📄 Project Report

# Title

Development of an E-Commerce Sales Chatbot

# Submitted By

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# Introduction

The objective of this project is to develop an intelligent and responsive chatbot system for an e-commerce platform. The chatbot assists users in browsing and searching for products using natural language input, aiming to enhance user experience and simplify the shopping process.

# Project Goals

• Create a conversational interface for product search.

• Build a backend that processes search queries and retrieves mock product data.

• Enable secure login and registration.

• Ensure responsive design for desktop and mobile devices.

# Technology Stack

• **Frontend:** HTML5, CSS3, JavaScript

• **Backend:** Django, Django REST Framework

• **Database:** SQLite (development), compatible with PostgreSQL

• **Authentication:** Django Auth + JWT (SimpleJWT)

• **Tools:** Postman, Git, VS Code

# Mock Product Data

A mock database was populated with over 100 product entries across categories like Electronics, Apparel, and Books. Each product includes name, price, description, category, and optionally an image URL.

# Features Implemented

• **User Management:** Register/Login using Django’s authentication system.

• **Chatbot Interface:** Keyword extraction and response logic.

• **REST API Endpoints:** GET /products/, POST /chat/.

# Architecture Overview

# Sample Queries & Responses

• **Do you have headphones?** → Found 3 products matching 'headphones'

• **Show me books** → Found 7 products matching 'book'

• **Do you have dresses?** → Sorry, I couldn't understand your request.

# Challenges Faced & Solutions

• **Routing conflict in URLs** → Ensured urls.py did not have duplicate '' paths.

• **Static files not loading** → Properly configured STATICFILES\_DIRS.

• **404 for /chatbot/** → Verified view function and corrected path.

# Results Achieved

Successfully built an end-to-end chatbot interface. Users can register, log in, and interact with chatbot seamlessly. Chatbot accurately returns products from a mock database.

# Conclusion

This project showcases how conversational AI can streamline user interaction in an e-commerce environment. The chatbot simplifies product discovery and demonstrates potential for future enhancements like NLP integration.

# Future Enhancements

• Integrate NLP with tools like spaCy or transformers.

• Use real product database from platforms like Shopify API.

• Add cart management and checkout flow.

• Voice-to-text interaction for accessibility.