



# TravelTracker V2

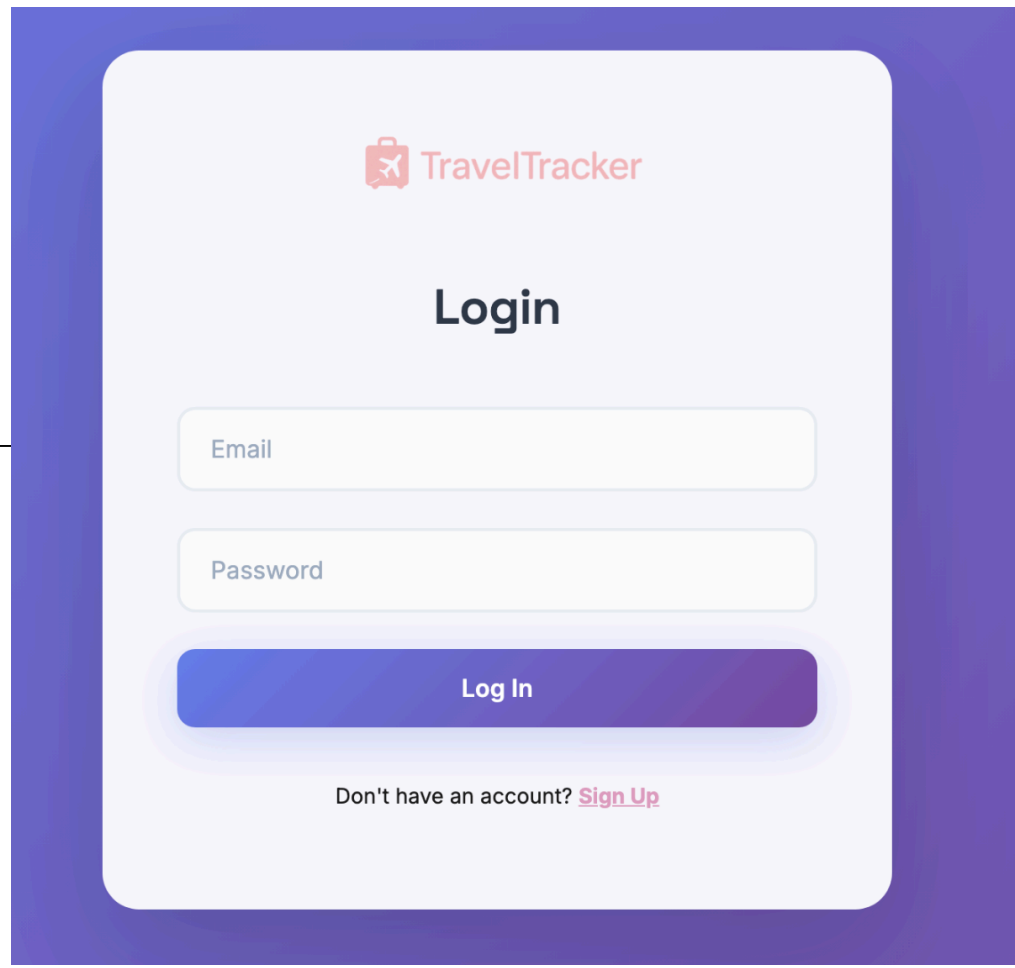
Olivia Tarsillo, Michael Hood, Wilfred Naraga, Nur Yavuz



