

# SHOPBUDDY AI CHATBOT

## An Intelligent E-commerce Solution

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DATE	31/08/2024

# INTRODUCTION

## ➤ Overview:

- ❑ ShopSense is an AI-powered chatbot designed to enhance customer engagement and support for e-commerce platforms.

## ➤ Purpose:

- ❑ To provide a seamless shopping experience through natural language understanding and interactive features.

# PROBLEM STATEMENT AND OBJECTIVES

## ➤ Problem Statement:

- ❑ E-commerce platforms often struggle with customer support efficiency, personalized user experiences, and managing high volumes of queries.

## ➤ Objectives:

- ❑ Improve customer support through automation.
- ❑ Enhance user experience with personalized recommendations.
- ❑ Reduce response time and operational costs.



# SYSTEM ANALYSIS AND DESIGN

## ➤ System Architecture:

- ❑ Built on Node.js with Express.js for the backend.
- ❑ Integrated with Dialogflow CX for natural language processing.
- ❑ Uses MongoDB as the database to store user and product information.

## ➤ Key Components:

- ❑ Controllers for managing user interactions.
- ❑ Routes for defining API endpoints.
- ❑ Services for handling business logic

# SOFTWARE REQUIREMENT SPECIFICATIONS

## ➤ Functional Requirements:

- ☐ Ability to handle customer queries and provide instant responses.
- ☐ Support for product browsing, order tracking, and customer support.

## ➤ Non-Functional Requirements:

- ☐ High availability and scalability to handle peak loads.
- ☐ Secure data transactions and storage.

# DEVELOPMENT AND IMPLEMENTATION

## ➤ Technologies Used:

- ❑ Dialogflow CX: For NLP and managing conversational flows.
- ❑ Node.js & Express.js: For server-side logic and API management.
- ❑ MongoDB: As the NoSQL database for storing product and order information.

## ➤ Coding Structure:

- ❑ Modular architecture with controllers, routes, and services.
- ❑ Asynchronous programming using `async/await` for efficient API handling.



# KEY FEATURES OF SHOPBUDDY

- **Browse Products:** Users can easily browse and filter products.
- **Order Tracking:** Provides real-time order status updates.
- **Customer Support:** Automated responses to common queries and seamless escalation to human agents.
- **Check Latest Deals:** Users can view ongoing promotions and discounts.
- **Personalized Recommendations:** Offers tailored product suggestions based on user behavior.

# TESTING AND DEBUGGING

## ➤ Testing Strategy:

- ☐ Unit testing for individual components.
- ☐ Integration testing to ensure seamless interaction between components.

## ➤ Test Cases Conducted:

- ☐ Tested key functionalities like product search, order tracking, and user interactions.

## ➤ Results:

- ☐ All critical functionalities passed testing phases.
- ☐ Bugs related to input validation and response accuracy were identified and resolved.



# SYSTEM SECURITY MEASURES

## ➤ Current Status:

- ☐ No specific security measures implemented.

## ➤ Future Enhancements:

- ☐ Plan to implement encryption, authentication, and regular security audits.
- ☐ Use of HTTPS for secure data transmission.

# COST ESTIMATION

## ➤ Development Costs:

- ❑ \$10,000 - \$12,000 (Labor), \$1,000 - \$1,500 (Tools)

## ➤ Deployment Costs:

- ❑ \$1,000 - \$1,500/year (Hosting), \$100 - \$200/year (SSL)

## ➤ Maintenance Costs:

- ❑ \$2,000 - \$3,000/year (Ongoing Maintenance)

## ➤ Total Estimated Cost:

- ❑ \$19,100 - \$25,200 for the first year.

# FUTURE SCOPE

- Multilingual Support: To cater to a global audience.
- Voice Interaction: For hands-free user engagement.
- Enhanced NLP: To improve user query understanding and context handling.
- Integration with More Platforms: Extend support to social media and other channels.
- Advanced Analytics: Real-time user interaction analytics for better decision-making.



# CONCLUSION

## ➤ Summary:

- ❑ ShopSense AI Chatbot offers an innovative solution for enhancing customer support and user engagement on e-commerce platforms.

## ➤ Impact:

- ❑ Reduces operational costs, improves user satisfaction, and supports scalable growth for businesses.



THANK YOU