Construction of an AI Chatbot to Support an Electronic Components Website

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***Abstract*—This thesis builds an AI chatbot for an electronic-components sales website using a GPT API and LangChain. The source describes customer questions, order information, account interactions, and management screens for orders and brands. LangChain connects language-model responses with external or stored information. The author reports a functioning integration but warns that answers may be inaccurate when data are absent or unclear and that configuration is complex. The report does not quantify response accuracy, latency, or business outcomes. The result is a student e-commerce chatbot prototype whose usefulness depends on maintained data and further testing.**

***Index Terms*—AI chatbot, GPT API, LangChain, e-commerce, natural language processing, website support**

I. Introduction

An electronic-components shop receives questions about products and orders that may be repetitive but still require accurate context. The thesis explores a chatbot as part of a sales website to support those interactions. It introduces web development tools and explains how a GPT API and LangChain can process questions and retrieve relevant information. The objective is to connect conversational assistance to product and order workflows. This case does not establish that customers preferred the chatbot or that it increased sales [1]. Published articles on the methods and subject of this project provide context for this English summary [5].

II. Methods

The student builds a website interface for electronic-component business functions and connects a GPT API through LangChain. The report shows account pages, order and brand administration, and a chatbot interaction area. LangChain is used to bring information from the site's data or external sources into the question-answering workflow. The source includes a broad technology review, but this summary focuses on the integration described in the implementation. No controlled benchmark of answer correctness is reported [1].

III. Results

The source conclusion reports that the chatbot can respond to customer questions and interact with account and order-related information on the website. Screens illustrate login, order and brand management, and the conversation interface. The implemented link between GPT and external data provides context for some responses. The author explicitly warns that missing or unclear product data can produce generic or wrong answers. No response-accuracy percentage, customer survey, or measured change in order handling is provided [1].

IV. Discussion

The prototype demonstrates a practical route from a language-model API to an e-commerce interface, but its answers remain dependent on the completeness and quality of the connected data. LangChain configuration adds complexity and can affect speed or reliability if handled poorly. The source also notes possible difficulty with local language use. These are reported limitations rather than quantified failure rates. A later evaluation should use a verified set of product and order questions, record answer correctness, and test privacy and access controls [1].

V. Conclusion

The thesis documents a GPT API and LangChain chatbot integrated with an electronic-components website. The student reports basic question answering and links to account, order, and brand-management functions. The source identifies inaccurate answers from incomplete data, configuration difficulty, and dependence on current records as limitations. It does not establish a measured benefit for customers or administrators. The work is a functional prototype and a starting point for systematic evaluation and data-quality improvements [1].

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References

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