"PACKS – Packaging And Control Kit System"

Submitted To:

Hackathon DA-IICT

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PACKS

Packaging And Control Kit System

PACKS – PACKAGING AND CONTROL KIT SYSTEM

➢ **PACKS** – PACKS is an Acronym

➢ **P – Packaging** : Focuses on efficient and secure handling of products for delivery.

➢ **A – And** : Represents the integration of various essential eCommerce elements.

➢ **C – Control** : Introduces measures to eliminate middlemen and enhance transparency.

➢ **K – Kit** : Offers a bundled, ready-to-use platform for sellers and buyers alike.

➢ **S – System** : Functions as a unified structure connecting trusted vendors with consumers.

❑ **Introduction to PACKS**

❖ **What is PACKS**?

✓ A direct eCommerce platform offering a seamless shopping experience.

✓ Eliminates middlemen to ensure better pricing and transparency.

❖ **Why PACKS**?

✓ Because the name easily convey the meaning and its purpose.

Problems Within Existing System

1. **Limited Reach** – Many platforms struggle to serve Tier 2 & Tier 3 cities, leaving a large customer base underserved.

2. **Time-Consuming Process** – Lengthy product searches, checkout delays, and slow deliveries make shopping inefficient.

3. **High Manpower Requirements** – Traditional commerce models require extensive workforce management for sellers, logistics, and customer support.

4. **Increased Product Prices** – Middlemen and commissions drive up costs, making products more expensive for consumers.

5. **Resource-Intensive Operations** – Managing multiple sellers, warehouses, and logistics networks leads to higher operational costs.

Need For New System

1. **Wider Reach** – A direct vendor model ensures seamless access to Tier 2 & Tier 3 cities, expanding market coverage.

2. **Faster Shopping & Delivery** – Eliminating middlemen streamlines processes, reducing delays in order fulfillment.

3. **Reduced Manpower Costs** – Automating order processing, logistics, and customer support lowers operational workforce dependency.

4. **Lower Product Prices** – Direct sourcing from manufacturers minimizes extra charges, making products more affordable.

5. **Efficient Resource Utilization** – Optimized inventory and logistics management cut down unnecessary resource consumption.
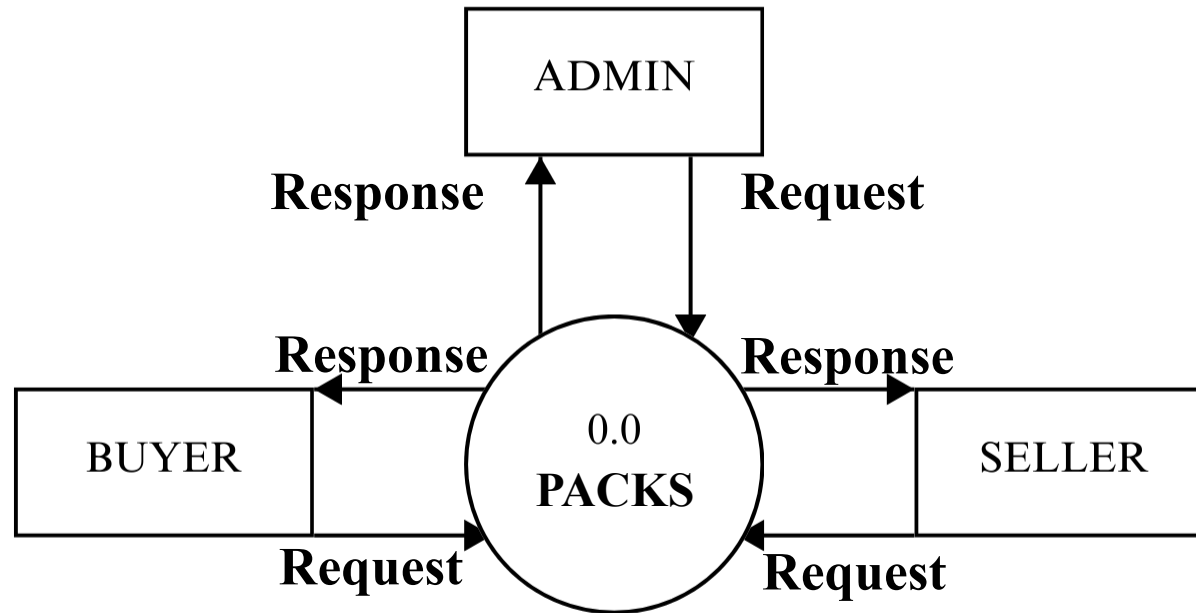
Proposed New System - PACKS

