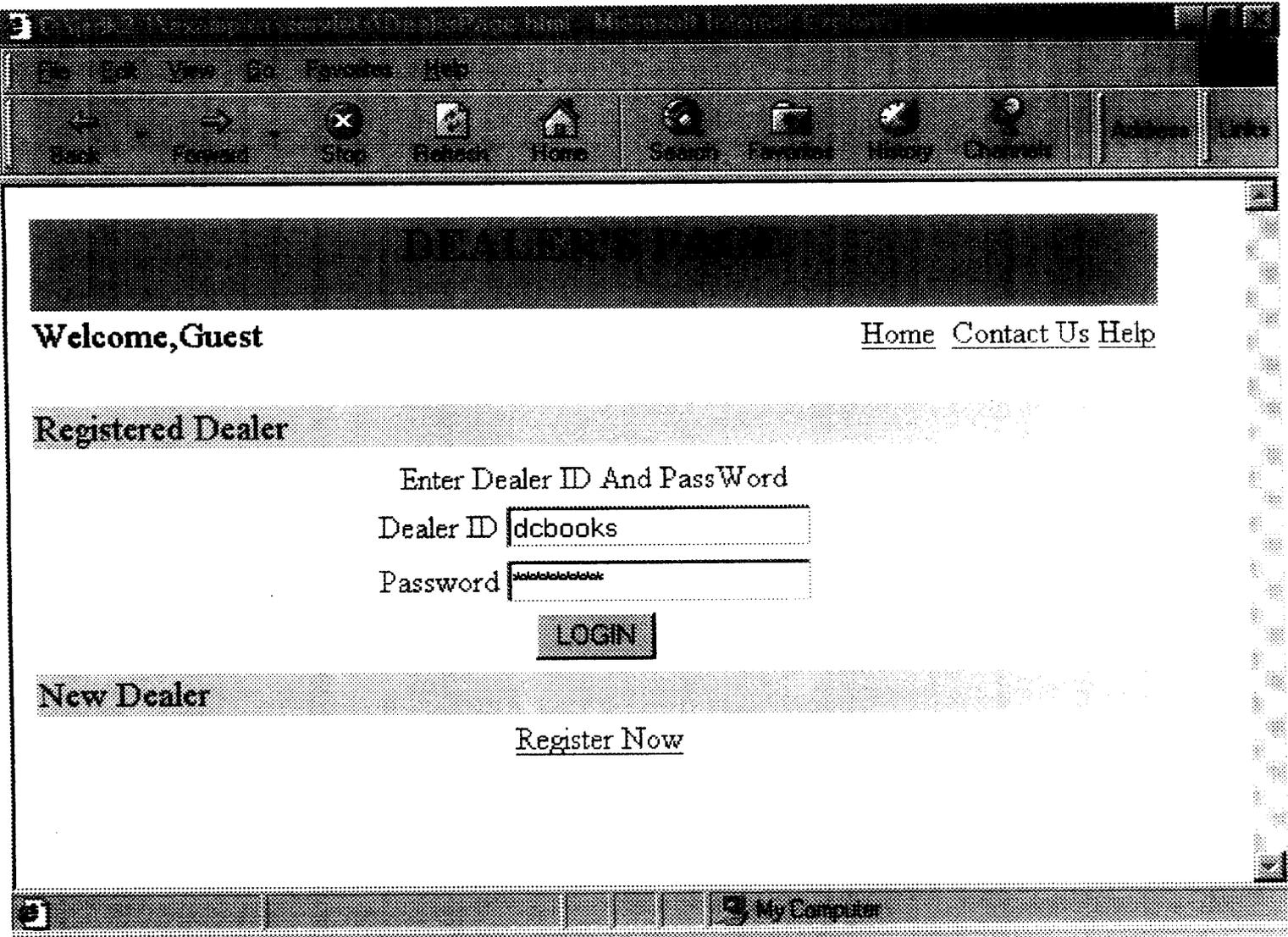
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Select The Category   [New Category?](#)

ISBN	<input type="text" value="44567-56789-1222"/>
PUBLICATION	<input type="text" value="TECH"/>
CATEGORY	<input type="text" value="comp"/>
SUBCATEGORY	<input type="text" value="Java"/>
TITLE	<input type="text" value="Java Nutshell"/>
AUTHOR	<input type="text" value="Andrews Parson"/>
PRICE	<input type="text" value="230.00"/>
WEIGHT	<input type="text" value="500"/>





