Online Assignment 3

CAP: 437

Course Title: Software Engineering.

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Software Requirement Specification (SRS)

for

Online Shopping System (OSS)

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(1.) Introduction

(1.1) Purpose :- This document is meant to delineate the features of OSS, so as that serve as a guide to the developers on one hand and a software validation document for the prospective client on the other. This The OSS for electronics item shop web application is intended to provide complete solutions for vendors as well as customers through a single ~~gate~~ getway using the internet. It will enable vendors to setup online shops, customer to browser through the shop and purchase them online without having to visit the shop physically. The administration module will enable a system administrator to approve and reject requests for new shops and maintain various lists of shop category.

(1.2) Scope : This system allows the customer's to maintain their cart

for add or remove the product over the internet.

(1.3) Definitions :-

OSS - Online Shopping System.
SRS - Software Requirement Specification
GUI - Graphical user interface.
Stackholder - The person who will participate in system.
Ex:- Customer, Administrator, Visitor etc.

(1.4) References:-

(1.5) Overview:- This system provides an easy solution for customers to buy the product without going to the shop and also to shop owner to sale the product.

(2.) Overall Description:- The online Shopping System (oss) application enables vendors to setup online shops, customers to browser through the shops, and a system administrator to ~~provide~~

approve and reject requests for new shops and maintain lists of shop categories. Also the developer is designing an online shopping site to manage the items in the shop and also help customers to purchase them online without visiting the shop physically. The online shopping system will use the internet as the sole method for selling goods to its consumers.

(2.1) Product perspective :- This product aimed toward a person who don't want to visit, the shop as he might don't get time for that or might not interested in visiting there and dealing with lot of formalities.

(2.2) Product Function :-

Online Shopping should support this use case diagram :-

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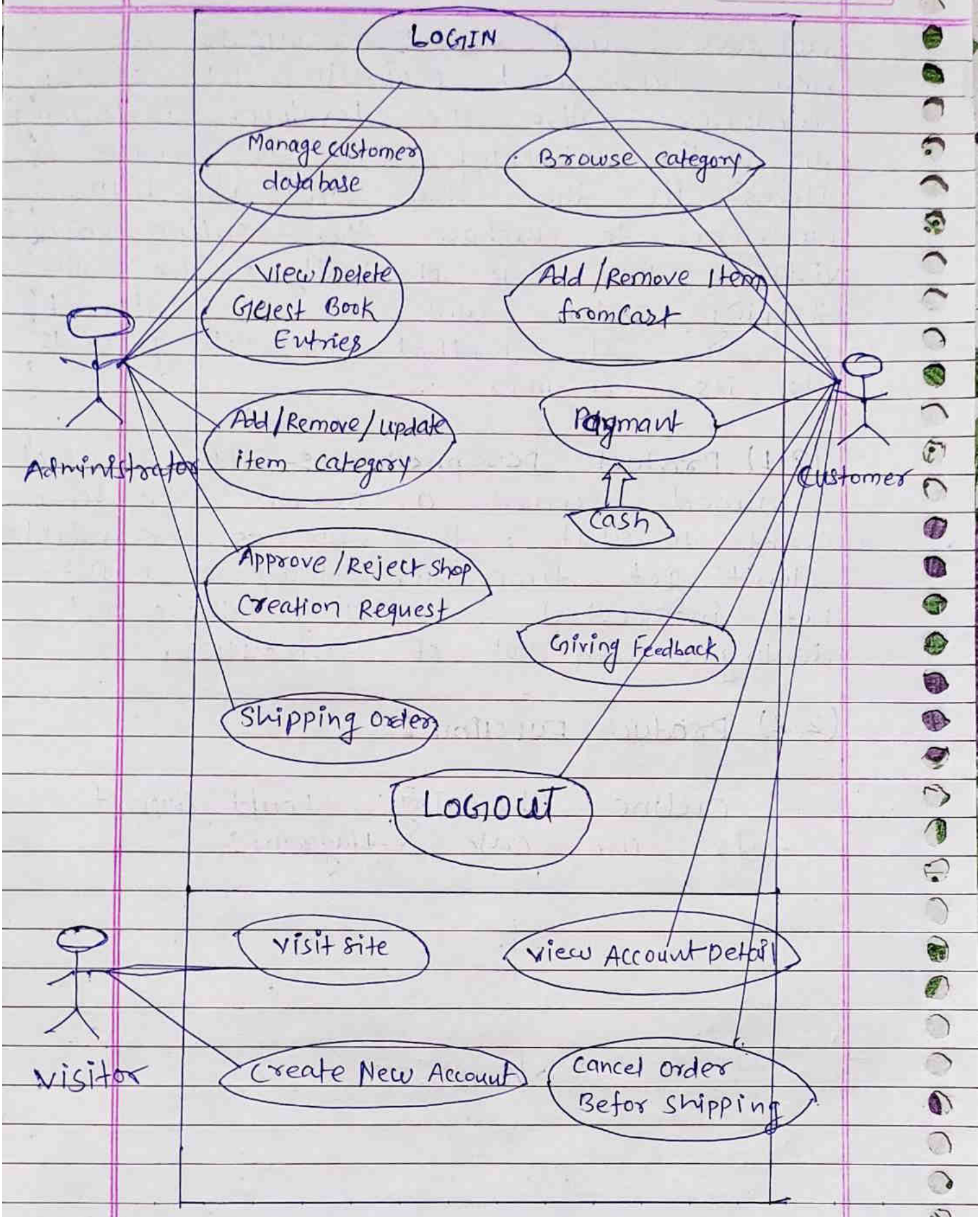

