E-COMMERCE SALES CHATBOT
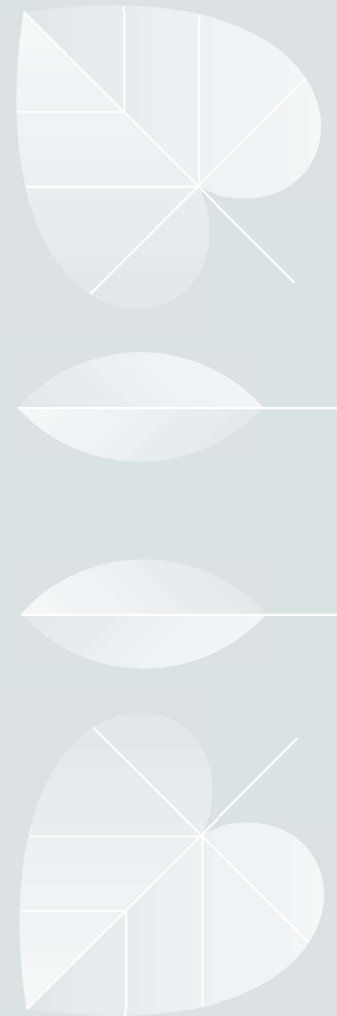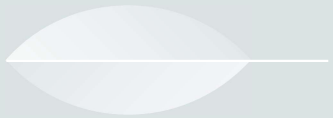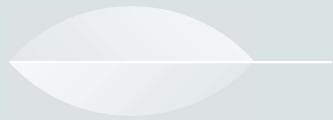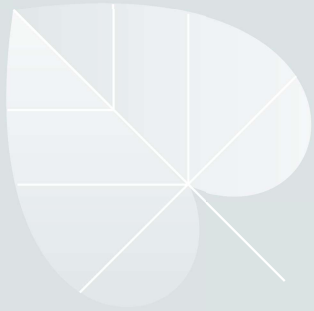
PRESENTED BY PRIYANKA

OBJECTIVE

- IN BUILD A CHATBOT TO ENHANCE THE E-COMMERCE SHOPPING EXPERIENCE

- ENABLE EFFICIENT PRODUCT SEARCH, EXPLORATION, AND (FUTURE) PURCHASE

- PROVIDE A MODERN, USER-FRIENDLY WEB INTERFACE

MOCK DATA CREATION

- USED A PYTHON SCRIPT TO SEED 100+ PRODUCTS (LAPTOPS, MOBILES, TVS)
- ENSURES REALISTIC DATA FOR BROWSING & CHATBOT QUERIES

FEATURES

- User registration & login with session management
- Product browsing & filtering (name, category, price)
- Conversational chatbot for product queries & recommendations
- Responsive UI (desktop & mobile)
- Chat history storage & reset

CHALLENGES & SOLUTIONS

- **FRONTEND-BACKEND INTEGRATION:** SOLVED WITH CORS & CLEAR API CONTRACTS

- **DATABASE SEEDING:** AUTOMATED WITH SCRIPT

- **SESSION MANAGEMENT:** USED LOCAL STORAGE

- **CHAT LOGIC:** SIMPLE KEYWORD-BASED, EASY TO EXTEND

LEARNINGS

- FULL-STACK WEB DEVELOPMENT , RESTFUL API DESIGN

- IMPORTANCE OF MODULAR, MAINTAINABLE CODE

- REAL-WORLD ERROR HANDLING & SESSION MANAGEMENT

API ENDPOINTS

- /register & /login: User authentication

- /products: Product listing & filtering

- /chat: Chatbot interaction

- /chat/reset: Reset chat history

TECHNOLOGY STACK & CHOICES

- **React:** Fast, component-based UI, responsive design

- **Flask:** Lightweight, easy REST API development

- **SQLAlchemy:** Clean ORM for database access

- **SQLite:** Simple, file-based DB for mock/demo

- **Why?** Rapid prototyping, modularity, maintainability

DESIGN PATTERNS & BEST PRACTICES

- MODULAR CODEBASE (MODELS, API, FRONTEND SEPARATED)

- ROBUST ERROR HANDLING & USER FEEDBACK

- PASSWORD HASHING FOR SECURITY

- CLEAR SEPARATION OF CONCERNS

POTENTIAL IMPROVEMENTS

- ADD PURCHASE/CHECKOUT FLOW , ORDER HISTORY, ANALYTICS, ADMIN PANEL

- INTEGRATE ADVANCED AI/NLP (E.G., OPENAI, RASA)

- ENHANCE UI/UX WITH MORE PRODUCT DETAILS

CONCLUSION

- Robust foundation for an e-commerce chatbot

- Modular, maintainable, and user-friendly

- Ready for further enhancements

THANK YOU