

Jahnreil J. Amarillento

also known as Mafunami

Software Engineer Backend • Platform • AI

From backend services to self-hosted infrastructure and deployment.

 GitHub · mafunamiii

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Who I am as a Software Engineer

I enjoy solving real-world problems by designing software, deploying infrastructure, and automating repetitive workflows.

BACKEND

Designing APIs and backend services

- REST APIs
- Microservices
- Databases

PLATFORM

Deploying and operating Linux-based systems

- Linux
- Docker
- Networking
- VPS & Self-Hosting
- Reverse Proxies

AI ENGINEERING

Applying AI to solve practical business problems

- ReAct agents
- Computer Vision
- OCR
- LLMs

AUTOMATION

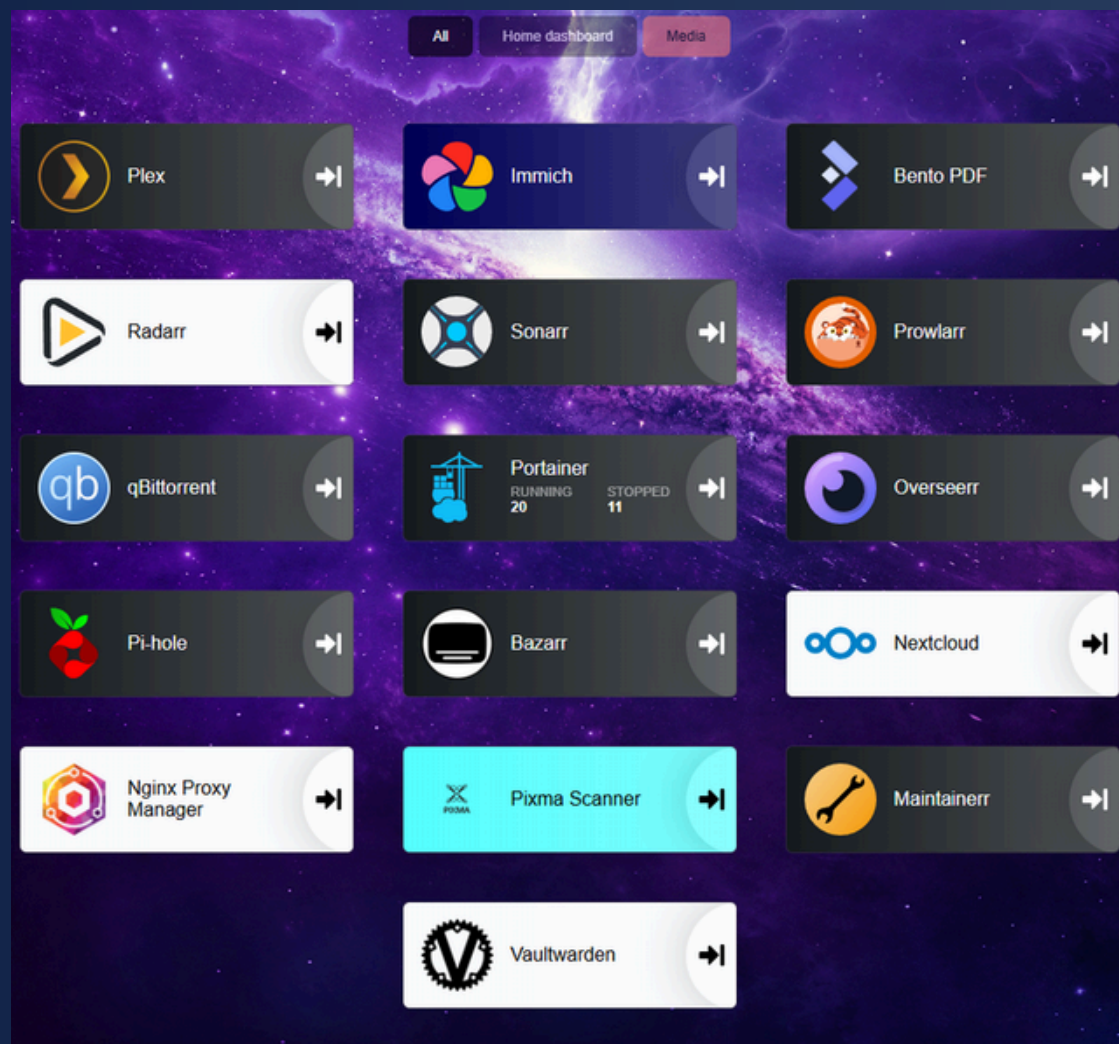
Building internal tools that improve productivity.

- Desktop applications
- Workflow automation
- Internal tools
- Data processing
- Productivity software