LOGIN
Manage customer database
Browse category
View/Delete Guest Book Entries
Add/Remove Item from Cart
Add/Remove/Update item category
Payment
Cash
Approve/Reject Shop Creation Request
Giving Feedback
Shipping Order
LOGOUT
Visit Site
View Account Detail
Create New Account
Cancel Order Befor Shipping
Administrator
Customer
Visitor

(2.3) User characteristics :-

User should be familiar with the terms like login, resister, order system etc.

(2.4) Principle Actors :-

Two Principle Actors are customer. and Administrator.

(2.5) General Constraints :-

A full internet connection is required for online shopping system.

(2.6) Assumptions and Dependencies :-

Working of OSS need Internet connection.

(3.) Specific Requirements :-

(3.1) Functional Requirements :-

This section provides requirement overview of the system. Various functional modules that can be implemented by system will be :-

(3.1.1) Registration :- If ~~cam~~ customer wants to buy the product then

he/she must be registered, unregistered user can't go to the shopping cart.

(3.1.2) Login :
Customer logins to the system by entering valid user id and password for the shopping.

(3.1.3) Changes to cart :
Changes to cart means the customer after login or registration can make order or cancel order of the product from shopping cart.

(3.1.4) Payment :
In this system we are dealing the mode of payment by cash. We will extend this to credit card, debit card etc in the feature.

(3.1.5) Logout :

After ordering or surfing for customer has to the product customer has to logout.

(3.1.6) Report Generation :
After ordering for the product, the system will sent one copy of the bill to the customer's Email-address and another one for the system.

data base.

(3.2) Non - Functional Requirement :-
Following Non- functional Requirements will be there in the insurance to the internet :-

(i) Secure access to customer's confidential data.
(ii) 24 X7 availability.
(iii) Better component design to get better performance at peak time.
(iv) Flexible service based architecture will be highly desirable for future extension. Non- functional requirements define system properties and constraints. Various other Non- functional requirement are :-

> Security
> Reliability
> Maintainability
> Portability
> EXtensibility
> Reusability
> Compatibility
> Resource utilization

(3.3) Performance Requirements :-

In order to maintain an acceptable speed at maximum number of uploads allowed from a particular customer as any number of users can access to the system at any time. Also the connections to the services will be based on the attributes of the user like his location and server will be working 24X7 times.

(3.4) Technical Issues :

This system will work on client-server architecture. It will require an internet server and which will be able to run PHP application. The system should support some commonly used browser such as IE, mozzila firefox, chrome etc.

(4.) Interface Requirement :

Various interfaces for the product could be :-

1.) Login page
2.) Registration Form
3) There will be a screen displaying information about product that the shop having.
4) If the customers select the

buy button then another screen of shopping cart will be opened.

5) After ordering for the product, the system will sent one copy of the bill to the customer's Email-address.

Software Interface :-

1) Operating system : Windows7 Ultimate which supports networking.

2) JAVA developement toolkit.

