

LIFE LENS

-Your Real Time AI Buddy

Sees,hears and understands everything around you

TEAM : CODE RED

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PROJECT OVERVIEW

- Purpose: “To develop an AI-powered assistant that enables speech-to-text, file summarization, and smart reminders for students and professionals.”
- Features:
 - Speech transcription
 - File upload with summary extraction
 - Automated reminder extraction & management
- Motivation: “Reduce cognitive overload by managing notes, deadlines, and content effortlessly.”

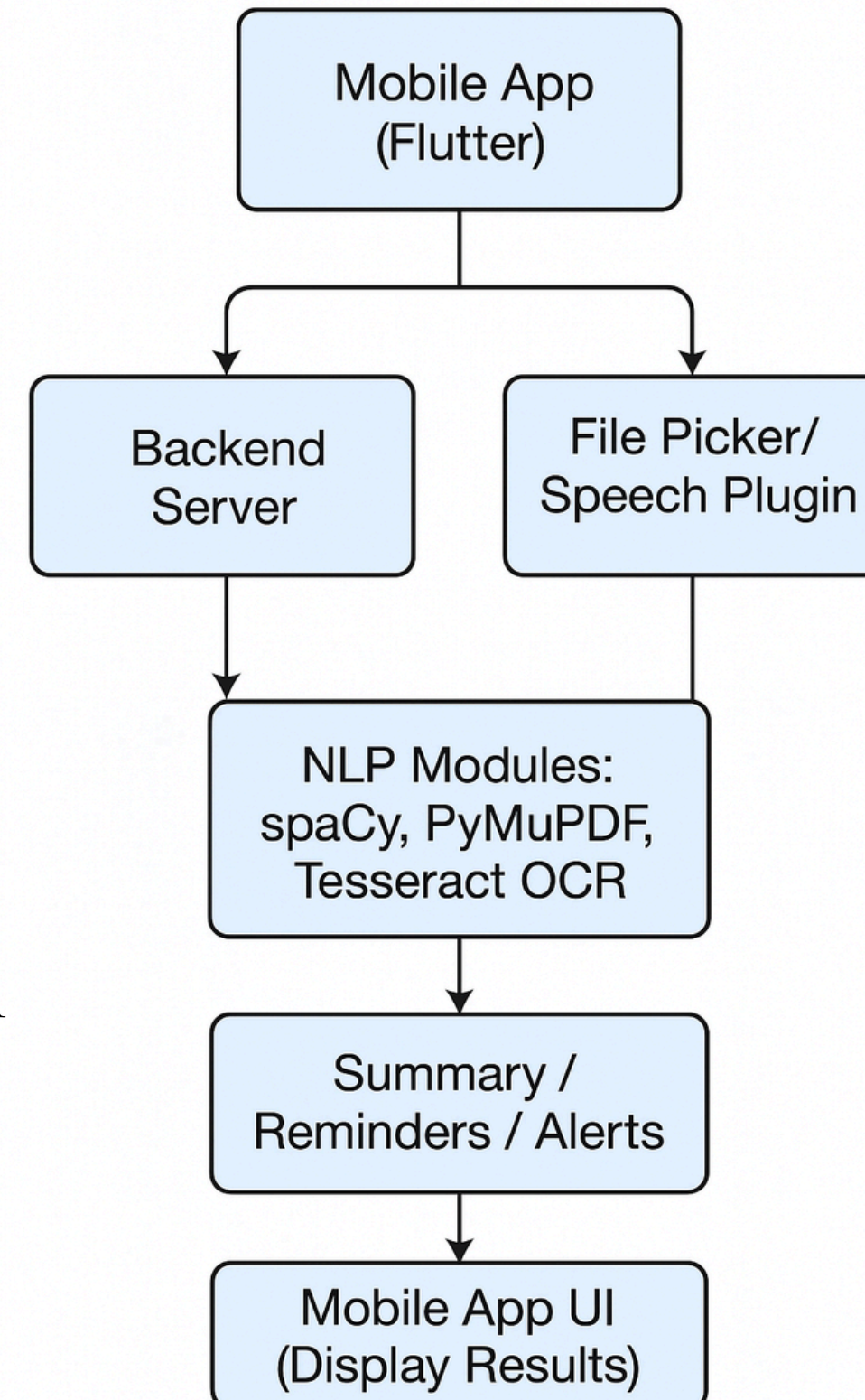
ARCHITECTURE

Backend: Python (FastAPI, spaCy, Tesseract OCR, PyMuPDF)

