iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 14 **Issue:** III **Month of publication:** March 2026

DOI: https://doi.org/10.22214/ijraset.2026.77915

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 14 Issue III Mar 2026- Available at www.ijraset.com

AI Powered Intelligent E-Commerce Platform with Admin Dashboard

Dipali Kundalik Yewale[1], Kunal Sandip Shinde[2], Pranav Ganesh Bhor[3], Prof. Punam Suresh Gajare[4]
Computer Engineering Department, Samarth Polytechnic Belhe

Abstract: ***The rapid growth of online shopping has increased the need for intelligent and automated e-commerce systems. Traditional e-commerce platforms lack personalization, predictive analytics, and real-time administrative insights. This research proposes an AI-powered intelligent e-commerce platform developed using HTML, CSS, JavaScript, Bootstrap for frontend, PHP for backend, MySQL for database, and XAMPP server for development and deployment. The system integrates a recommendation engine, sales prediction module, and an advanced admin dashboard for real-time monitoring. The proposed platform enhances user experience, improves decision-making, and increases business efficiency.***
Keywords: E-Commerce, Recommendation System, PHP, MySQL, Admin Dashboard, Data Analytics

I. INTRODUCTION

E-commerce platforms such as Amazon and Flipkart have transformed digital shopping by integrating Artificial Intelligence (AI) technologies. AI enables personalized product recommendations, sales forecasting, and automated analytics. This research focuses on designing and developing an AI-powered intelligent e-commerce platform using open-source technologies. The system integrates AI modules with a web-based admin dashboard for efficient business management.

II. PROBLEM STATEMENT

Traditional e-commerce systems face the following challenges:

1) Lack of personalized recommendations
2) Manual sales analysis
3) Poor inventory management
4) Limited customer behavior tracking
5) Inefficient administrative control

There is a need for an intelligent e-commerce system that integrates AI-based analytics with a centralized admin dashboard.

III.OBJECTIVES

1) To develop a responsive e-commerce platform using HTML, CSS, JavaScript, and Bootstrap
2) To implement backend logic using PHP
3) To design a relational database using MySQL
4) To integrate AI-based recommendation and prediction modules
5) To build an admin dashboard for monitoring sales and user activity

There is a need for an intelligent system that integrates AI capabilities with an efficient administrative dashboard.

IV.PROPOSED SYSTEM ARCHITECTURE

A. Frontend Module

Developed using:

- HTML (Structure)
- CSS (Styling)
- JavaScript (Dynamic functionality)
- Bootstrap (Responsive design)

Features:

- User Registration & Login

©IJRASET: All Rights are Reserved

- Product Listing
- Add to Cart
- Online Checkout
- Product Search & Filter

B. Backend Module

Developed using PHP.

Functions:

- Authentication & Session Management
- Order Processing
- Payment Handling
- Database Connectivity
- AI Model Integration

C. Database Design

Database: MySQL

Server: XAMPP

Tables:

- Users
- Products
- Orders
- Payments
- Reviews
- Admin

Relational schema ensures data consistency and integrity.

D. AI Module

1) Product Recommendation System

- Suggests products based on:
  - User browsing history
  - Purchase history
  - Similar product categories

2) Sales Prediction

- Uses historical sales data
- Predicts future demand trends

3) Customer Behavior Analysis

- Identifies frequently viewed products
- Tracks purchasing patterns

E. Admin Dashboard

Admin panel features:

- Recommendation system
- Sales Prediction chart
- Fraud Detection
- Sentiment Analysis

V. METHODOLOGY

1) Step 1: Requirement Analysis
Understanding system needs and user requirements.

2) Step 2: System Design
Creating database schema and UI wireframes.

3) Step 3: Development
Frontend development using HTML, CSS, Bootstrap
Backend development using PHP
Database integration using MySQL

4) Step 4: AI Model Implementation
Integrating recommendation logic and prediction models.