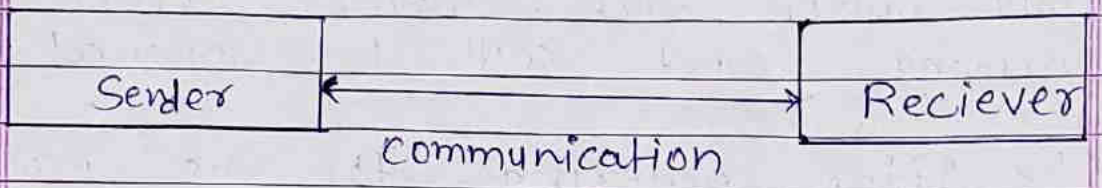
Hardware Interface :-

Hardware requirements for insurance on internet will be same for both parties which are as follow :-

Processor : Dual core
RAM : 2 GB
Hard Disk : 320 GB
NIC : For each party

Communication Interfaces :-

The two parties should be connected by LAN or WAN for the communication purpose.



(5.) System Design specification :

(5.1) Architecture Design :

(5.1.1) Data Flow Diagram (DFD) :- It is a way of representing system requirements in graphical form ; this led to modular design . A DFD describes a data flow (logical) rather than how they are processed - so they do not depend upon software, hardware , data structure or file organization . It is also known as 'bubble sort' .

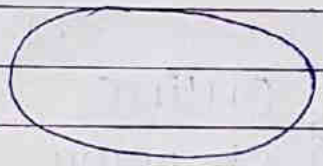
A DFD is a structured analysis and a design tool that can be used for flowcharting in place of , or in association with , information - oriented and process - oriented system flowcharts .

A DFD is considered as an abstract of the logic of information - oriented or process - oriented system flowchart .

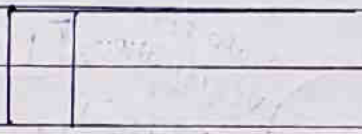
The four basic symbols used to construct data flow diagrams are:-

	A Rectangle represents a data source of destination.

→ A directed line represents flow of data.

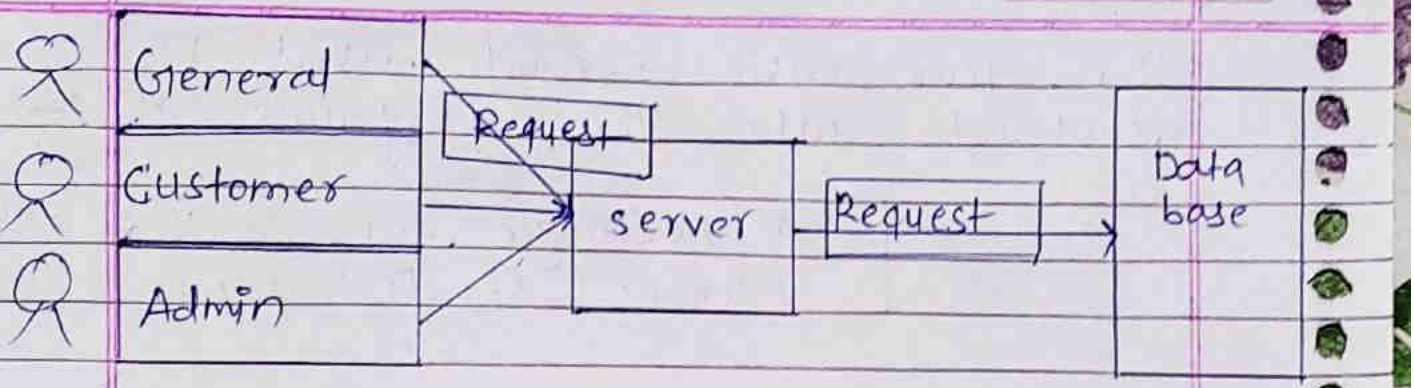


An Oval represents a process that process into streams.