Frontend: Flutter (speech_to_text, file_picker)

Workflow:

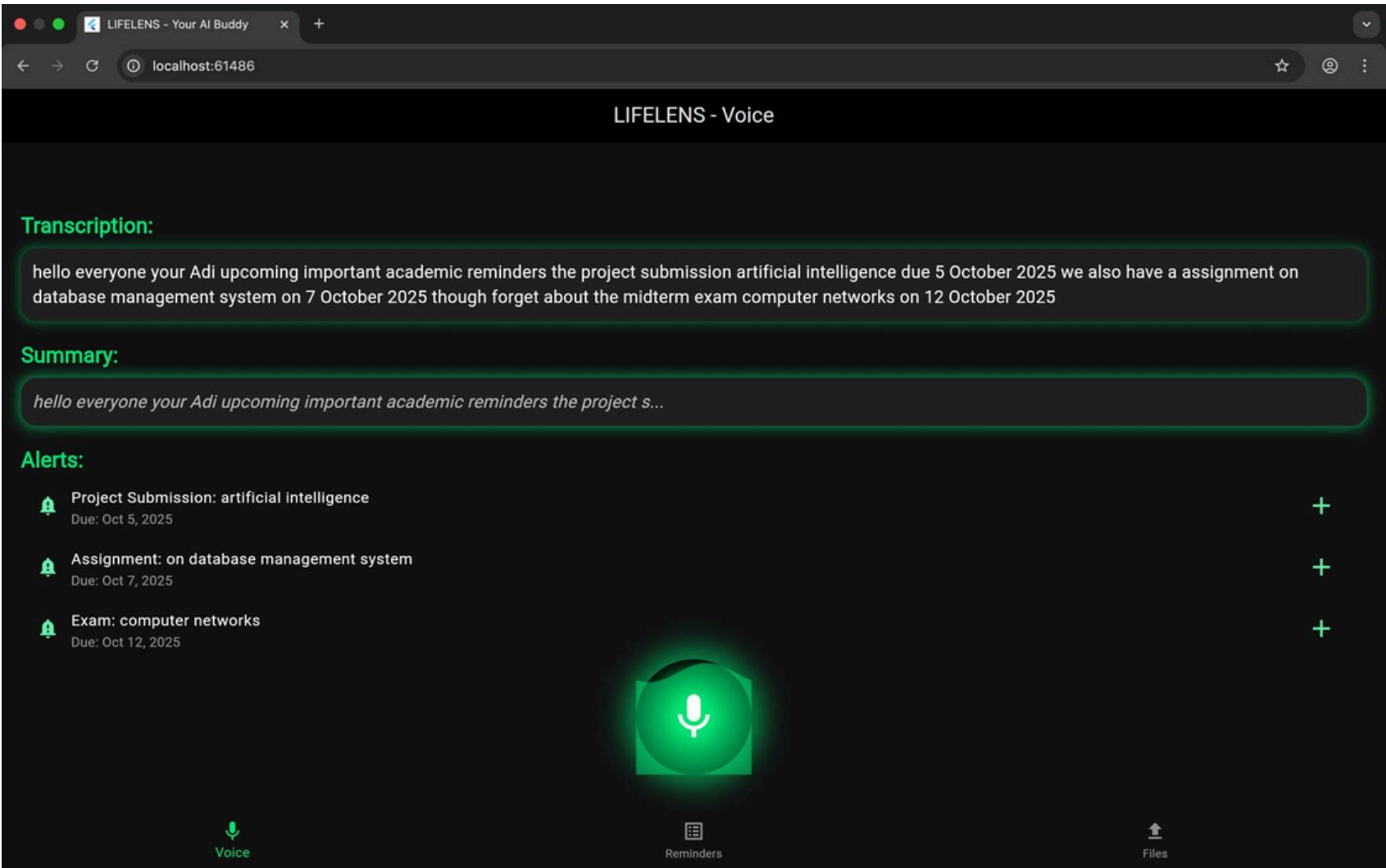
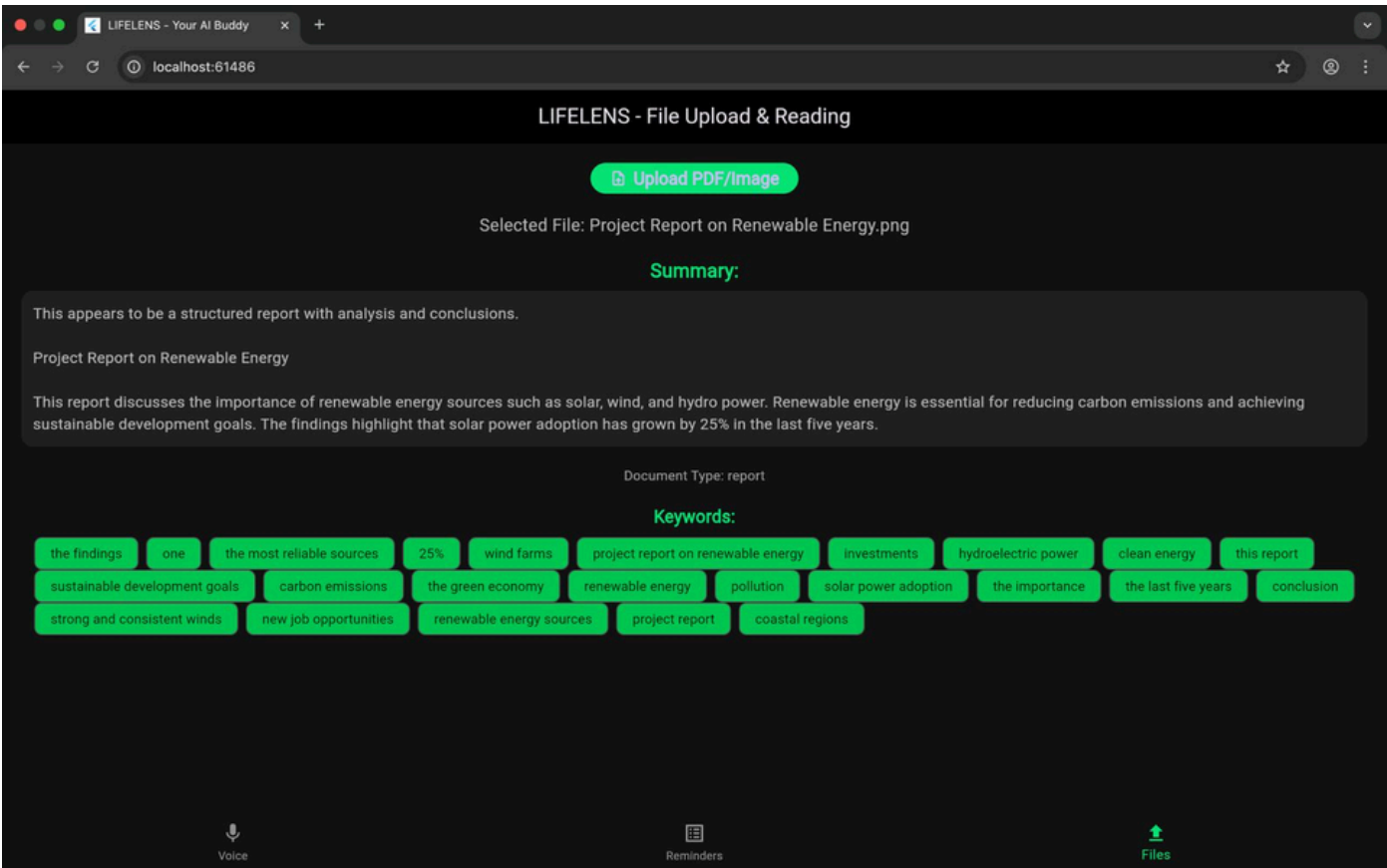
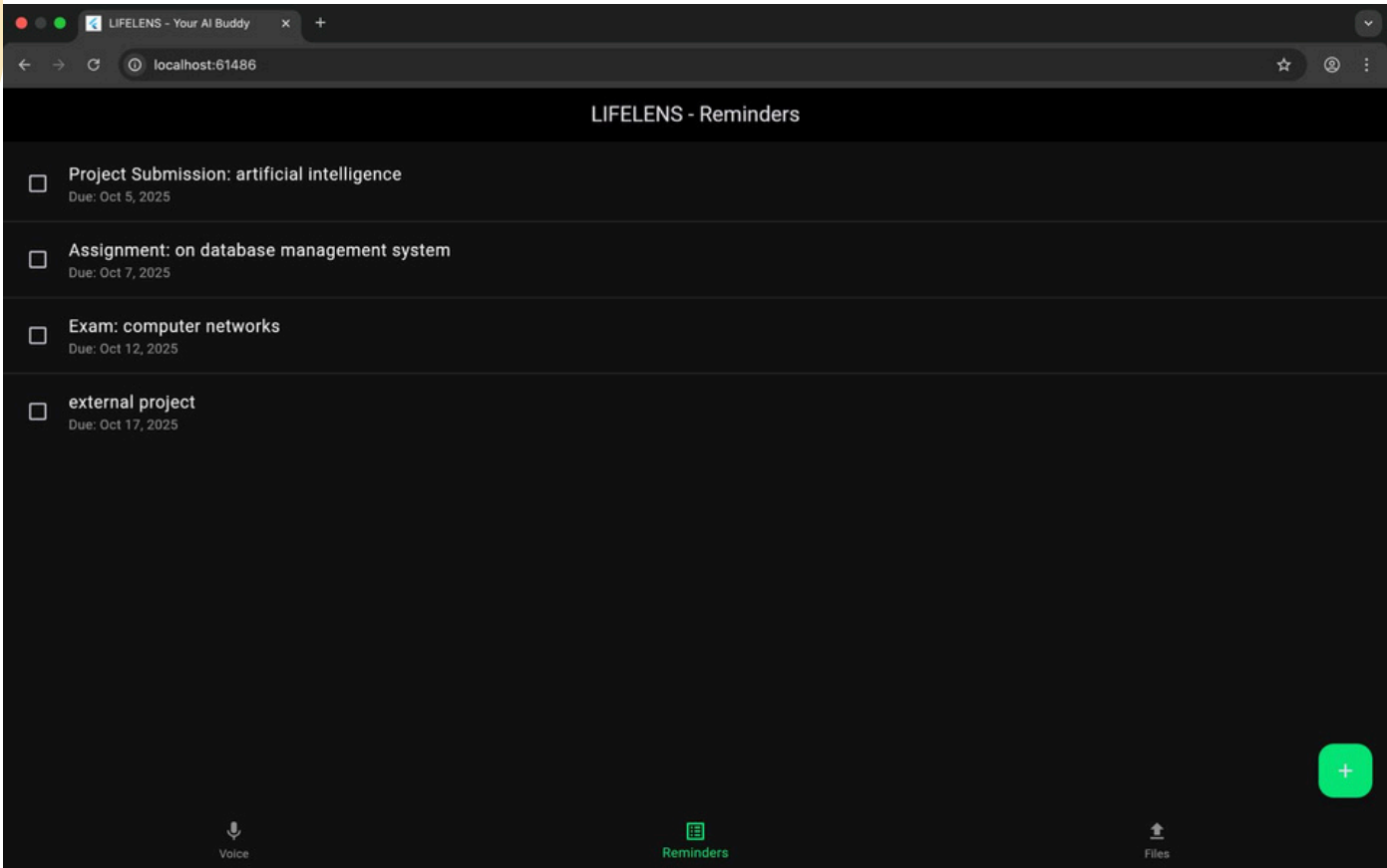
User inputs speech/file → Backend processes → Results (summary, reminders, alerts) shown on UI



IMPLEMENTATION DETAILS

- Tech Stack:
 - Backend: Python (FastAPI, spaCy, pytesseract, PyMuPDF)
 - Frontend: Flutter (Dart, speech_to_text, provider, file_picker)
- Modules:
 - Speech recognition
 - File text extraction and summarization
 - Reminder extraction
- APIs: /upload_file for processing files
- UI: Multi-tabbed navigation: Voice, Reminders, Files

RESULTS AND ANALYSIS



CLAIMS AND CONTRIBUTIONS

- Claims:
 - “Provides seamless offline speech-to-text and file summarization without OpenAI/cloud APIs”
 - “Extracts actionable reminders from unstructured speech”
 - “User-friendly, intuitive UI”
- Novelty:
 - Local AI summarization
 - Real-time reminder extraction

CHALLENGES & LIMITATIONS

- Initial integration issues with spaCy, Tesseract OCR
- Accent and background noise affecting speech accuracy
- Mobile file picking (privacy/sandboxing issues)
- Current model limitations: only English, simple date extraction

FUTURE WORK

- Multi-language support
- Cloud data sync
- Integrate more AI models (e.g., advanced summarization, intent detection)
- Reminder notifications



THANK YOU