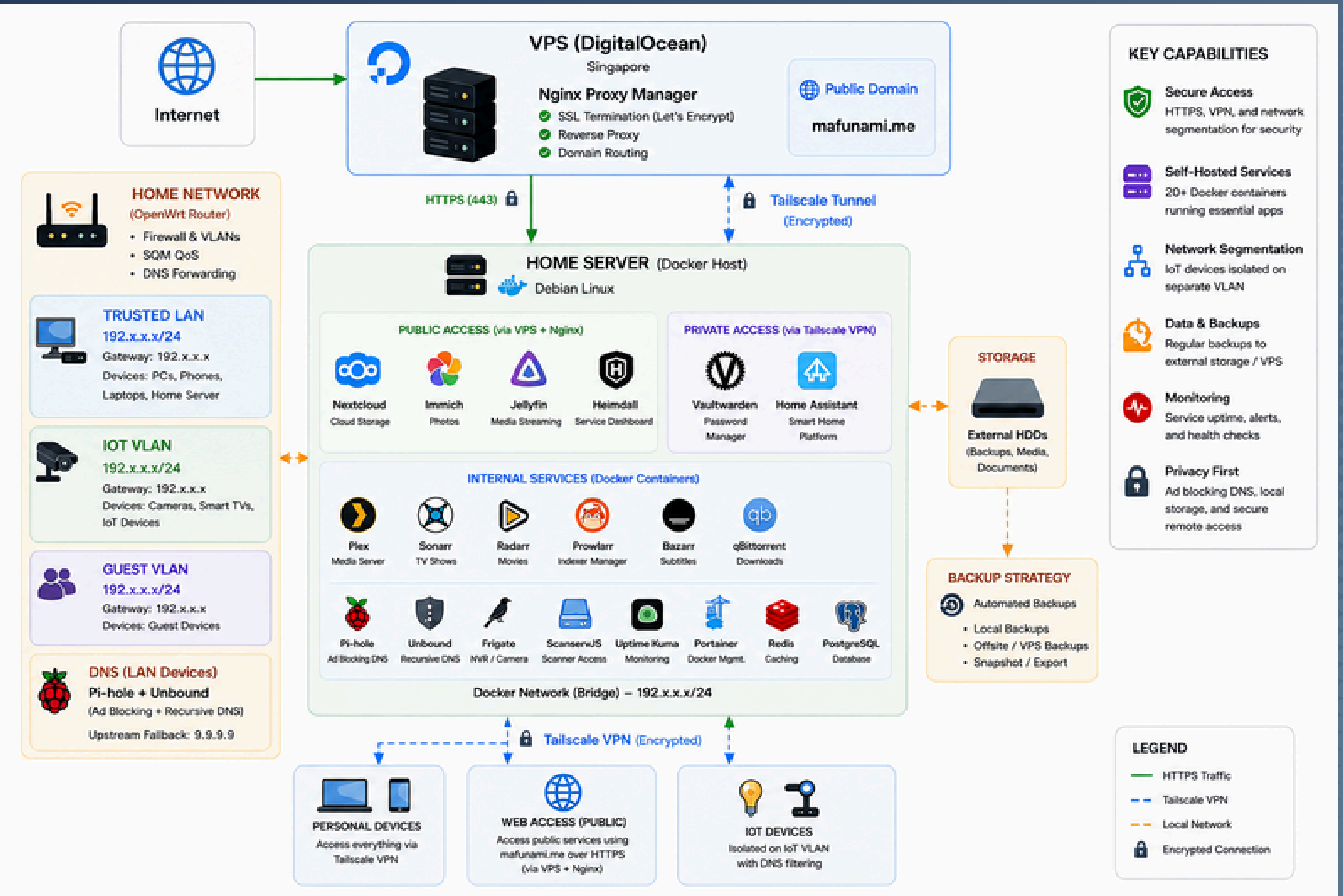
HOMELAB

Self-hosting services and automation

- 20+ Docker Services
- 3 Linux Hosts
- Tailscale VPN
- Nginx Reverse Proxy
- Monitoring and maintenance
- Pi-hole + Unbound DNS filtering



Featured Projects



• VPN • VPS • Self-Host • Reverse Proxy • Linux Navigation and debugging • Containerization •