PACKS is a **multi-vendor, multi-buyer eCommerce platform** that connects sellers directly with consumers, eliminating middlemen to ensure affordable pricing, buyer & seller authenticity.
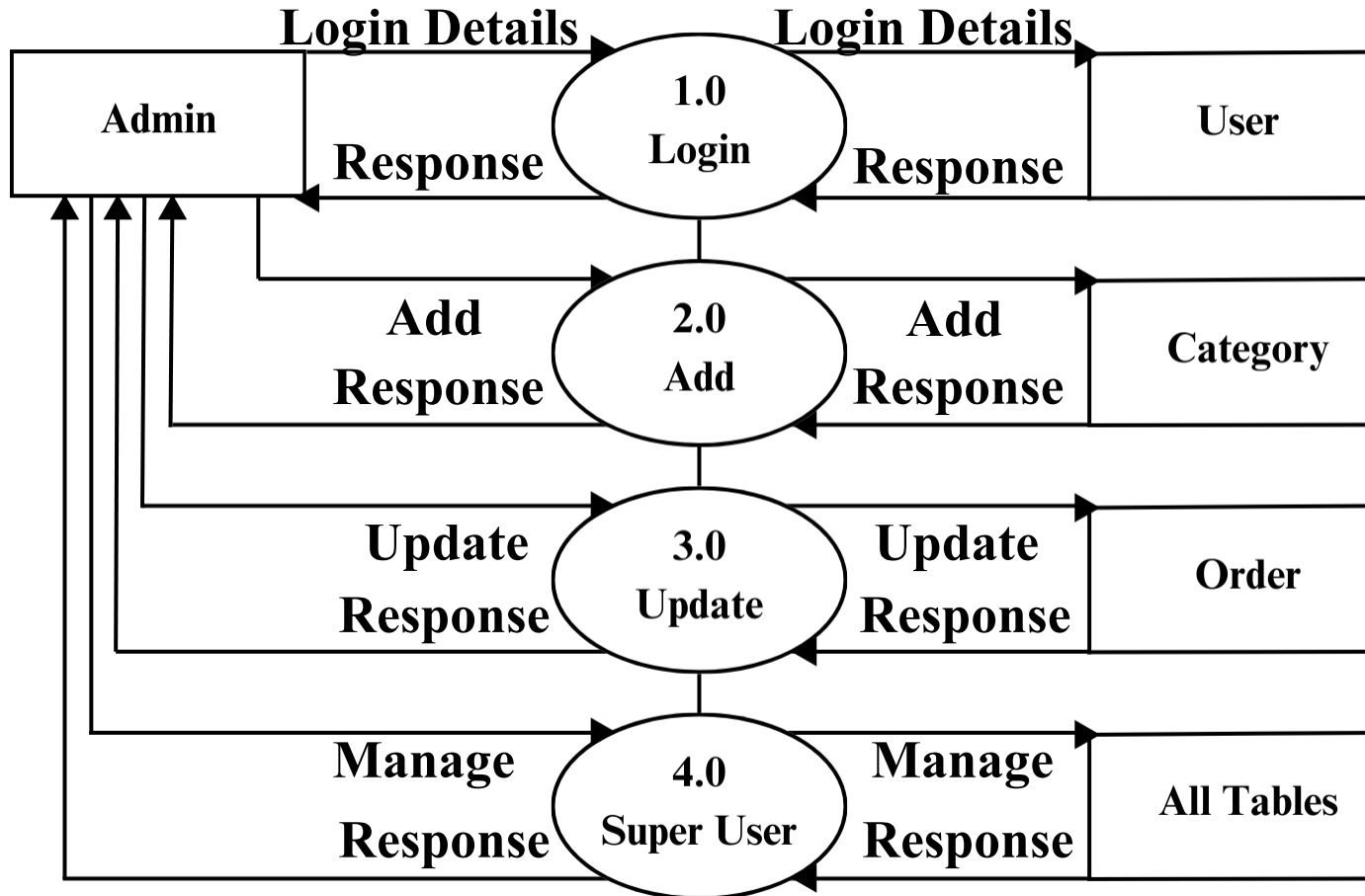
Key Features of the Proposed System :-

