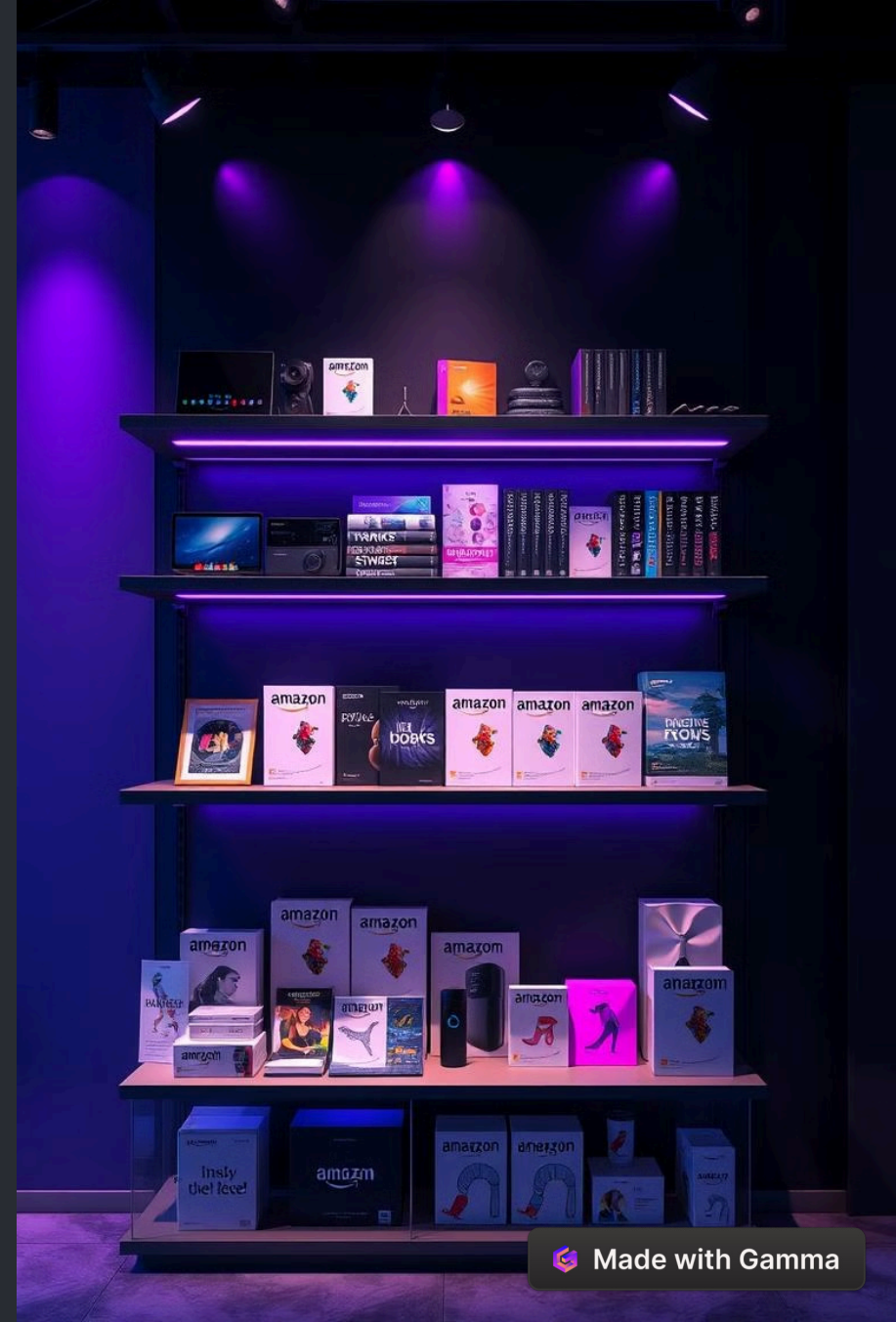


Amazon Product Catalog Analysis Project

This presentation details a project simulating Amazon's product catalog management, highlighting my expertise in database design, SQL, and data analysis. Through building a relational database, populating it with sample data, and performing complex SQL queries, I analyzed product attributes and derived actionable insights.

J by Jainam Shah



Tools & Technologies

Database Management System (DBMS)

MySQL was chosen for its reliability, scalability, and popularity in enterprise environments, making it a suitable platform for this project.

SQL

Structured Query Language (SQL) was used extensively for data querying and analysis, demonstrating my proficiency in writing complex queries to extract valuable insights.

Diagram Tools

Visual aids were essential for presenting the database schema and data flow diagrams. Lucidchart and Draw.io were used for their user-friendly interfaces and collaborative capabilities.

