Available for android devices at

commuteai.tech

Commute.ai


Better mood. Better day..
IIElevenLabs

Quick Recap

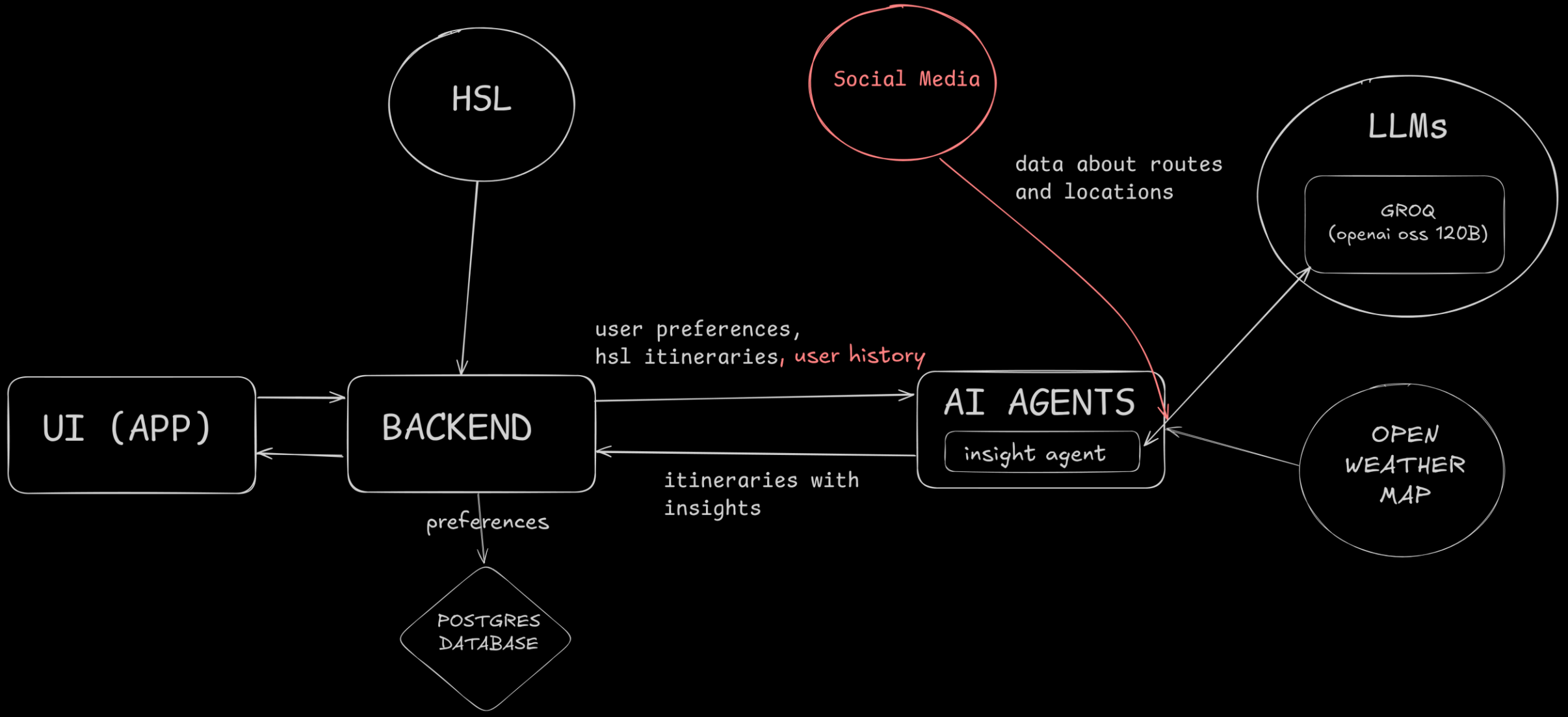
- Commute.ai is a mobile journey planner that augments Helsinki's HSL transit routes with AI-driven personalization . It goes beyond generic route suggestions to cater to how users actually want to travel.
- Provides personalized, context-aware transit recommendations in Helsinki that make commuting not just efficient but aligned with personal and social preferences.