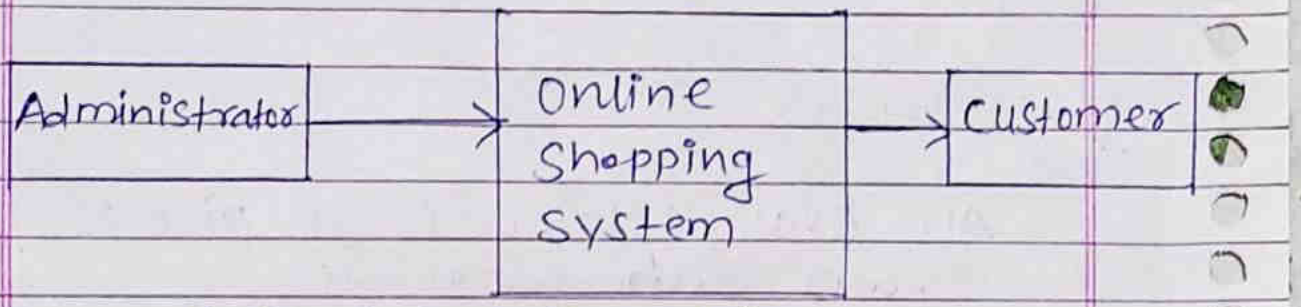


An open ended rectangle represents Storage. The points at which data is tranformed are called as nodes. The principle processes that take place at nodes are:-

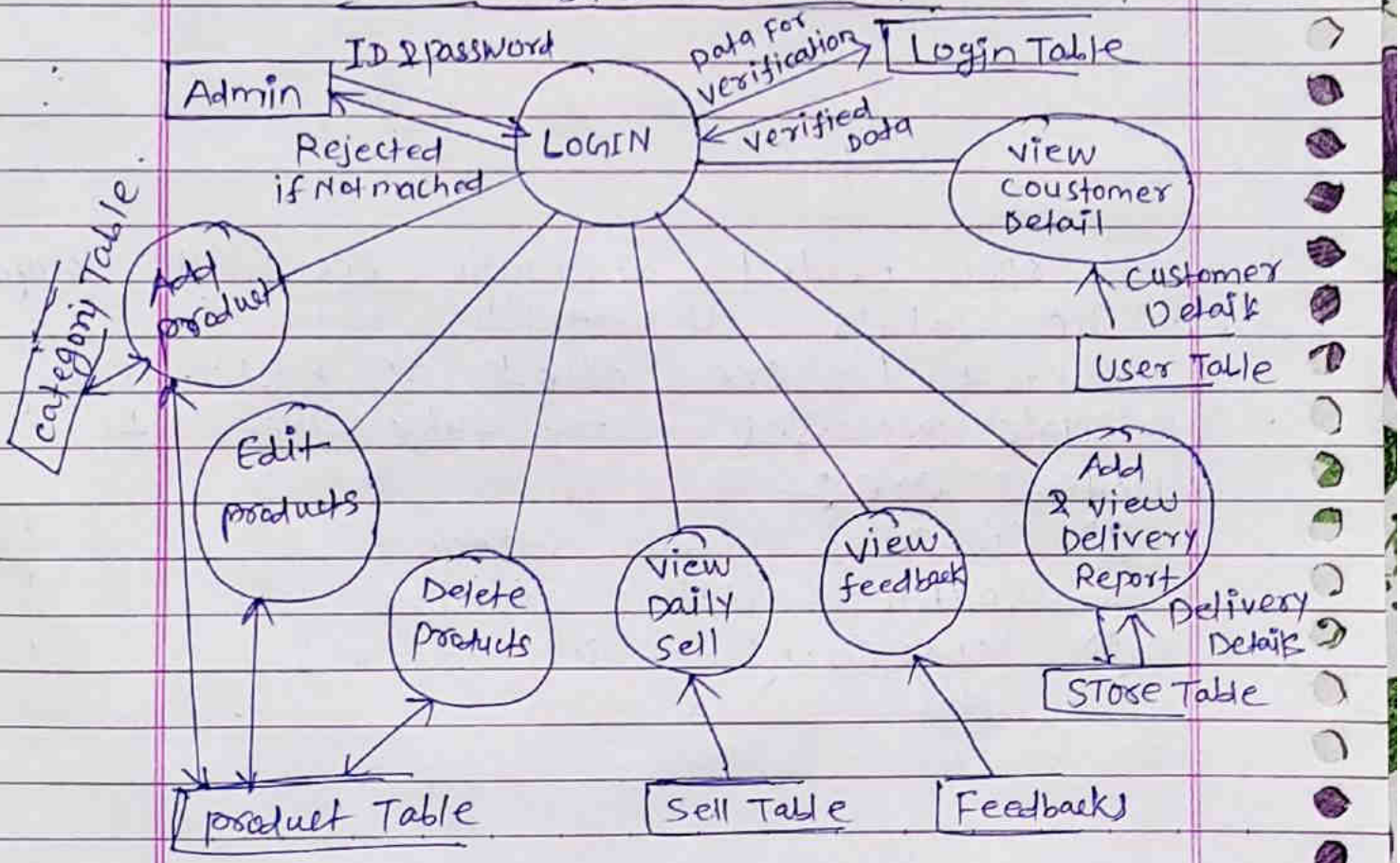
1. Combining data streams
2. Splitting data Streams
3. Modifying data Streams