1. **Multi-Vendor System** – Allows multiple vendors to list and sell products directly, ensuring authenticity and competitive pricing.

2. **Multi-Buyer System** – Supports multiple customers simultaneously with a seamless shopping experience.

3. **Product Listing** – Vendors can easily upload product details, images, and pricing.

4. **Placing Orders** – Customers can browse, add items to the cart, and place orders for one or multiple products simultaneously.

5. **Delivery Tracking System** – Real-time shipment tracking keeps customers updated on order status.
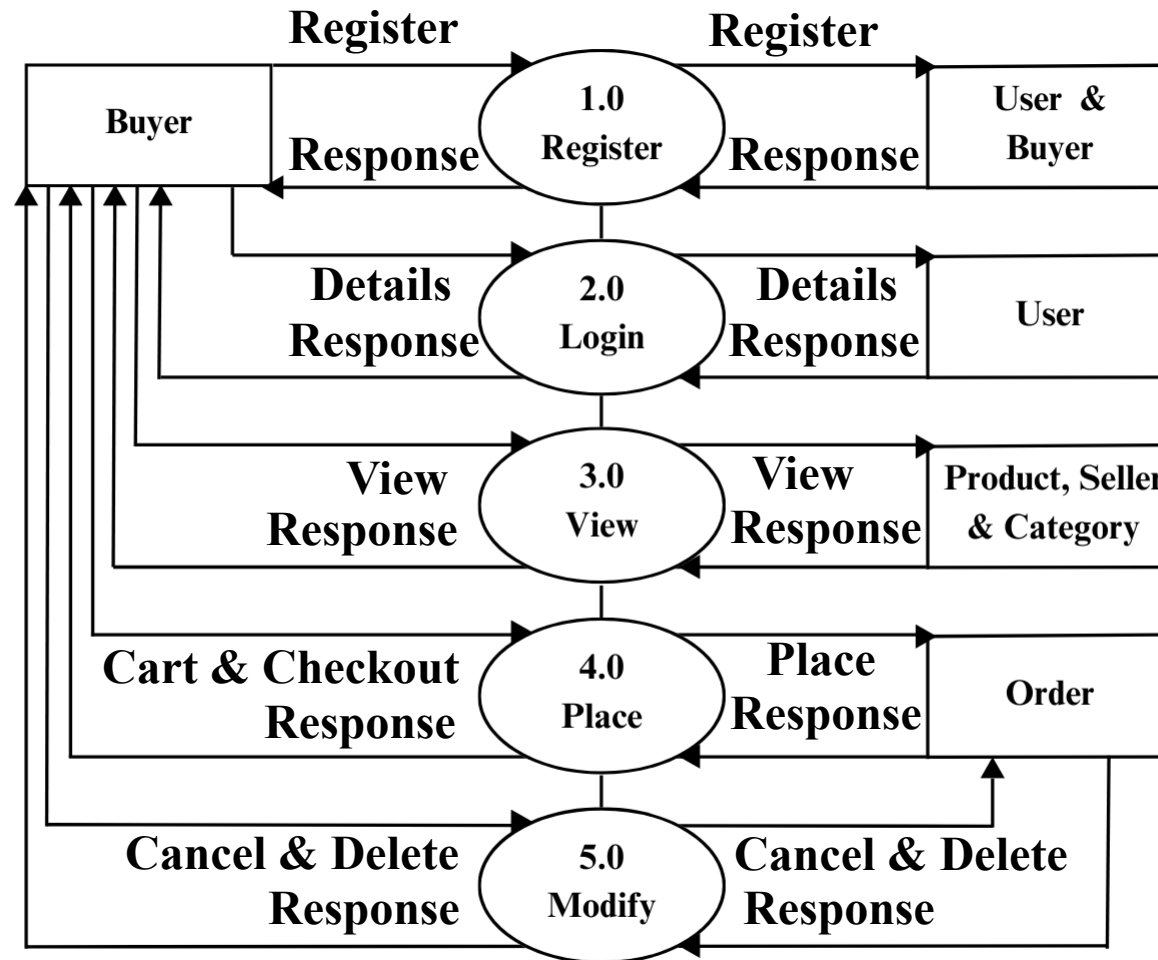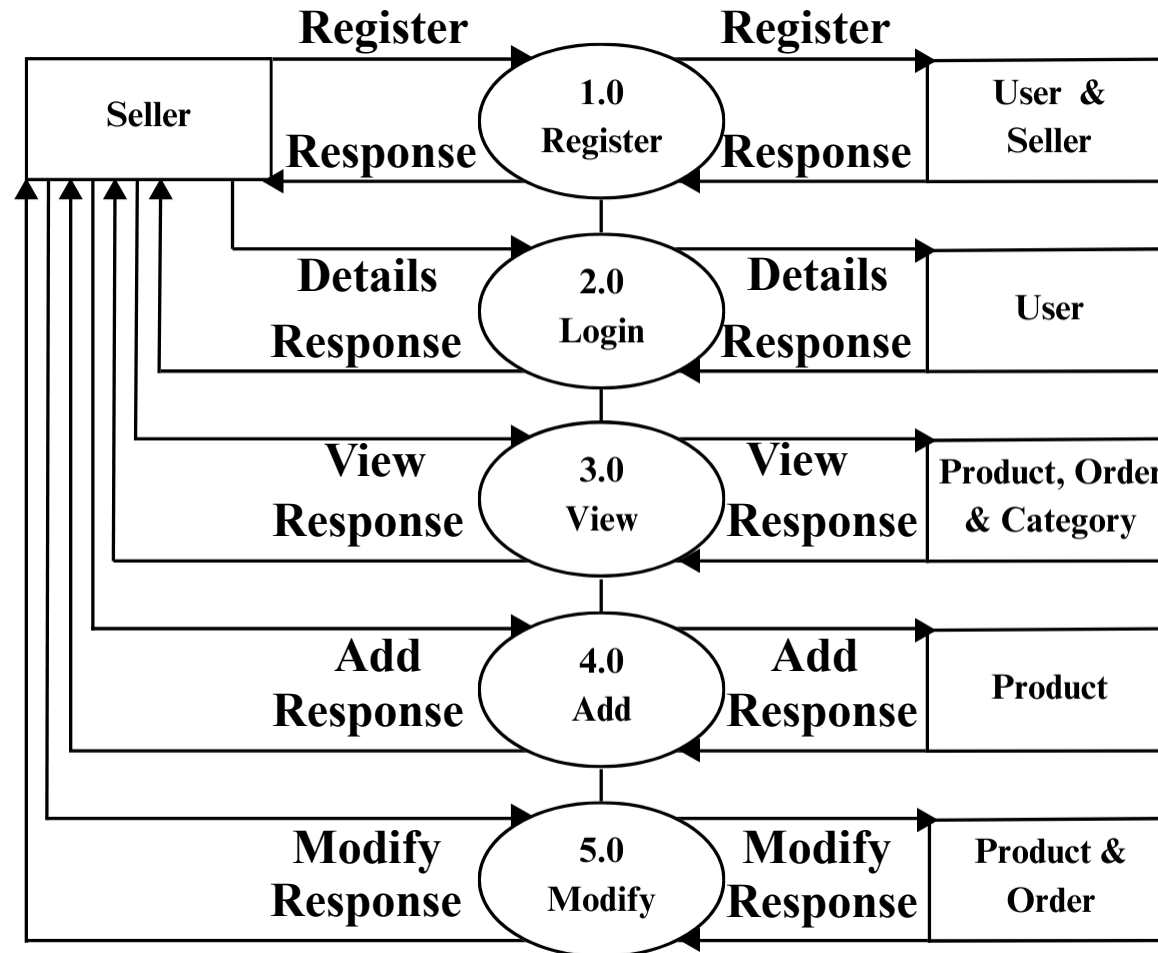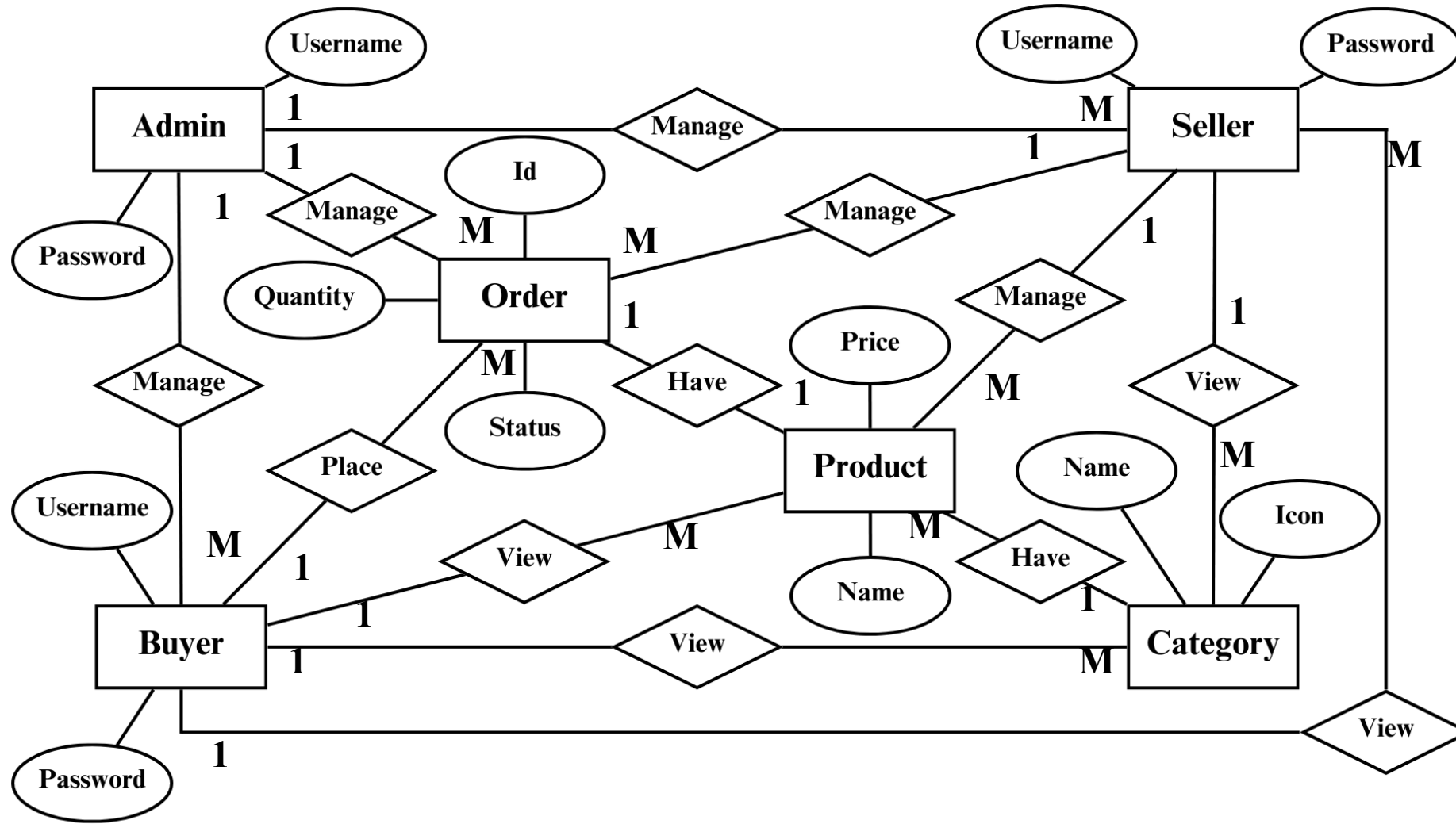
Context Level DFD