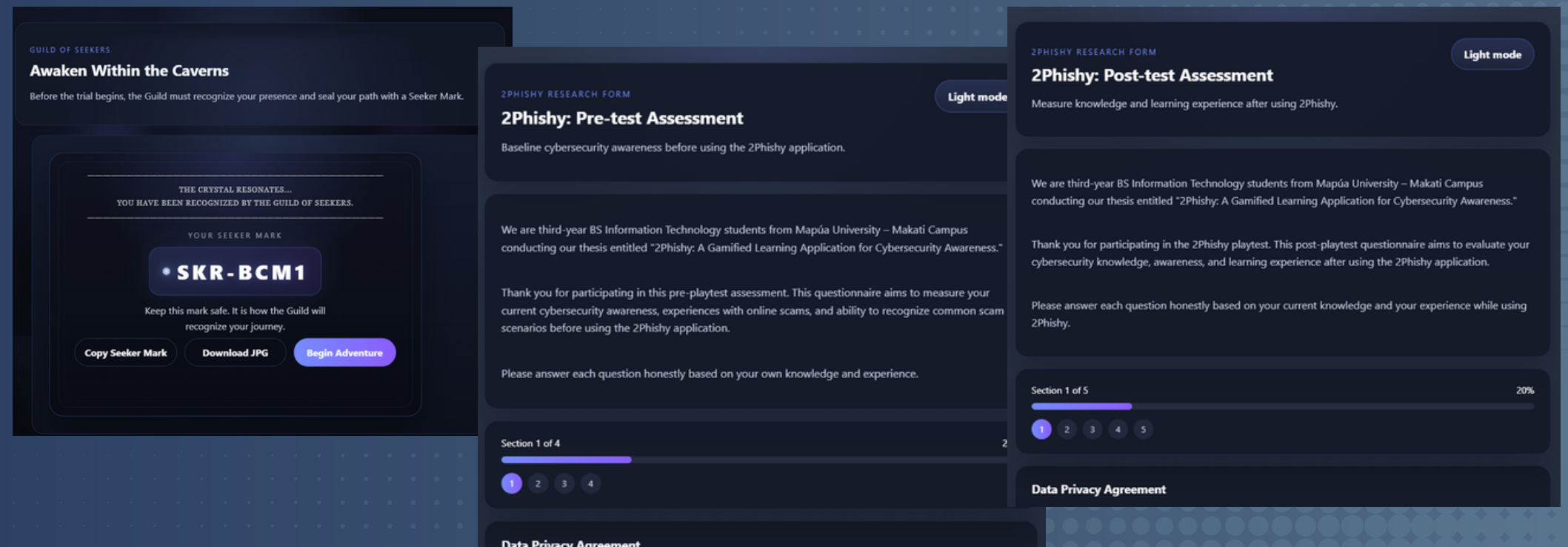
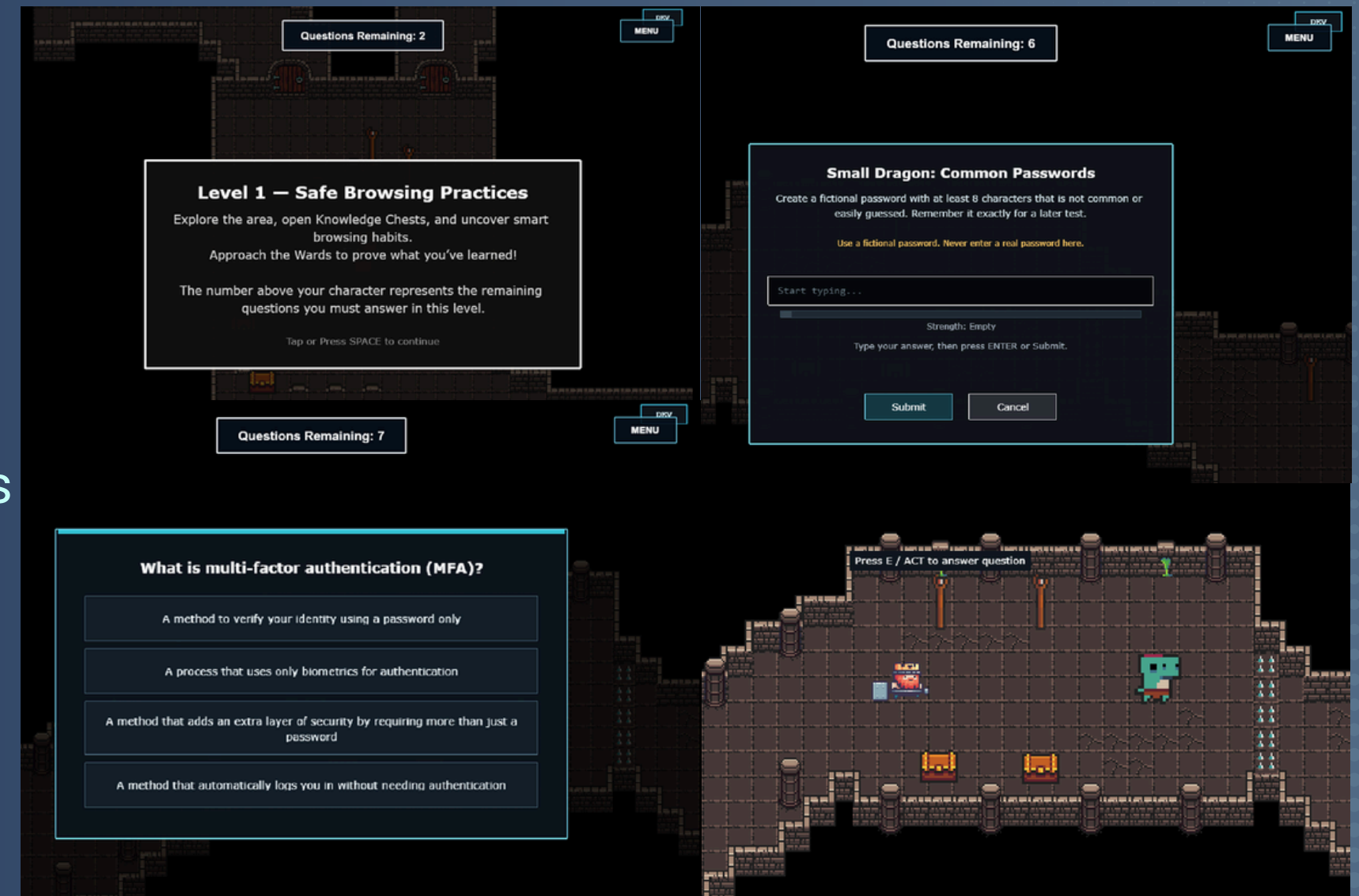
2Phishy

Featured Project - Thesis

[project link](#)

Gamified Cybersecurity Learning Platform

- Adaptive assessment engine that personalizes question sets
- Multi-level Phaser-based gameplay integrated with lessons
- React + FastAPI architecture with PostgreSQL, MongoDB, Redis
- Administrative dashboard for content and user management
- Analytics for learning progress and assessment performance
- Customized pre-test and post-test survey forms



• Typescript • FastAPI • React • PostgreSQL • MongoDB • Redis • PhaserJS • Containerization •