# DEALER LOGIN

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## Registered Dealer

Enter Dealer ID And PassWord

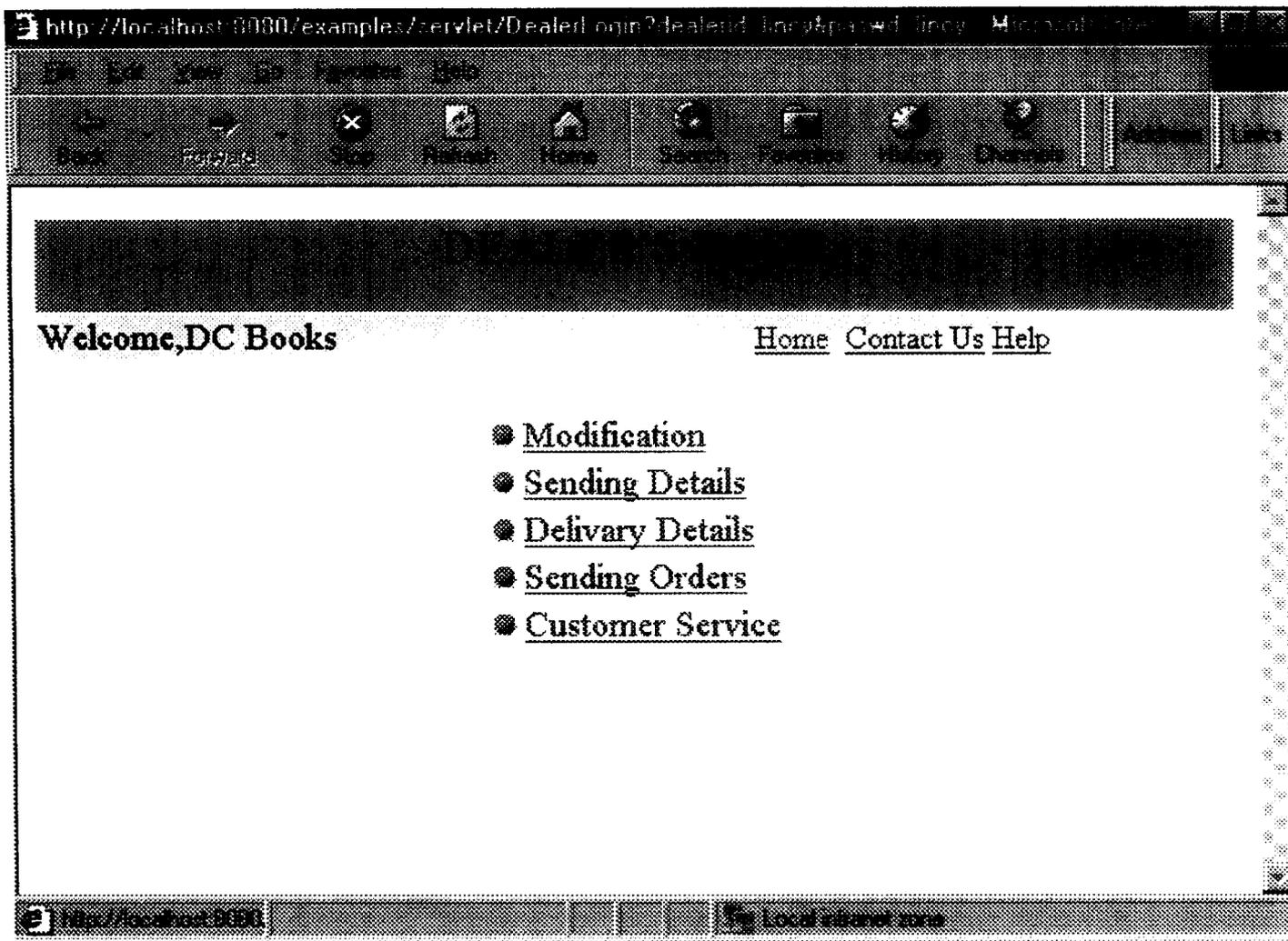
Dealer ID

Password

**LOGIN**

## New Dealer

[Register Now](#)



## BIBLIOGRAPHY

1. Java Complete Reference - Peter Norton
2. Java Tutorial Continued - Sun Micro Systems.
3. Java Script - Danesh
4. Java 2 - Unleashed - Jamie Jaworski
5. Dynamic HTML in Action - Petrovsky
6. Micro Soft SQL Server 7.0 DBA Survival Guide - Mark Spenik
7. Software Engineering A practioners Approach - Roger S Presssnen.
8. Object oriented Analysis and Design - Grady Booch.

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*15/11/2000*