Admin Level DFD

Buyer Level DFD

Seller Level DFD

Entity Relationship Diagram

Default Users Model

Attributes	Data Type	Constraints	For Example
ID	Integer Auto Field	Primary Key , Auto Increment	1
Username	Character Field(150)	Unique , Not Null	admin
Password	Character Field(128)	Not Null , PBKDF2 with SHA-256	Hashed('S@hil0209')
First Name	Character Field(150)	Not Null , Default=''	ADMIN
Staff Status	Boolean Field	Not Null , Default=False	True

Buyer Model

Attributes	Data Type	Constraints	For Example
ID	Integer Auto Field	Primary Key , Auto Increment	1
New_User	Foreign Key(Users)	Unique , Not Null	Users(2)
First_Name	Character Field(50)	Not Null	Sahil
Last_Name	Character Field(50)	Not Null	Shaikh
Email	Email Field(50)	Not Null	sahil@gmail.com
Date	Date Field	Not Null	02-09-2003
Gender	Character Field(10)	Not Null	Male
Aadhaar	Character Field(12)	Not Null	111122223333
Contact	Character Field(10)	Not Null	9999988888
Address	Text Field(400)	Not Null	Mehsana

Seller Model

Attributes	Data Type	Constraints	For Example
ID	Integer Auto Field	Primary Key , Auto Increment	1
New_User	Foreign Key(Users)	Unique , Not Null	Users(3)
Seller_Name	Character Field(50)	Not Null	Samsung
Seller_Description	Character Field(50)	Not Null	We Sell Mobiles
Logo	Image Field	Upload To , Not Null	'shops/logo/1.png'
Banner	Image Field	Upload To , Not Null	'shops/banner/1.png'
GSTIN	Character Field(15)	Not Null	111112222233333
Email	Email Field(100)	Not Null	sahil@gmail.com
Contact	Character Field(10)	Not Null	9999988888
Address	Text Field(400)	Not Null	Mehsana

Category Model

Attributes	Data Type	Constraints	For Example
ID	Integer Auto Field	Primary Key , Auto Increment	1
Category_Name	Character Field(50)	Not Null	Mobiles
Category_Description	Character Field(50)	Not Null	For Example Phones
Category_Icon	Image Field	Upload To , Not Null	'cat/icon/1.png'
Category_Banner	Image Field	Upload To , Not Null	'cat/banner/1.png'

Product Model

Attributes	Data Type	Constraints	For Example
ID	Integer Auto Field	Primary Key , Auto Increment	1
Seller_Name	Foreign Key(Seller)	Unique , Not Null	Seller(1)
Product_Name	Character Field(50)	Not Null	Jio Phone
Product_Desc	Character Field(50)	Not Null	It is a Phone
Product_Price	Integer Field	Not Null	1000
Product_Img	Image Field	Upload To , Not Null	'Products/1.png'
Product_Status	Character Field(50)	Choices , Default , Not Null	In Stock
Category_Name	Foreign Key(Category)	Not Null	Category(1)

Order Model

Attributes	Data Type	Constraints	For Example
ID	Integer Auto Field	Primary Key , Auto Increment	1
Buyer_ID	Foreign Key(Buyer)	Unique , Not Null	Buyer(1)
Seller_ID	Foreign Key(Seller)	Unique , Not Null	Seller(1)
Product_ID	Foreign Key(Product)	Unique , Not Null	Product(1)
Product_Quantity	Integer Field	Not Null	5
Product_Total	Integer Field	Not Null	5
Order_Status	Character Field(50)	Choices , Default , Not Null	Order Placed

Contact Request Model

Attributes	Data Type	Constraints	For Example
ID	Integer Auto Field	Primary Key , Auto Increment	1
Email	Email Field(50)	Not Null	sahil@gmail.com
Purpose	Character Field(500)	Not Null	Appointment

Feedback Model

Attributes	Data Type	Constraints	For Example
ID	Integer Auto Field	Primary Key , Auto Increment	1
Email	Email Field(50)	Not Null	sahil@gmail.com
Feedback	Character Field(500)	Not Null	Good Work

Technologies Used

1. Template Management and Template Inheritance – Django framework provides in itself the feature of template management and also provides support for inheritance of one template into another.

