- **Project Focus:** The core objective is to develop "PocketDoc," a lightweight and cost-efficient tool for text summarization and quiz generation. This tool is designed to run efficiently on standard CPUs by employing model quantization techniques, including Pruning, Trained Quantization and Huffman Coding, reducing the memory footprint and computational demands.
- **Key Features:** The system will offer features such as generating concise summaries from extensive textual content, supporting query-based summarization to tailor summaries to user needs, and creating quizzes to assess user understanding of the key concepts. The quizzes are restricted to basic formats like multiple -choice and true/false questions.
- **Accessibility and Cost-Efficiency:** A significant gap in existing text summarization tools is their reliance on resource-intensive models, requiring high-end hardware, cloud infrastructures, or expensive subscriptions. "PocketDoc" addresses this by providing an affordable and accessible solution without sacrificing performance, making it suitable for both students and educators.
- **Limitations and Scope:** The text summarization quality may be limited with highly specialized content, and the system may not be able to cover all genres. The tool will primarily handle English-language content, and extremely large or multi-volume documents may require further improvements. The tool aims to extract relevant information from academic papers, books, articles, and other types of text.
- **Success Criteria:** Success will be measured by achieving a significant reduction in model size and inference time while maintaining acceptable levels of summarization quality and accuracy on standard CPUs with minimal memory usage. Key to success is a simple, intuitive user interface.