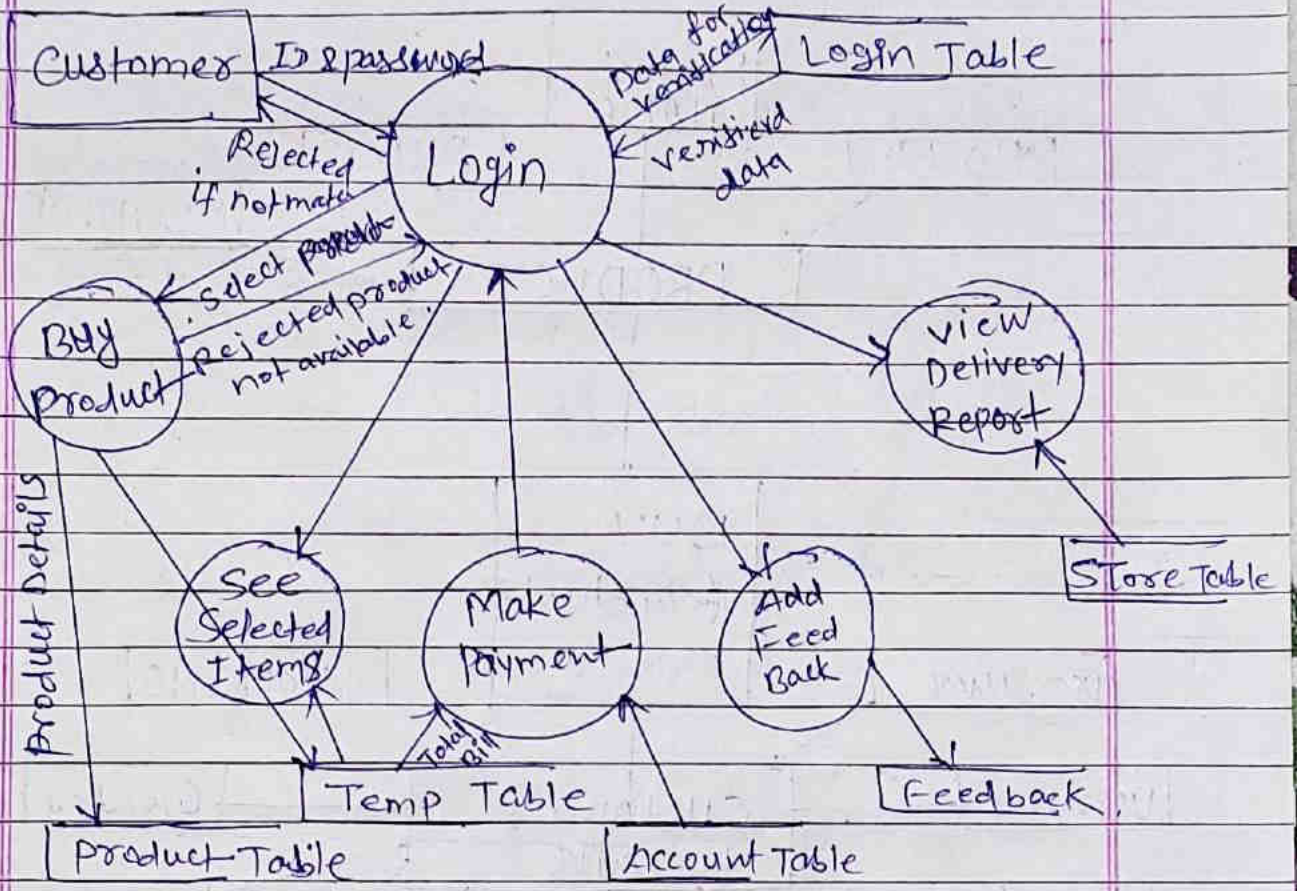
Context Analysis Diagram (CAD)