2. Static Files and Media Files – Django framework also provides its efficient method of managing static files and media files by creating root directories.

3. Django Localhost Server – Django framework provides its own local server for testing and hosting the website for development and debugging.

4. Default User Model – Django framework provides a default user model which used to the store data of all type of users.

5. Django Authentication – Django framework provides predefined function of Authenticate, Login and Logout which can be used to perform authentication of a user , it's login and logout activities.

Technologies Used – Continued

6. Dynamic Url Routing – Django framework provides support to create and use dynamic urls for routing to webpages.

7. CSRF Token – CSRF stands for Cross Site Request Forgery , Django framework in all its forms uses a csrf token to ensure the integrity of the data passing via forms.

8. Django ORM – ORM stands for Object-Relational Mapping, Django framework uses object relational mapping to map each object member of a class as a field in the database. It provides easy, fast and efficient controls. We can fetch records faster.

9. Django Admin Interface – Django framework provides a default admin interface which can be used to create admins and super-admins. Admins are those with staff privileges and super-admins have all privileges of all tables.

10. Easy Integration with Other Python Modules – Django itself being a python module, it allows seamless integration with other python modules such as pillow and csv for better functionality in the overall projects.
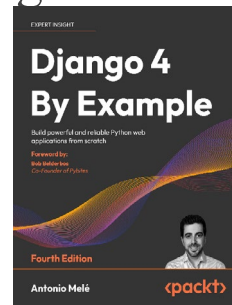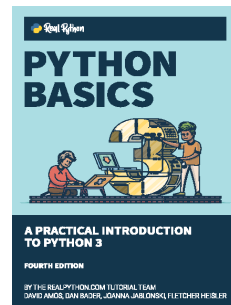
Future Enhancements

1. Payment Gateways – Modern payment gateway systems such as billdesk and razorpay can be added to provide support for online transactions.

2. Add Sale Function – Other functionalities such as creating a sale can be used to increase data traffic on the website.

3. Increase Filters – The number of filters can be increased in the near future.

4. Review and Rating System – A review system can be introduced to leave review on the purchased product by the buyer.

5. Profile Management – Profile management will allow users(buyer & sellers) to manage their own profile records and details.

6. Increase Responsiveness – The overall responsiveness of the website can be increased by using better animatronics and reactive css.

7. More Reports – We can integrate other python modules like Matplotlib to make better infographical and statistical reports

Conclusion

PACKS is a powerful multi-vendor, multi-buyer eCommerce platform designed to directly connect sellers with consumers, removing intermediaries to promote transparency, authenticity, and affordability. By offering key features such as a robust multi-vendor system, seamless support for multiple buyers, easy product listing, efficient order placement, and real-time delivery tracking, PACKS delivers a smooth and user-friendly shopping experience. This innovative approach not only ensures competitive pricing and genuine products but also simplifies the overall process for both vendors and buyers, making it a promising solution in the evolving digital commerce landscape.

Bibliography

1. **Django Reference** – https://docs.djangoproject.com/en/5.1/

2. **Learning** – Geek for Geeks – https://www.geeksforgeeks.org/

W3 Schools – https://www.w3schools.com/django/index.php

3. **Debugging** – Stack Overflow – https://stackoverflow.com/questions

4. **Other General Links** – Google , Youtube , Wikipedia , Github , Udemy

5. **General Utility Softwares** – Canva , Word , Excel , Powerpoint

6. **Chrome Extension** – GoFullPage

7. **Books Referred** –

Thank You