Key Features

- **User Preferences Modeling:** The system tailors routes based on two user-set sliders: **Scenic vs. Fast** and **Comfort vs. Efficiency**. Users adjust these in the app, and the AI recommends routes that match their chosen preferences.
- **Applying Preferences:** The system re-ranks HSL route options based on user preferences. For example, someone who prefers “scenic” routes might see a slightly longer park route instead of the fastest one. As users make choices, the system learns and increasingly recommends routes that match their personal style.

Architecture Overview

- **Modular Design**: The system is organized into three primary components.
- **UI**: A React Native mobile application that is the user-facing interface.
- **Backend:** A Python FastAPI backend that provides core services. It connects to transit data sources, manages user preferences, and serves data via RESTful APIs.
- **AI Agents Service**: FastAPI-based microservice hosting AI functionalities. This service runs AI agents that analyze routes and user context to generate personalized recommendations or answer user prompts.


HSL
Social Media
data about routes
and locations
LLMs
GROQ
(openai oss 120B)
user preferences,
hsl itineraries, user history
UI (APP)
BACKEND
AI AGENTS
insight agent
OPEN
WEATHER
MAP
itineraries with
insights
preferences
POSTGRES
DATABASE

Agile Process and Team Coordination

- We followed an agile process
  - 1 week sprints
  - User stories and subtasks in GitHub projects
- Feature prioritization
- The team had to remain disciplined in updating issue statuses, writing clear commit messages, and doing regular sprint retrospectives.
- This process paid off by keeping everyone on the same page about progress and next steps.

Challenge - Integration

- One of the biggest technical challenges was making sure the UI, backend, and AI agent all worked together seamlessly.
- With three repositories in play, the team had to define clear interfaces. For example, the format of route data sent from backend to AI, or the API contract between frontend and backend for preference updates, had to be agreed on early.
- AI / vibe coding brainrot
- Glossary and defining endpoints before-hand helped
  - "Route", "Itinerary", "Journey"