QuantumCash

Backend Microservice e-wallet system

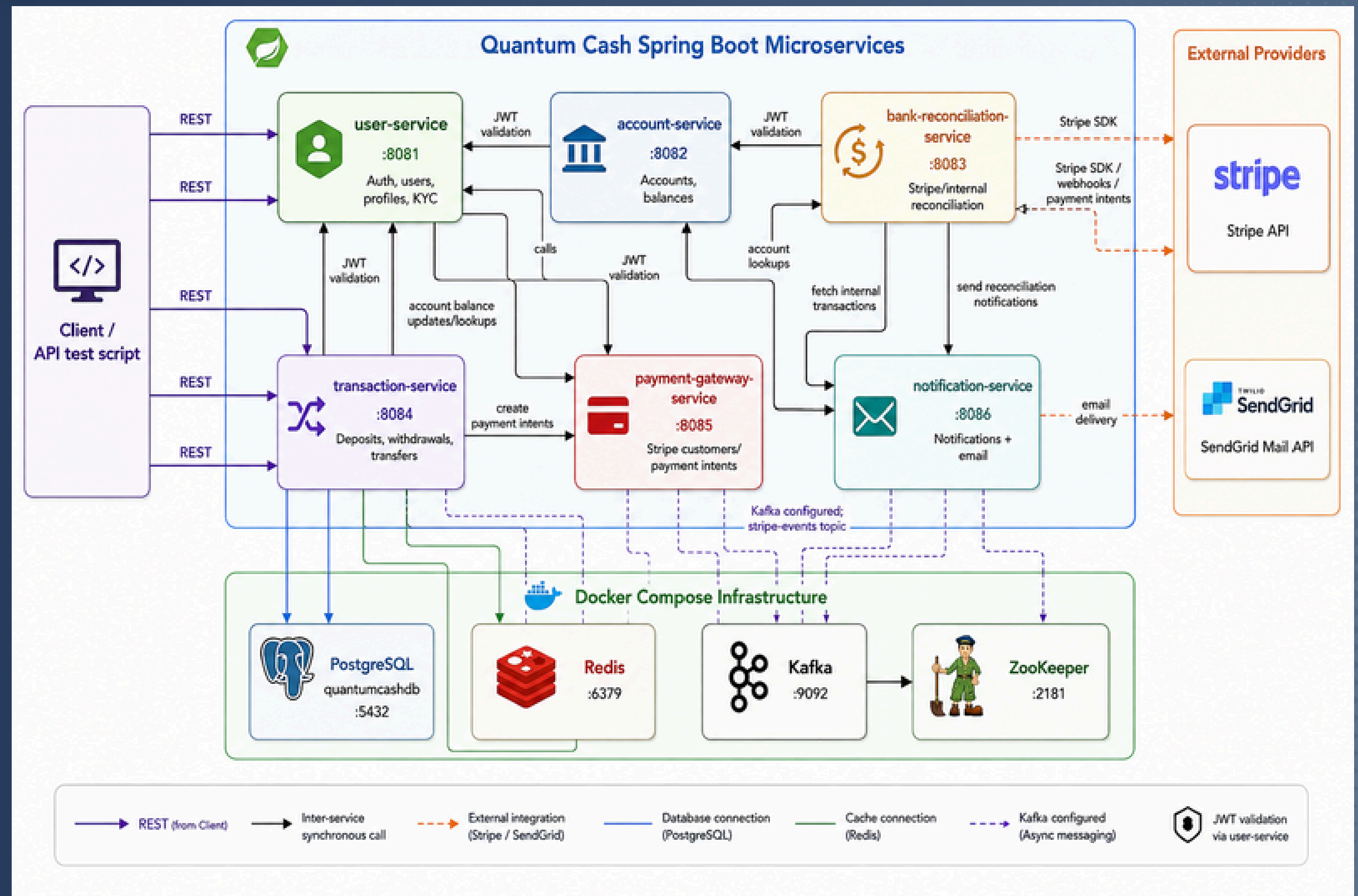
- Bank reconciliation microservice
- Notification and email service
- RESTful API development
- Stripe & SendGrid integration
- Internship Team Project

Zoopwallet

Backend Modernization Project

- JavaScript → TypeScript Migration
- Migrated backend microservices
- Maintained API compatibility
- Internship Individual Project

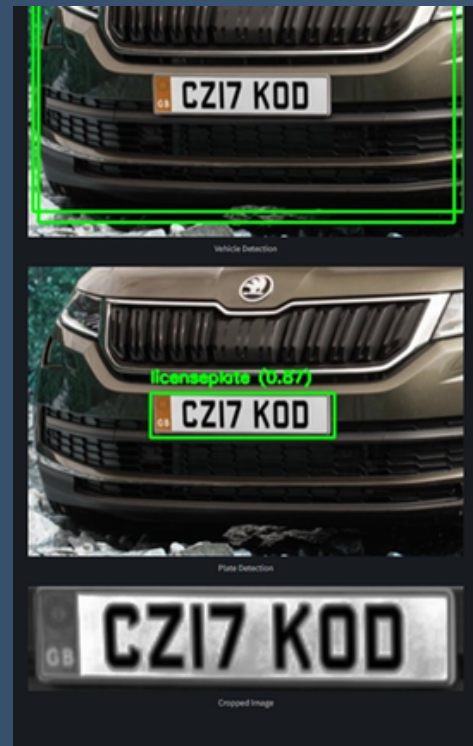
Featured Projects



AI Engineering

CrossPlate

- YOLOv5
- OCR
- Vehicle detection
- License Plate Detection



CrossPlate - Vehicle Detection and License Plate Recognition App

Upload an image to detect vehicles using YOLOv5 model.