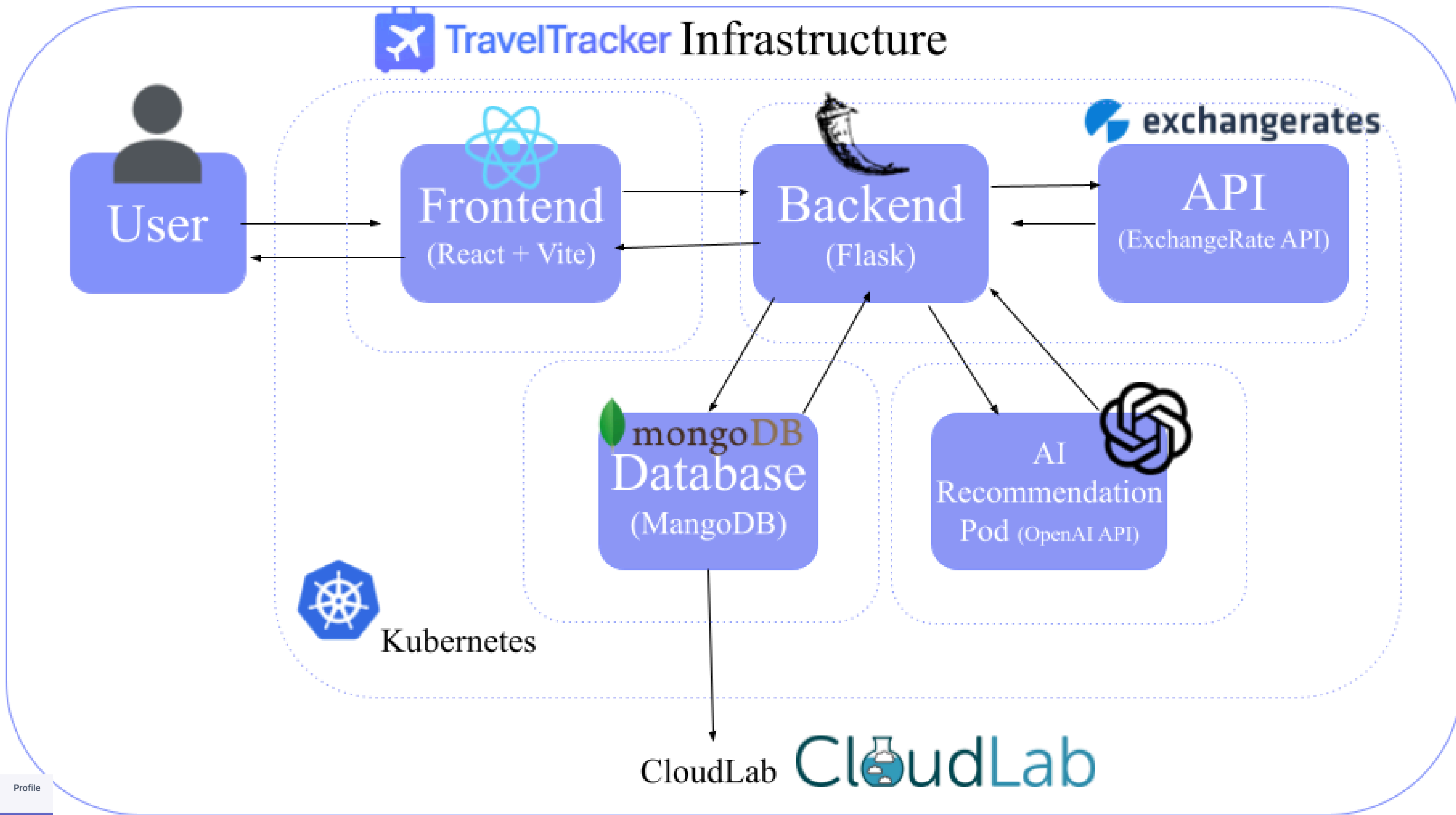