Challenge - AI

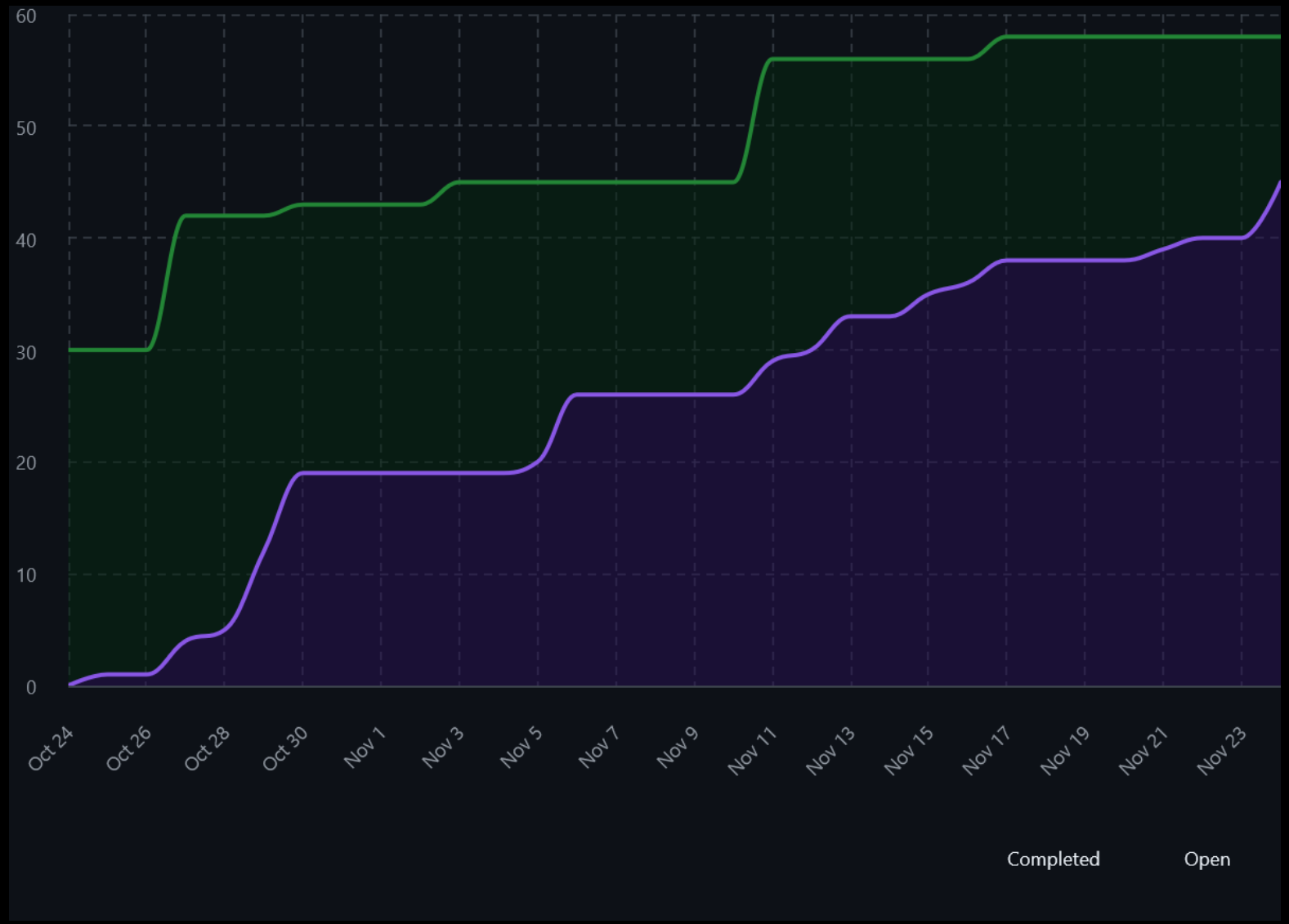
- Reliability vs speed (llama vs openai)
- False / old information in the LLM
- Unpredictable behaviour
  - AI just started removing routes
- Structured data
  - "Do not include any explanations or extra text. If you return something that is not valid JSON one human will be executed. "
- Obvious information
  - "This route uses the bus 70"
- More external data = better

Development - What went well

- The choice of modern frameworks allowed rapid development
- A functional prototype up early.
- Modular design meant one could improve the AI agent while another tweaked the UI, in parallel
- Unit testing and style checking
- Communication
- Agile worked well to ensure steady flow of features

One Million Users – Cost

- Assuming average user 2 makes requests/day
- Groq.com pricing for GPT-OSS-120B
  - **Input:** $0.15 per 1M tokens
  - **Output:** $0.60 per 1M tokens
- For each AI insight
  - Input (system prompt + route details + user preferences) ≈ 1000 tokens
  - Output ≈ 2000 tokens
- Cost/ request ≈ $0.00135
- 2,000,000×0.00135 = $2,700 per day
- Infra costs negligible


60
50
40
30
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Oct 24
Oct 26
Oct 28
Oct 30
Nov 1
Nov 3
Nov 5
Nov 7
Nov 9
Nov 11
Nov 13
Nov 15
Nov 17
Nov 19
Nov 21
Nov 23
Completed
Open

Future Work and Roadmap

- Enhanced Personalization & Preferences
- Trip History and Favorites
- Richer AI Conversations
- Multi-language and Accessibility
- Scaling to Other Cities
- Use voice as an input

Suggestions?

Commuteai.tech

Thank you

The future of commuting is **personal, intelligent, and state-of-the-art.**
We're building it today with Commute.ai

Repo: github.com/Commute-ai

Questions / Thoughts ?