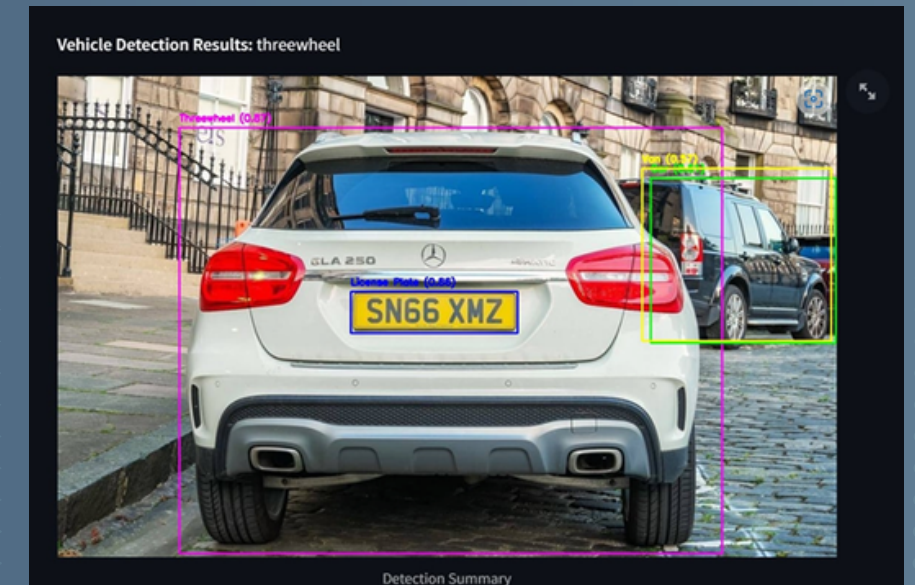
Choose an image...