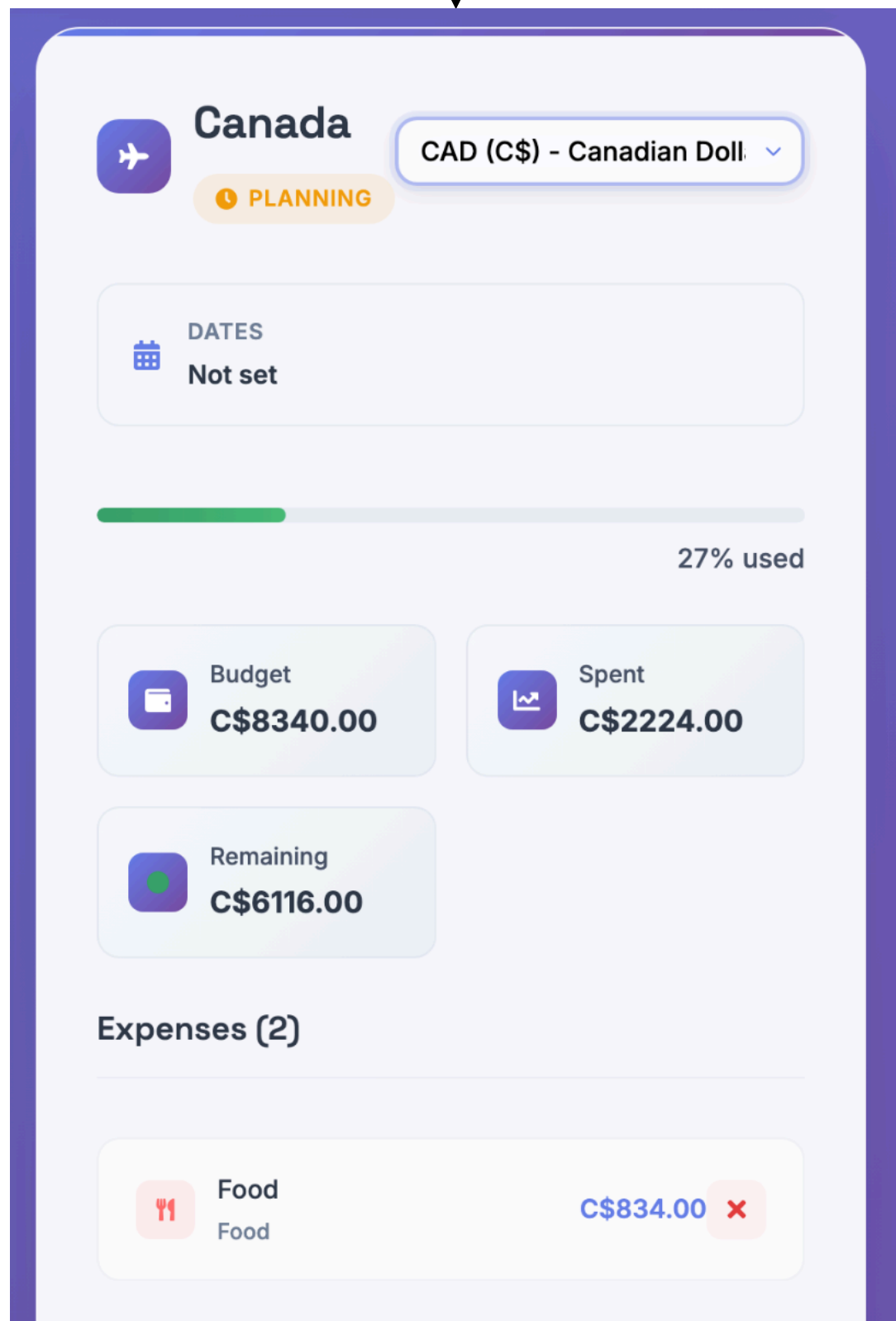
