

1. Problem Definition:

The problem to be addressed is the difficulty many users face in efficiently and effectively managing and extracting information from PDF documents. PDF files are commonly used for sharing information, but they can be cumbersome to navigate, search, and understand, especially when dealing with large volumes of data. Existing PDF readers often lack features that assist users in extracting relevant content or summarizing information. Thus, the need arises for an intelligent chatbot-based PDF reader web application that simplifies PDF usage and enhances user experience. The problem to be addressed centers around the inefficiencies and challenges users face when dealing with PDF documents. PDFs are a standard format for sharing textual and graphical information, but they often present difficulties in navigation, content extraction, and searching, especially in lengthy or complex documents. Existing PDF readers do not sufficiently assist users in efficiently locating and extracting specific information. This poses a problem for users who require a streamlined and intuitive tool to enhance their PDF interaction experience.

The problem to be addressed is multifaceted and crucial for numerous individuals and businesses that regularly deal with documents in Portable Document Format (PDF). PDFs have become a ubiquitous means of sharing and storing information due to their consistent formatting across various platforms. However, this standardized format poses challenges when it comes to efficiently navigating, extracting data, and making content searchable. Users often find it cumbersome to locate specific information, especially in lengthy and intricate PDFs.

Modern PDF readers, although widely used, often lack intuitive features that could significantly enhance user experience. Tasks such as content extraction, summarization, and contextual understanding remain arduous within the typical PDF reader interface. Moreover, the absence of conversational interaction or intelligence hampers the potential for efficient and interactive use of these documents. These challenges underline the need for an innovative solution to enhance the utility of PDFs and revolutionize the way users interact with them.