Drag and drop file here

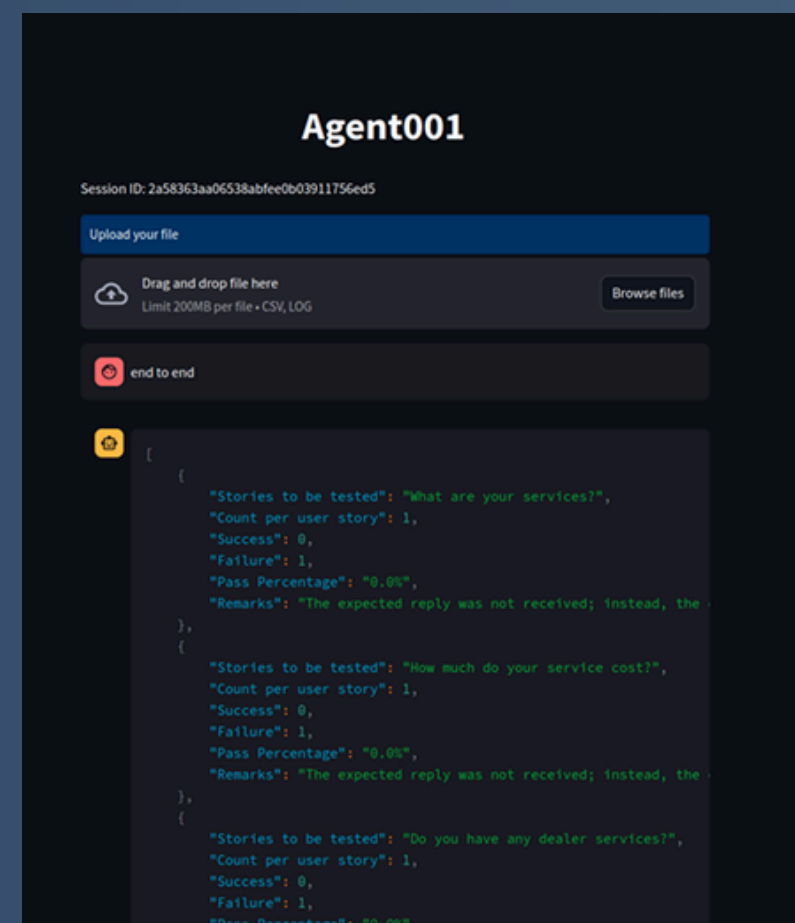
Limit 200MB per file • JPG, JPEG, PNG

Browse files



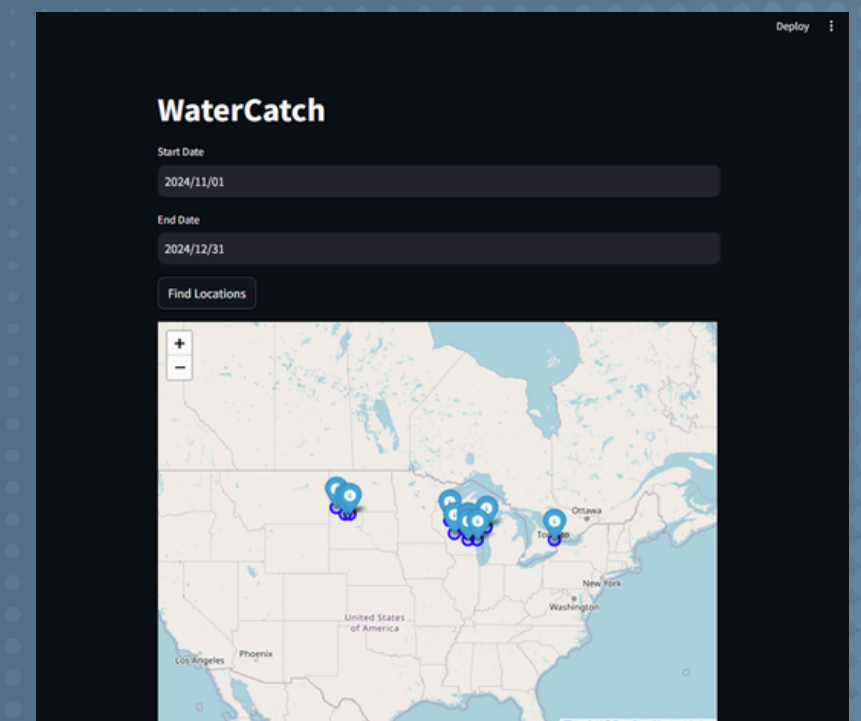
Agent001

- Streamlit web-application
- QA automation
- Selenium Generation



WaterCatch

- Geospatial mapping
- Historical weather data
- Determine high-sale spots

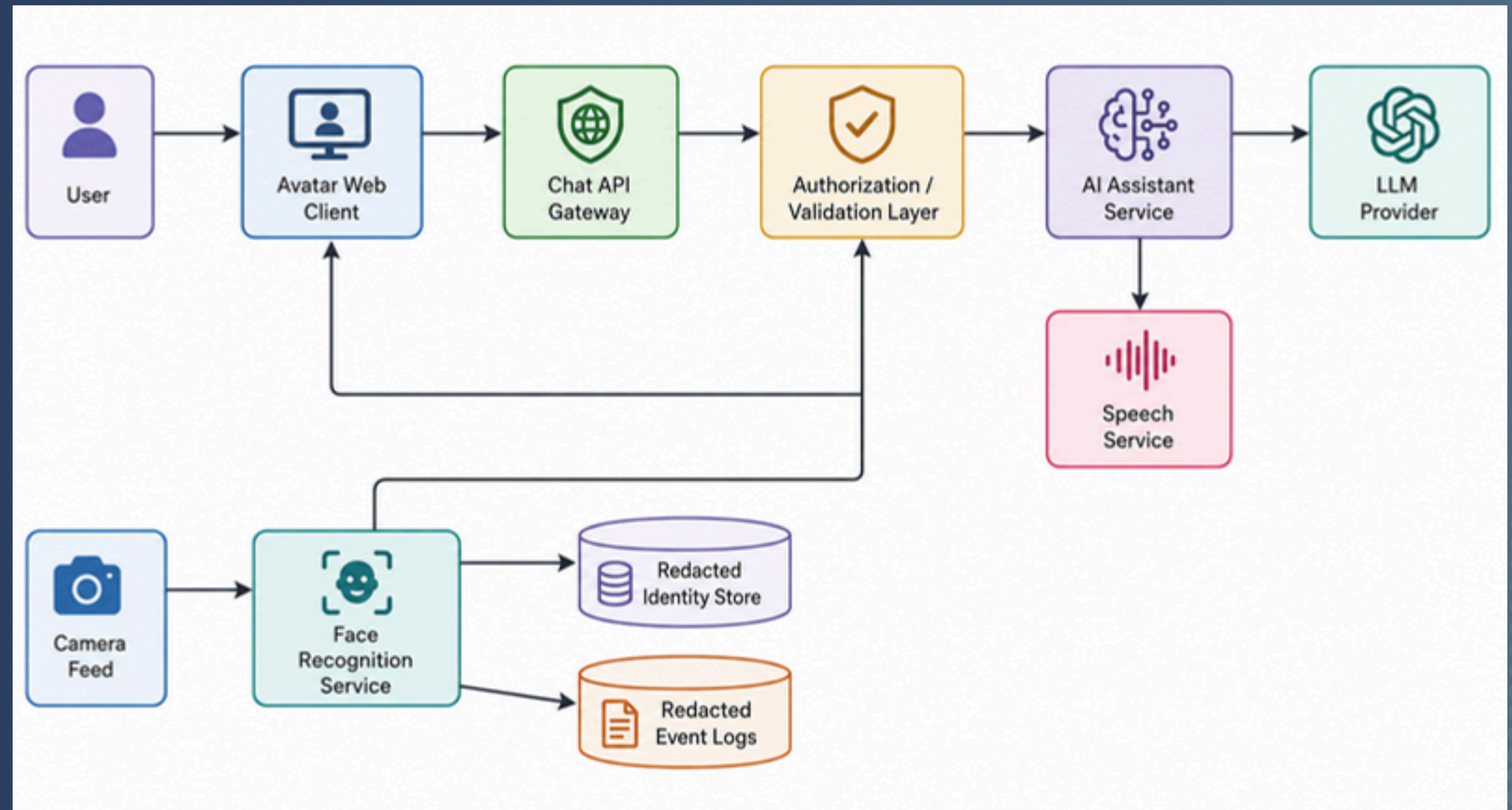


AI Engineering

AI Digital Assistant

Enterprise AI Assistant

- Multimodal avatar, chat, and voice interface
- Facial recognition authentication
- Authorization layer before LLM access
- Retrieval-Augmented Generation (RAG)
- Prompt engineering & response guardrails
- Identity-aware knowledge retrieval
- Automotive client (NDA)
- Internship Project