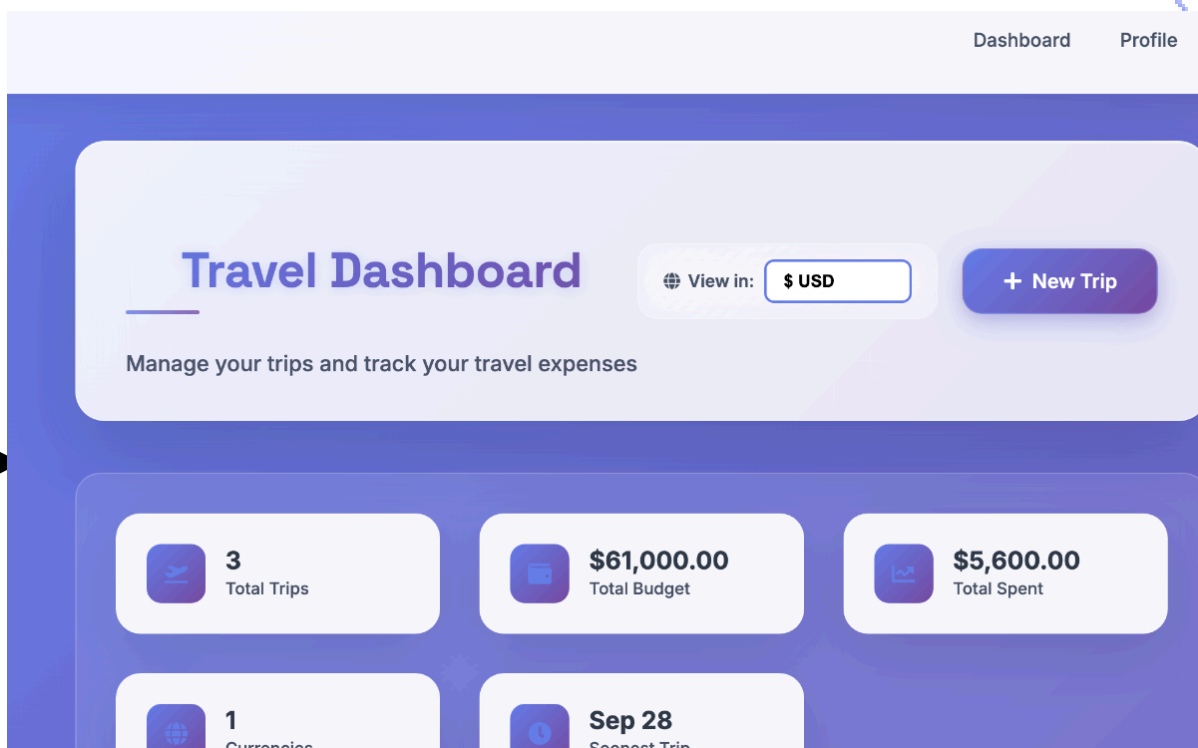
Project  
on GitHub

