

A React Native App for Fiduciaries and their clients

Graduate



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Introduction: In Switzerland, tax filing is often perceived as a cumbersome process, which leads many individuals to delegate this responsibility to fiduciaries. However, this delegation introduces its own inefficiencies, particularly in the form of unstructured communication and incomplete documentation, which impair the ability of fiduciaries to work efficiently.

Approach / Technology: This thesis presents the development of Finteam, a Minimum Viable Product (MVP) designed to streamline document exchange and communication between clients and fiduciaries. Starting from a basic prototype, the project improved the architecture, added core features, and developed a scalable backend to support future growth. The system consists of three main components: first, a mobile app (built with React Native and Expo) for clients to upload tax documents and interact with an AI assistant. Second, a web app (React + TypeScript) for fiduciaries to manage client submissions and provide feedback. Third, a modular backend (Express.js + TypeScript) that handles authentication, data storage, and an RAG-based tax assistant.

Conclusion: During this thesis, the team successfully developed an MVP for the Finteam application. The system replaces unstructured communication with a digital workflow that reduces administrative overhead on both sides. The mobile application enables clients to upload tax documents, while the web platform provides fiduciaries the ability to review submissions and send feedback to the client. This approach eliminates the typical back-and-forth email exchanges that currently affect fiduciaries.

As a secondary but notable feature, the system incorporates an AI-powered tax assistant built on Retrieval-Augmented Generation (RAG) technology integrated into the mobile app. It combines vector- and keyword-based search with reranking and query rewriting techniques to improve response quality. An empirical evaluation of various configurations showed that reranking significantly enhanced the accuracy of responses. While this came with a latency trade-off of approximately 38% compared to vector-only retrieval, which served as a baseline. With this tradeoff, the overall user experience benefited from more relevant answers. Key evaluation criteria included helpfulness, correctness, clarity, and fluency.

Key limitations include the absence of a scalable fiduciary onboarding flow and restricted iOS deployment due to the lack of access to Apple's Developer Program. Future work should focus on automating onboarding, enabling administrative oversight, integrating document parsing to prefill tax forms, and at-rest encryption of user documents to enhance security.

Advisor

Prof. Dr. Marco Lehmann

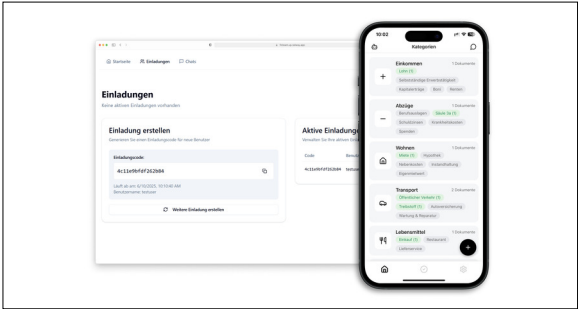
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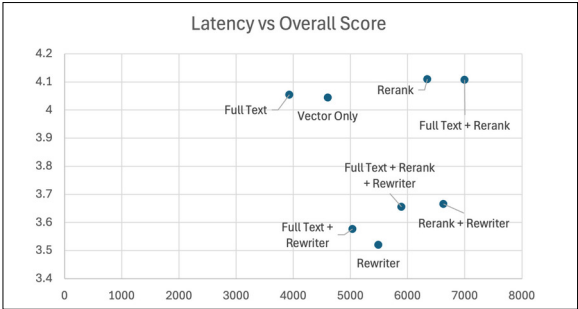
Subject Area

Software Engineering

Web and mobile application
Own presentation



RAG evaluation with score (y) to latency (x)
Own presentation



Final mobile application
Own presentation