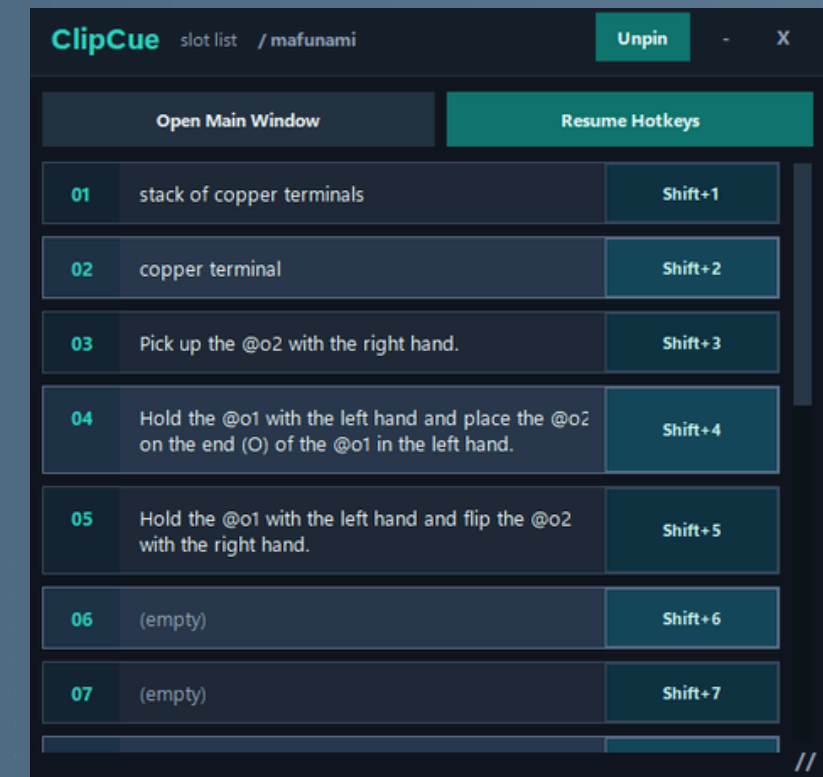
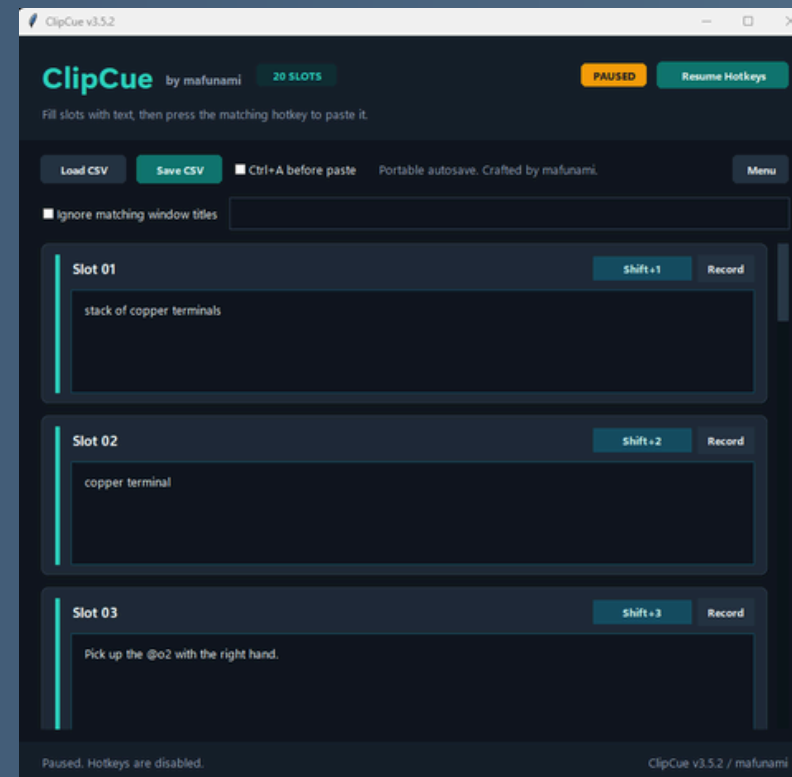


Automation

ClipCue

Desktop Workflow Automation Tool

- Global hotkey automation
- Multi-step clipboard workflows
- Productivity-focused desktop application
- CSV import/export & portable profiles
- Designed to reduce repetitive manual tasks