**Travel Tracker** is a cloud-native web app that streamlines trip planning by combining budgeting, itineraries, and expense tracking. Unlike Version 1, this release runs on **Kubernetes** for scalability and real-world deployment. It adds **real-time currency conversion** and an **AI-powered recommendation service** for personalized travel suggestions. These upgrades make Travel Tracker smarter, faster, and ready for production use.

## Interface

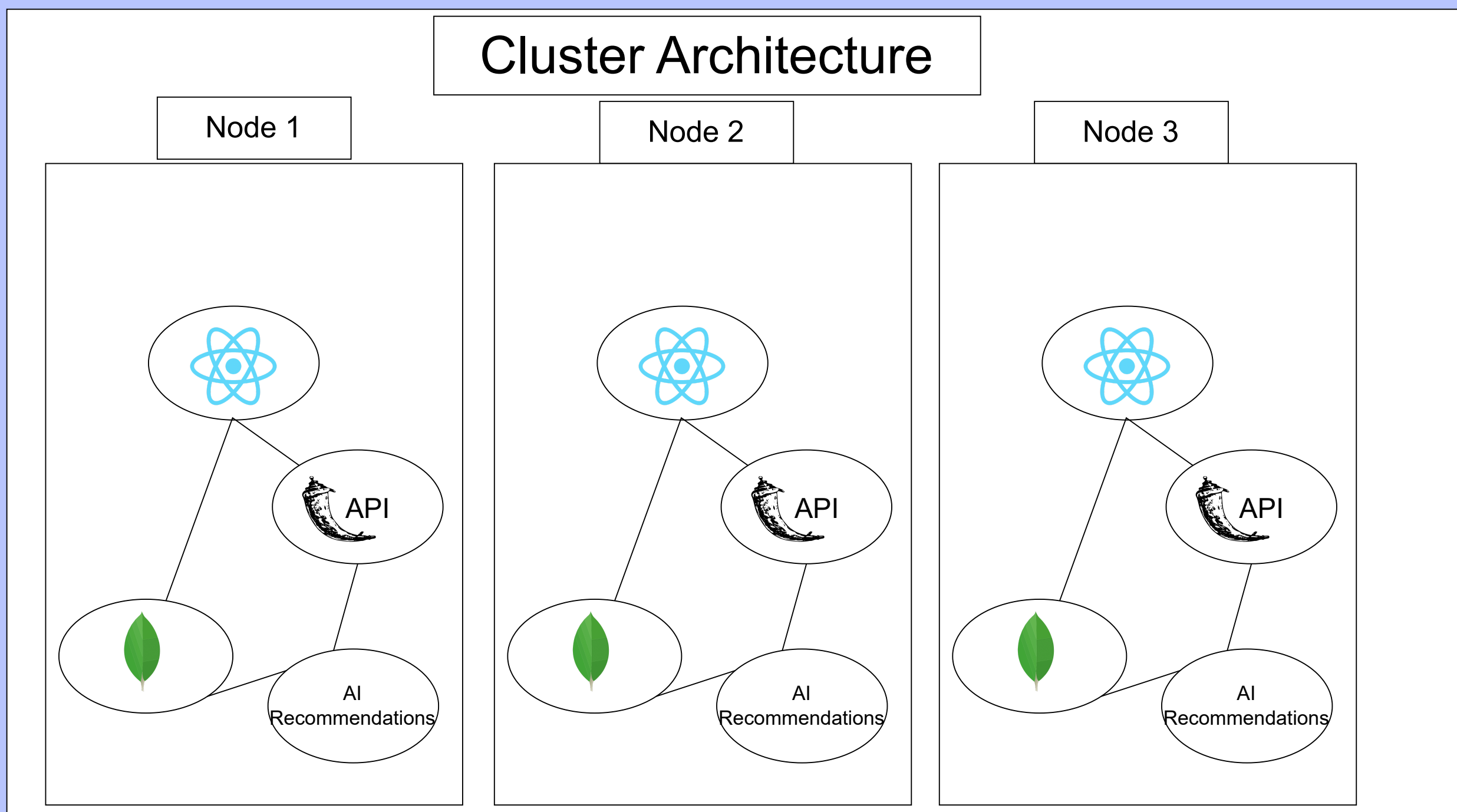


Users can sign up or login. Authentication is handled using JWT (JSON Web Tokens). User account information is stored in the users collection of the database.



## Container Orchestration

In Travel Tracker V2, containers are no longer run manually through Docker Compose. Kubernetes orchestrates them across a cluster of nodes. Each service (frontend, backend, database) runs in pods that can scale automatically and recover from failure.



## Finalize Kubernetes Deployment

- Deploy frontend, backend, and MongoDB on Rancher-managed cluster
- Validate LoadBalancer/NodePort networking and autoscaling behavior

## Integrate AI Recommendation Service

- Connect Flask backend with OpenAI API
- Enable personalized travel suggestions and cost-aware activity matching

## Whats next

### Enhance Currency Conversion

- Expand ExchangeRate API integration for multiple base currencies
- Cache conversion rates and handle API fallback for outages

### Implement Automated Testing

- Create unit and integration test suites for backend and frontend
- Set up CI/CD workflow for continuous validation and deployment

## Monitoring & Observability

- Enable pod metrics and logging via Rancher/K8s Dashboard
- Validate fault tolerance, recovery, and backup snapshots

## Add Advanced Features

- Trip sharing and document uploads
- Visualization dashboards for budget insights

<https://github.com/LivTarsi/Travel-Tracker-V2>