

# Inovasi Sistem Manajemen Proyek Kelompok Smart Office untuk Mahasiswa Manajemen Administrasi

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**Abstract.** Educational materials, including guides, tutorials, and master plans, are universally presented in e-book formats. This facilitates a comprehensive understanding for academics, encompassing both technical intricacies and broader conceptual frameworks. E-books offer several benefits, such as searchability and the incorporation of links to additional information sources. However, many individuals express concerns that e-books are not particularly comfortable for extended reading periods. In the other hand, a Generative AI approach is employed for the development of an intelligent chatbot. Our primary contribution lies in an automated information retrieval method, involving the design of a PDF-Driven Chatbot using Large Language Models (LLMs) in the context of faculty guidelines question answering. This research utilizes the LangChain Framework, OpenAI's ChatGPT (GPT-3.5 Turbo), and Pinecone for generating responses. The outcomes demonstrate that the chatbot is capable of generating coherent responses closely aligned with the context of the PDF document.

**Keywords—** *Information Retrieval, PDF-Driven Chatbot, OpenAI, ChatGPT*

The advancement of information technology has brought about significant changes across diverse aspects of life. This influence extends to the domain of media and information consumption, with books undergoing a transformation through the emergence of electronic books (e-books). E-books have integrated seamlessly into the core of academia. Similarly, within the academic sphere, the adoption of e-books has evolved into an essential requirement. Educational materials such as guides, tutorials, and master plans are universally presented in e-book formats, facilitating a comprehensive understanding for academics that encompasses both technical intricacies and broader conceptual frameworks [1]. These e-books possess distinct attributes, including searchability and the incorporation of links to additional information sources [2].

Moreover, they encompass convenient adaptations of features found in print books, such as hyperlinked table of contents and indexes. However, certain challenges have emerged in relation to e-books. Some users have reported that e-books are not particularly easy on the eyes, and there have been instances of people expressing reluctance to engage with e-books for prolonged periods of time [3]. The academics feel fatigue if read a lot in e-book version [4].

On the other hand, there is a Generative AI method for building a chatbot. Generative AI techniques are utilized in chatbots to teach them how to formulate responses, employing methods based on Machine Learning or Deep Learning [5]. These chatbots undergo extensive training using vast volumes of data, utilizing this accumulated knowledge to generate replies based on inputs, as opposed to relying on predefined answers. The pinnacle of sophisticated generative chatbot models is exemplified by the OpenAI Generative Pre-Training (GPT) model [6]. Open AI ChatGPT can be used for translation, summarization, and question-answering systems [7].

Our key contribution is an approach for automating information retrieval designing a PDF-Driven Chatbot using LLMs in the context of faculty guidelines question answering. Thus, the academics can easily search for information related to the topic in the pdf document by simply asking the chatbot. This influence extends to the domain of media and information consumption, with books undergoing a transformation through the emergence of electronic books (e-books). E-books have integrated seamlessly into the core of academia. Similarly, within the academic sphere, the adoption of e-books has evolved into an essential requirement. Educational materials such as guides, tutorials, and master plans are universally presented in e-book formats, facilitating a comprehensive understanding for academics that encompasses both

technical intricacies and broader conceptual frameworks. This influence extends to the domain of media and information consumption, with books undergoing a transformation through the emergence of electronic books (e-books). Similarly, within the academic sphere, the adoption of e-books has evolved into an essential requirement.

Our key contribution is an approach for automating information retrieval designing a PDF-Driven Chatbot using LLMs in the context of faculty guidelines question answering. Thus, the academics can easily search for information related to the topic in the pdf document by simply asking the chatbot. The paper is organized as follows. Section I has described the problem and explaining about chatbot based on Generative AI using Large Language Models. Section II describes some corresponding research on Generative AI, document chatbots also framework that involved. Section III explains the proposed method. The implementation and experimental results are presented in Section IV. Finally, in Section V we conclude the research.

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