192	Table		Zabyarr
193	Table		Zabyarr
194	Table		Zabyarr

173	Table		Zabyarr
174	Table		Zabyarr
194	Table		Zabyarr

Database Schema Design

Products Table

- product_id (Primary Key)
- product_name
- category_id (Foreign Key)
- price
- rating
- review_count
- seller_id (Foreign Key)

Categories Table

- category_id (Primary Key)
- category_name

Sellers Table

- seller_id (Primary Key)
- seller_name
- seller_rating

Reviews Table

- review_id (Primary Key)
- product_id (Foreign Key)
- review_text
- review_rating
- review_date

SQL Queries & Analysis

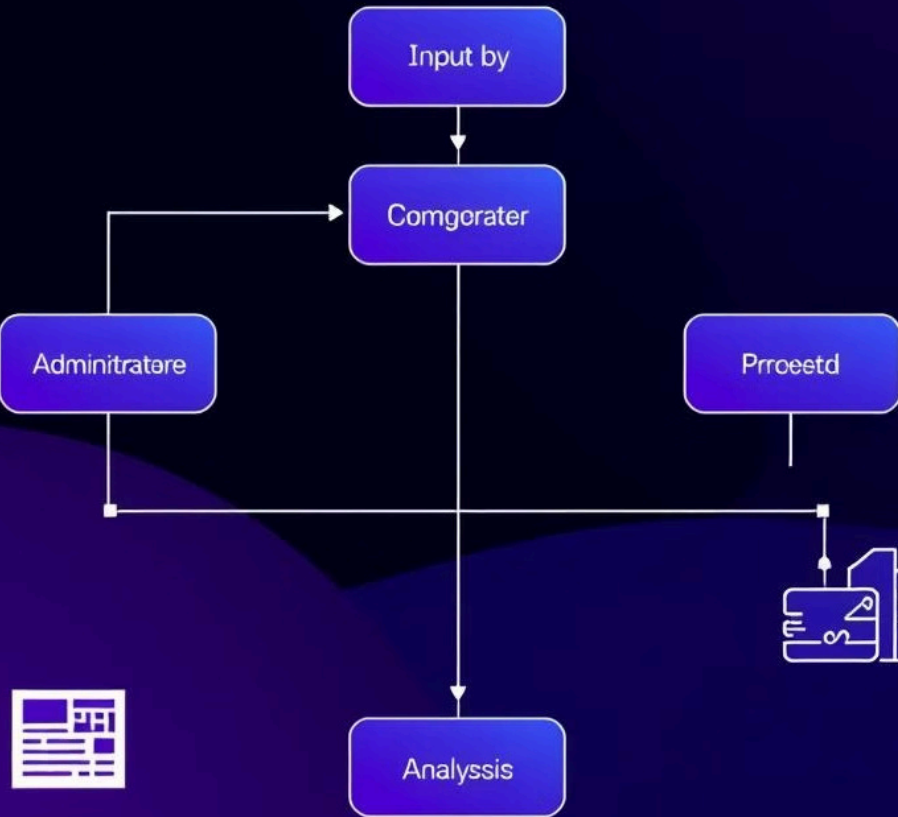
Query 1: Products in 'Electronics'

```
SELECT p.product_name, p.price, p.rating FROM Products p  
JOIN Categories c ON p.category_id = c.category_id WHERE  
c.category_name = 'Electronics';
```

Query 2: Average Seller Rating

```
SELECT s.seller_name, AVG(p.rating) AS avg_rating FROM  
Products p JOIN Sellers s ON p.seller_id = s.seller_id GROUP  
BY s.seller_name;
```

Data Flow Diagram (DFD)