1 Level DFD For Admin



1 Level DFD for Customer



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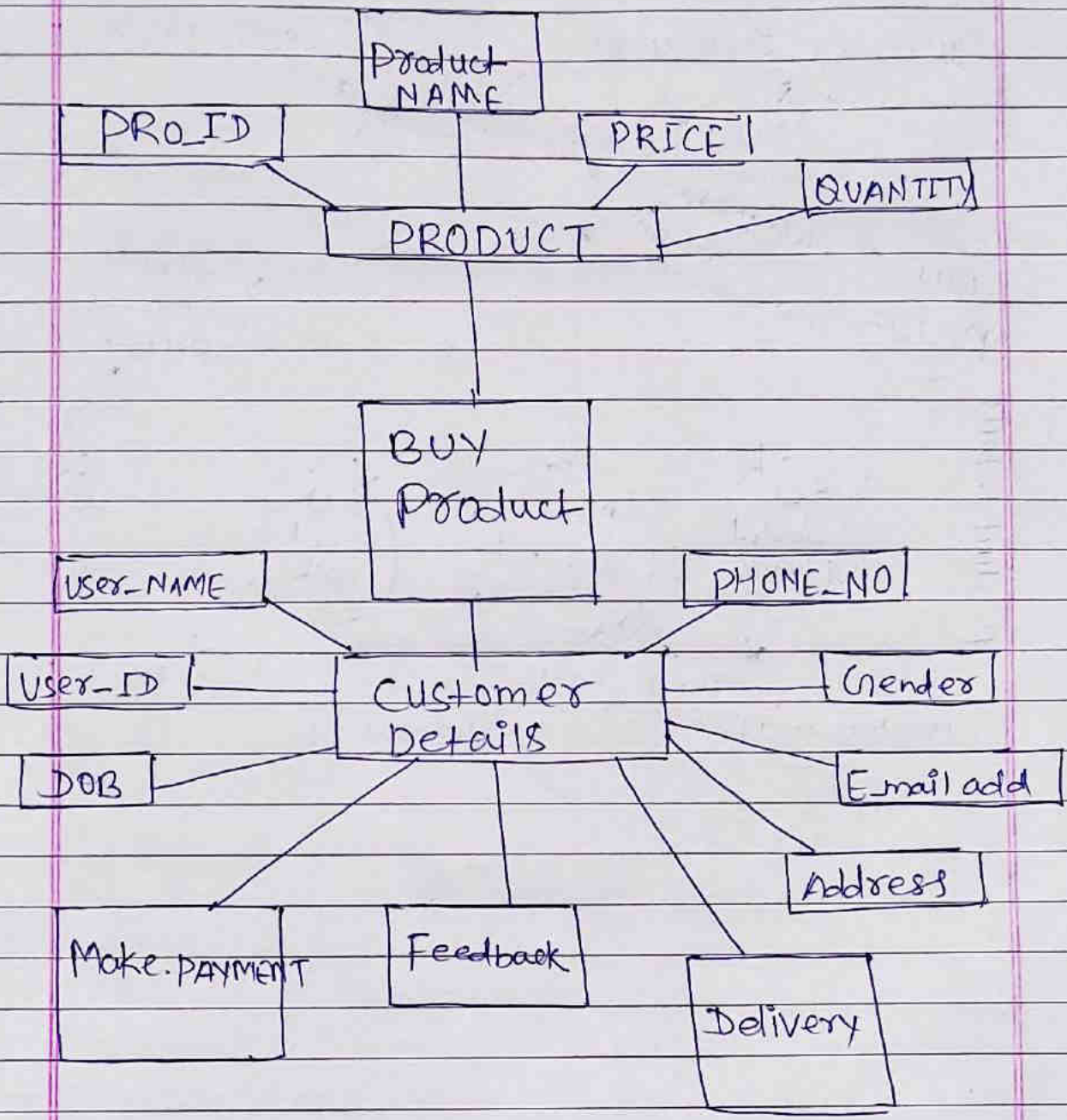
E-R Diagram


Product NAME
PRO_ID
PRICE
QUANTITY
PRODUCT
BUY Product
USER_NAME
PHONE_NO
USER_ID
Customer Details
Gender
DOB
E_mail add
Address
Make.PAYMENT
Feedback
Delivery

(3) White box testing is also known as open box, glass box, clear box or transparent box testing. It is a technique used by developers to evaluate code and the internal structure of software. If you are in or looking to join the software industry, it may be beneficial to understand this process to improve your skills and knowledge. In this article, we will discuss what white box testing is, what it's used for and how to implement it, as well as examining its tequaiques and advantages.