5) Step 5: Testing
Unit Testing
Integration Testing
System Testing

6) Step 6: Deployment
Deployment using XAMPP Server (Localhost Environment)

VI. RESULT AND OUTPUT

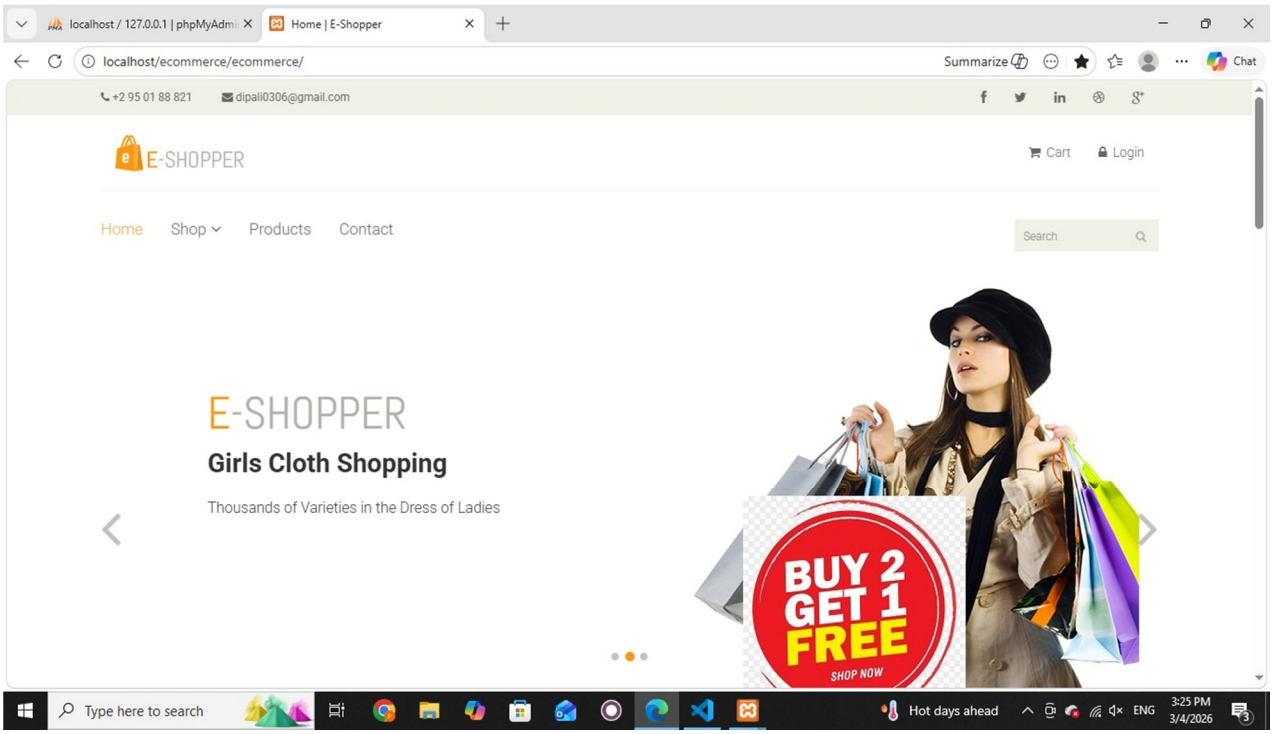


Fig. Homepage

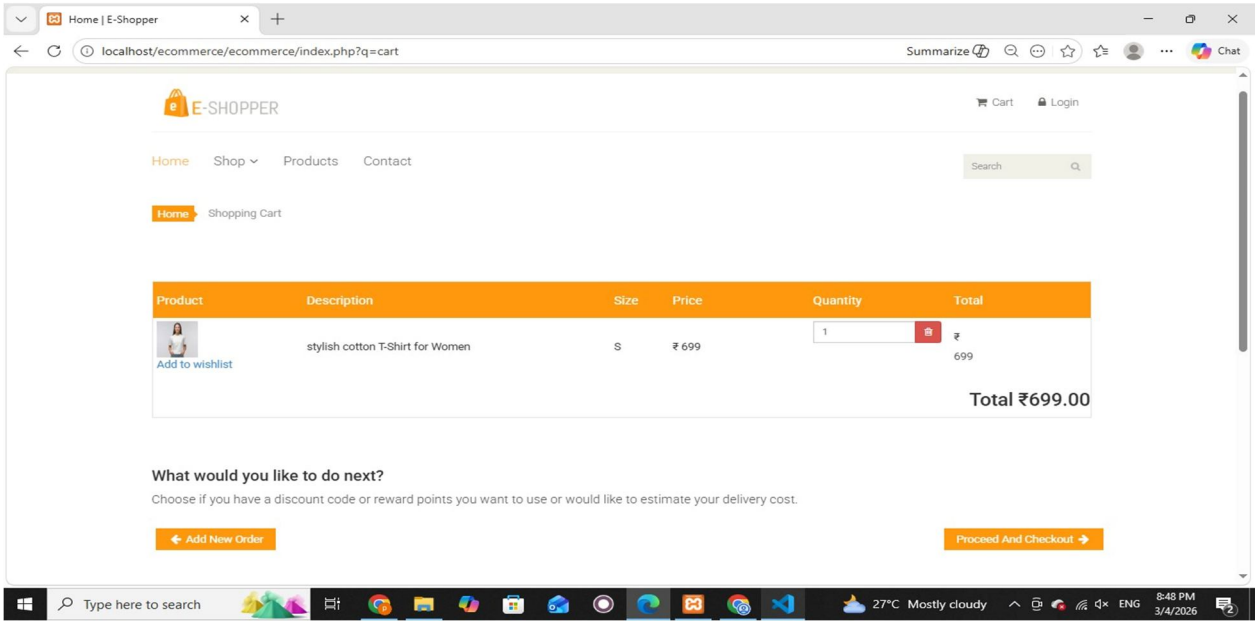


Fig. Shopping cart

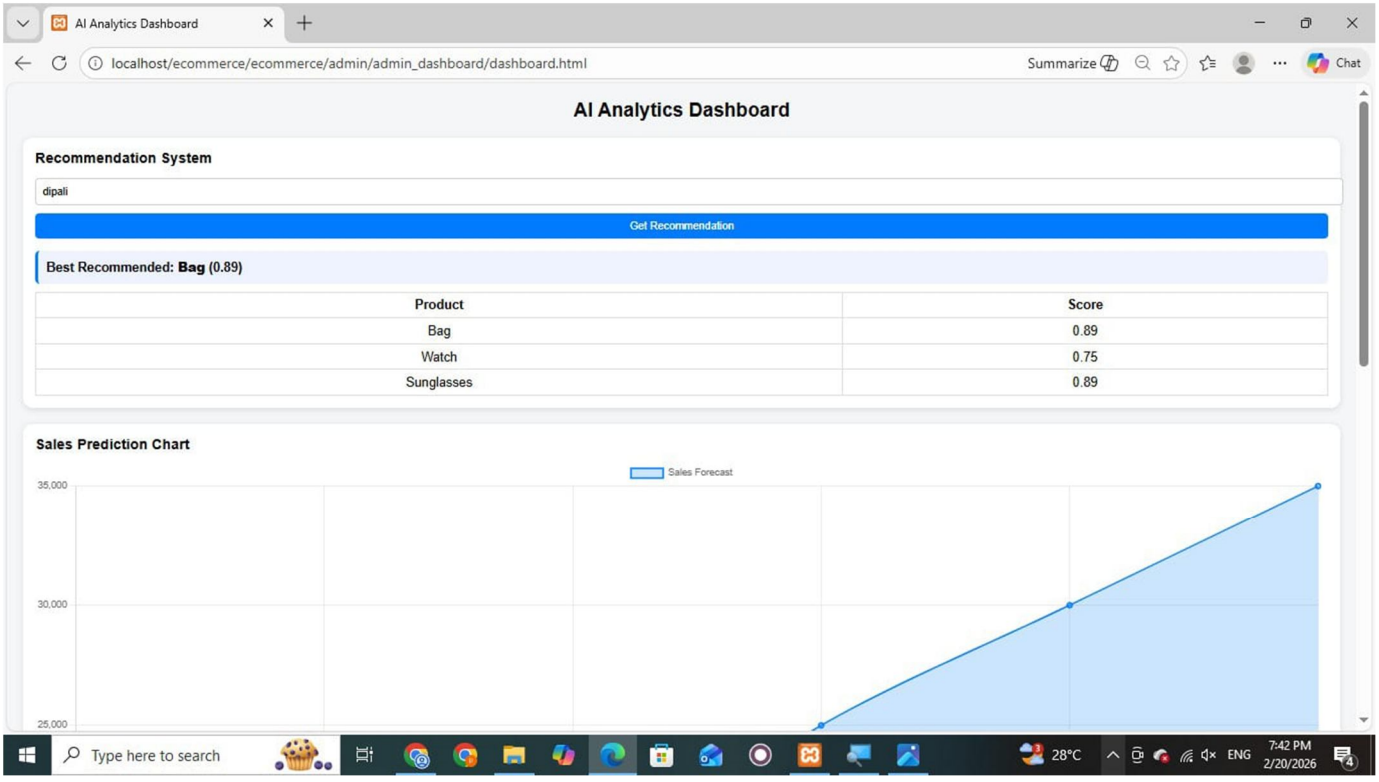


Fig. Admin Dashboard

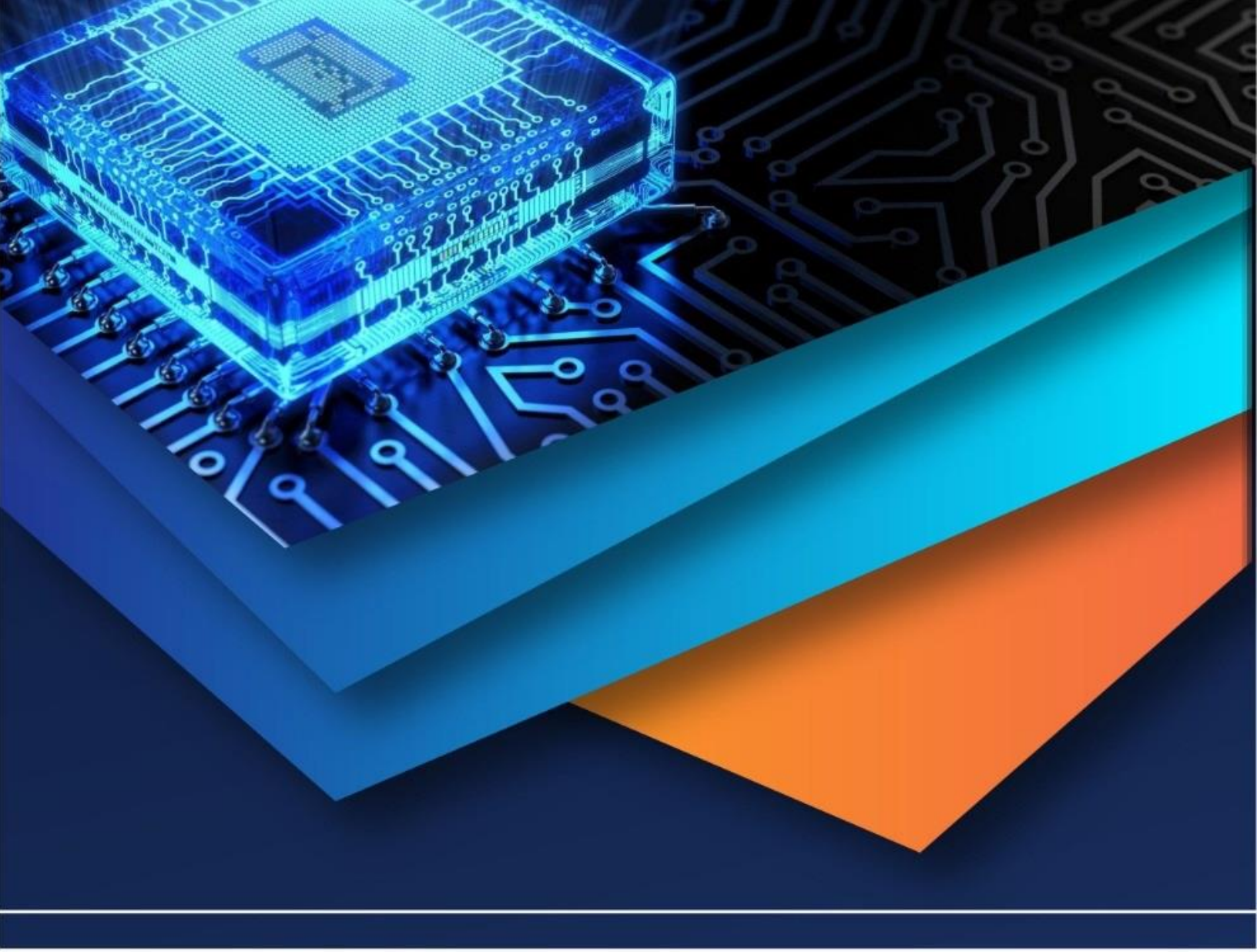
VII. CONCLUSION

The AI Powered Intelligent E-Commerce Platform developed using HTML, CSS, JavaScript, Bootstrap, PHP, and MySQL provides an efficient and scalable online shopping solution. The