1

Entities

- Admin
- Analyst

2

Process

Amazon Product Catalog Database

3

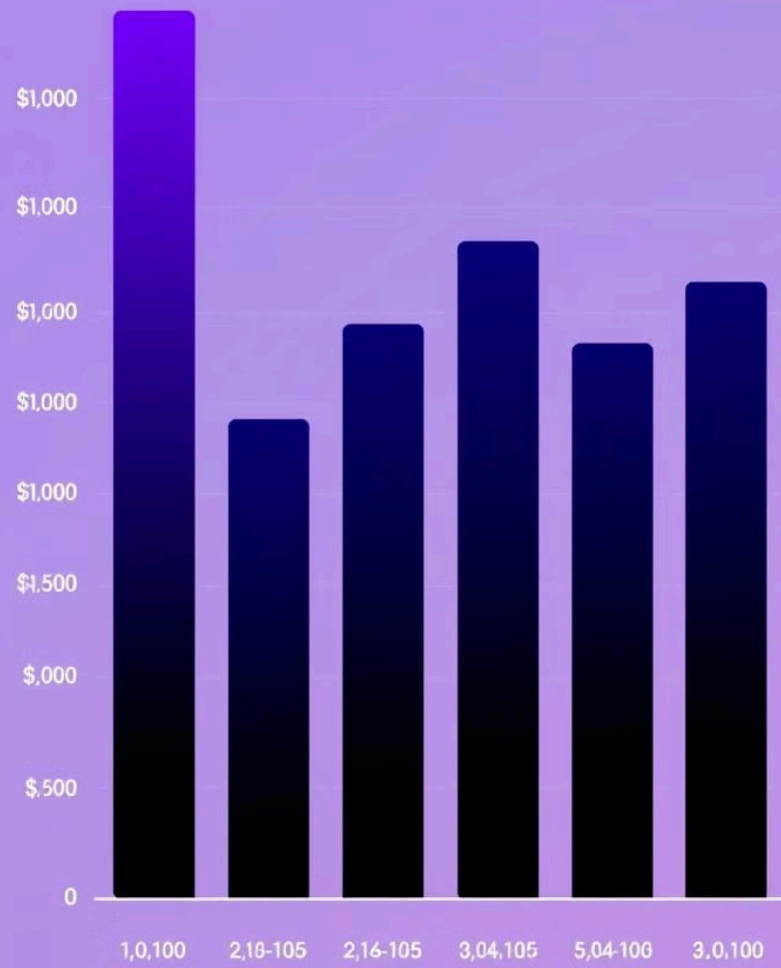
Data Stores

- Products Table
- Categories Table
- Sellers Table
- Reviews Table

4

Data Flow

Admin inputs data, Analyst retrieves and analyzes data.



Results & Insights



Top-Rated Products

Electronics category products have the highest average rating (4.7+).



Revenue by Category

The Electronics category generates the highest revenue, followed by Home & Kitchen.



Seller Performance

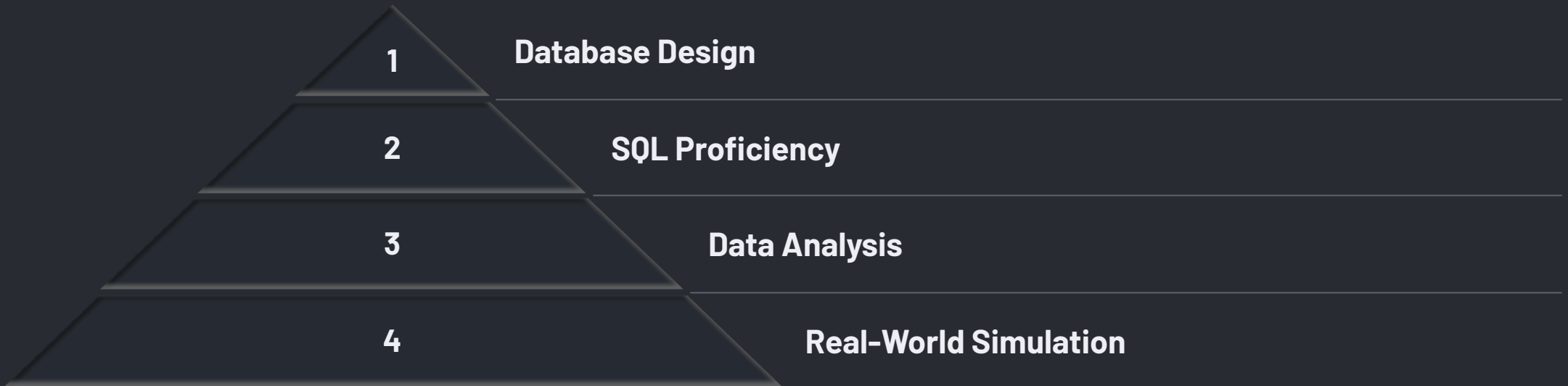
Sellers with higher ratings sell more products, highlighting the importance of customer satisfaction.



Customer Feedback

Products with more reviews tend to have higher ratings, indicating positive customer feedback.

Conclusion



Key Takeaways

1

Schema Optimization

Ensuring data integrity and efficiency through a well-designed schema is crucial.

2

SQL Query Mastery

Writing complex SQL queries for data analysis is an essential skill for data professionals.

3

Actionable Insights

Deriving meaningful insights from data can inform business decisions and drive growth.

Future Directions

1

Data Visualization

Enhance the presentation of data insights using dashboards and interactive visualizations.

2

Machine Learning

Explore the use of machine learning algorithms for predictive analysis and recommendation systems.

3

Data Security

Implement robust data security measures to protect sensitive customer information.