White box testing is a software evaluating method used to examine the internal structure, design, coding and inner-working of software. Developers use this testing method to verify the flow of inputs and outputs throuy the application, improving usability and design and strengthening security. The concept is called "white box" because it is symbolically see-through, as the code is visible to the tester during the examination. In comparision, when the inner code

isn't visible, it is called black box testing.
Using white box testing, the software is analyzed for the following:-

- Internal Security weakness
- Redundant code paths in the coding process
- How the code handles specific inputs
- Expected output
- Whether conditional loops function correctly
- Individual testing of each function, statement and object.

There are many ways you can analyze software with ~~out~~ white box testing. Most testers will use a process called code coverage analysis to eliminate gaps in the testing of the code. There are various of methods we can use to accomplish this:-

- **Statement Coverage:-**

This method ensures that each line in the code is tested at least once to find faulty code more easily. programs constructs can be usually classified as:-

(i) Sequential control flow
(ii) Two way decision statements (if then else)
(iii) Multi way decision statements (switch)
(iv) Loops (while, do, repeat until, for)

- **Condition coverage :-**

Conditional coverage or expression will reveal how the variables or subexpressions in the conditional statement are evaluated. In this expressions with logical operands are only considered. It offers better sensitivity to control flow than decision coverage. it does not give a guarantee about full decision coverage.

- **Path coverage :-**

Path coverage is a structural testing method that involves using the source code of a program in order to find every possible executable path. It helps to determine all faults lying within a piece of code. This method is designed to execute all or selected path through a computer program.

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(2.) Enlist of the major functionalities of E-commerce platform like amazon.com is given below:-

- Login page
- Home page
- Product search functionality
- Cart page
- Product details page
- Checkout page
- Payment page
- Orders page
- Customer service page.

(1) Test Cases for Home page :-

- verify that home page is displayed after login or not.
- verify that User name is displayed on homepage or not.
- Verify that featured products are present on home page or not.
- Verify that search functionality is present on home page or not.
- verify that home page of application on different browers.
- verify that alignment on the home page
- verify that products displayed on 'home page are clickable or not.

- Verify that when user clicks on a product, user should be redirected to product specification page.
- Verify that user profile section is present on home page or not.
- Verify that product displayed on home page are categorised or not

(2.) Test cases for product search function

- Verify that the search field accept alphabets numbers or symbols.
- Verify that after entering search text and clicking on search icon, the search should work.
- Verify that search results should be as per the search query.
- Verify that user should be able to search based on product name, brand name, product specification.
- Verify that filter should be present for filtering the search results bases on brand, price, reviews or ratings.
- Verify that sorting options should be present on search results page.

- Verify that number of search results displayed on one page.
- Verify that there should be navigation button (Next and previous) for navigation to pages.
- verify that user should be perform search in differeut categories for example, movies, Books, Grocery etc.

(3.) Test Cases for Product Details Page:-

- Verify that the images of product are displayed correctly or not.
- verify that the price of product is displayed or not.
- verify that product reviews are mentioned or not.
- verify that the product specifications are displayed.
- verify that information about IN-STOCK / out of stock are displayed.
- Verify that seller ratings should be displayed.
- Verify that all the variations of the product are displayed.
- verify that shipping information about product is displayed.

- verify that payment options are mentioned on product page.

- Verify that product suggestions related to searched product should be displayed on page.

(4) Test cases for orders page:

- Verify that user should be able to track the order on My Orders page.
- Verify that user should be able to change the delivery date and time.
- Verify that user should be able to cancel the order.
- Verify that user should be able to return the order after delivery of the order.
- Verify that user should be able to exchange the Order from My Order page.

- Verify that user should be able to provide feedback and reviews about the item delivered.

(5) Test cases for Customer Service Page :-

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- verify that customer service options should be present on the website.
- verify that different modes of customer service such as Email, chat or call should be mentioned.
- verify that waiting time to connect to customer service should be displayed to user.
- verify that customer service should be available in different languages.