integration of AI-based recommendation systems and predictive analytics enhances user engagement and improves business decision-making. The admin dashboard ensures centralized control and real-time monitoring, making the system suitable for small and medium-scale enterprises.

REFERENCES

[1] J. B. Schafer, J. A. Konstan, and J. Riedl, "E-commerce recommendation applications," Data Mining and Knowledge Discovery, vol. 5, no. 1–2, pp. 115–153, Jan. 2001.
[2] G. Adomavicius and A. Tuzhilin, "Toward the next generation of recommender systems: A survey of the state-of-the-art and possible extensions," IEEE Transactions on Knowledge and Data Engineering, vol. 17, no. 6, pp. 734–749, Jun. 2005.
[3] Y. Koren, R. Bell, and C. Volinsky, "Matrix factorization techniques for recommender systems," Computer, vol. 42, no. 8, pp. 30–37, Aug. 2009.
[4] D. Jannach, M. Zanker, A. Felfernig, and G. Friedrich, Recommender Systems: An Introduction. Cambridge, U.K.: Cambridge University Press, 2010.
[5] V. Kumar and W. Reinartz, Customer Relationship Management: Concept, Strategy, and Tools, 3rd ed. Berlin, Germany: Springer, 2018.
[6] T. Chen, H. Yin, H. Chen, and S. Wang, "Online sales prediction with machine learning techniques," Expert Systems with Applications, vol. 42, no. 1, pp. 143–153, Jan. 2015.
[7] I. Goodfellow, Y. Bengio, and A. Courville, Deep Learning. Cambridge, MA, USA: MIT Press, 2016.
[8] R. Agrawal and R. Srikant, "Fast algorithms for mining association rules," in Proc. 20th Int. Conf. Very Large Data Bases (VLDB), Santiago, Chile, 1994, pp. 487–499.
[9] P. Resnick and H. R. Varian, "Recommender systems," Communications of the ACM, vol. 40, no. 3, pp. 56–58, Mar. 1997.

©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)