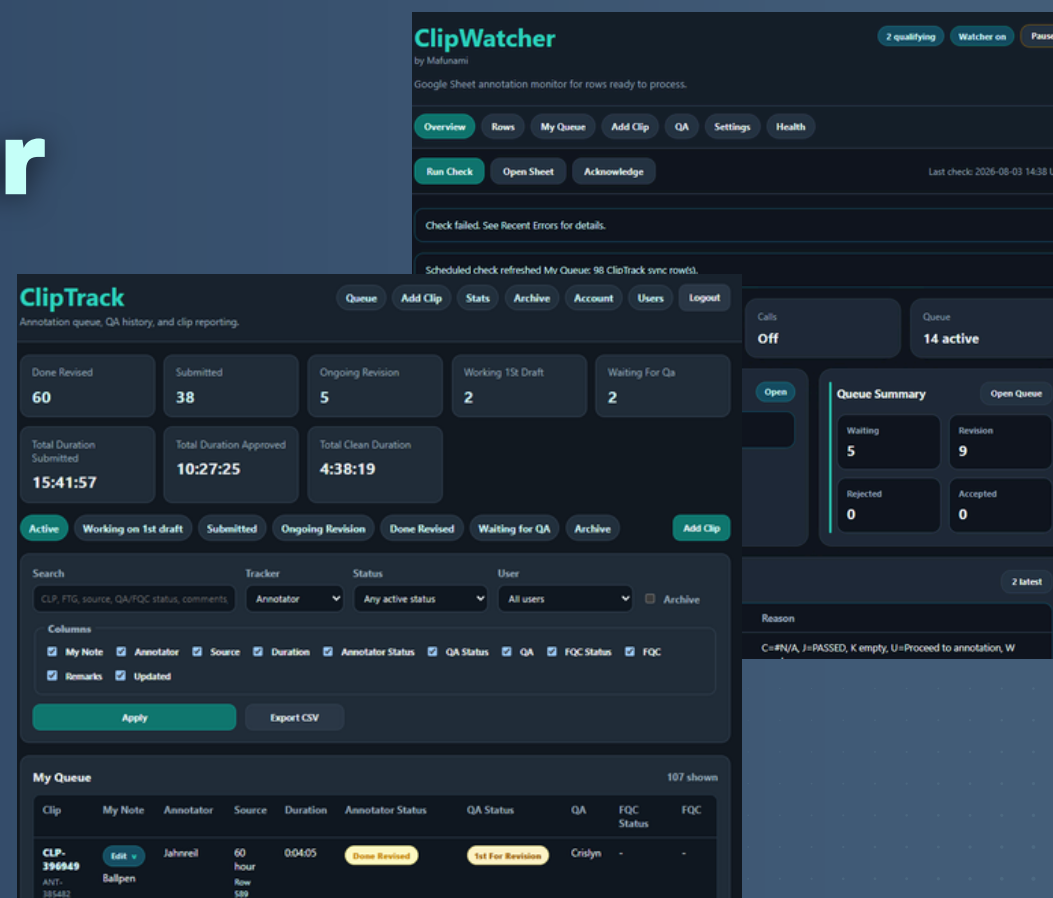


ClipWatcher

- Automated monitoring system that tracks available annotation tasks and sends Telegram and phone notifications.

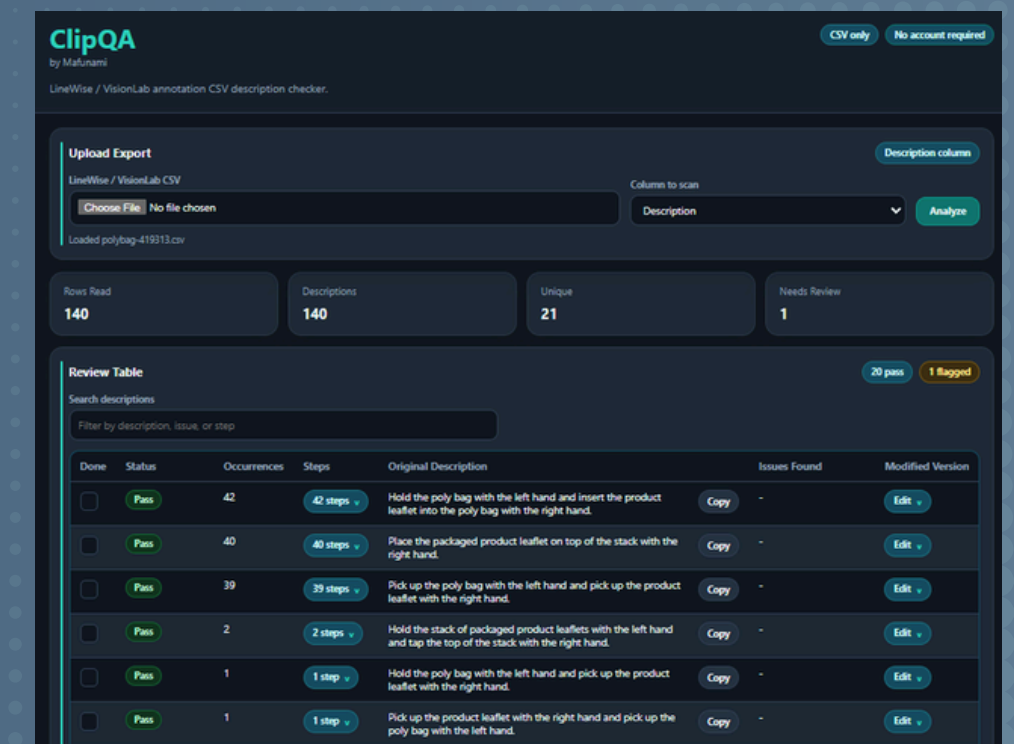
ClipTrack

- Public dashboard providing summaries and analytics from ClipWatch monitoring.



ClipQA

- CSV quality assurance tool for validating annotations, detecting inconsistencies, and improving dataset quality.



Knowledge Management

Supling's Repository [project link](#)

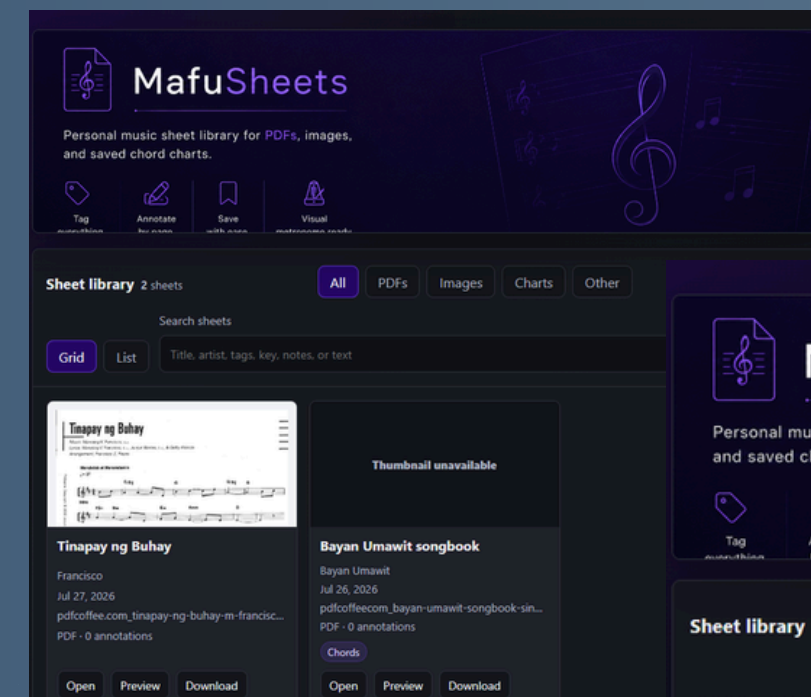
- Centralized document repository with searchable resources and secure team sharing.



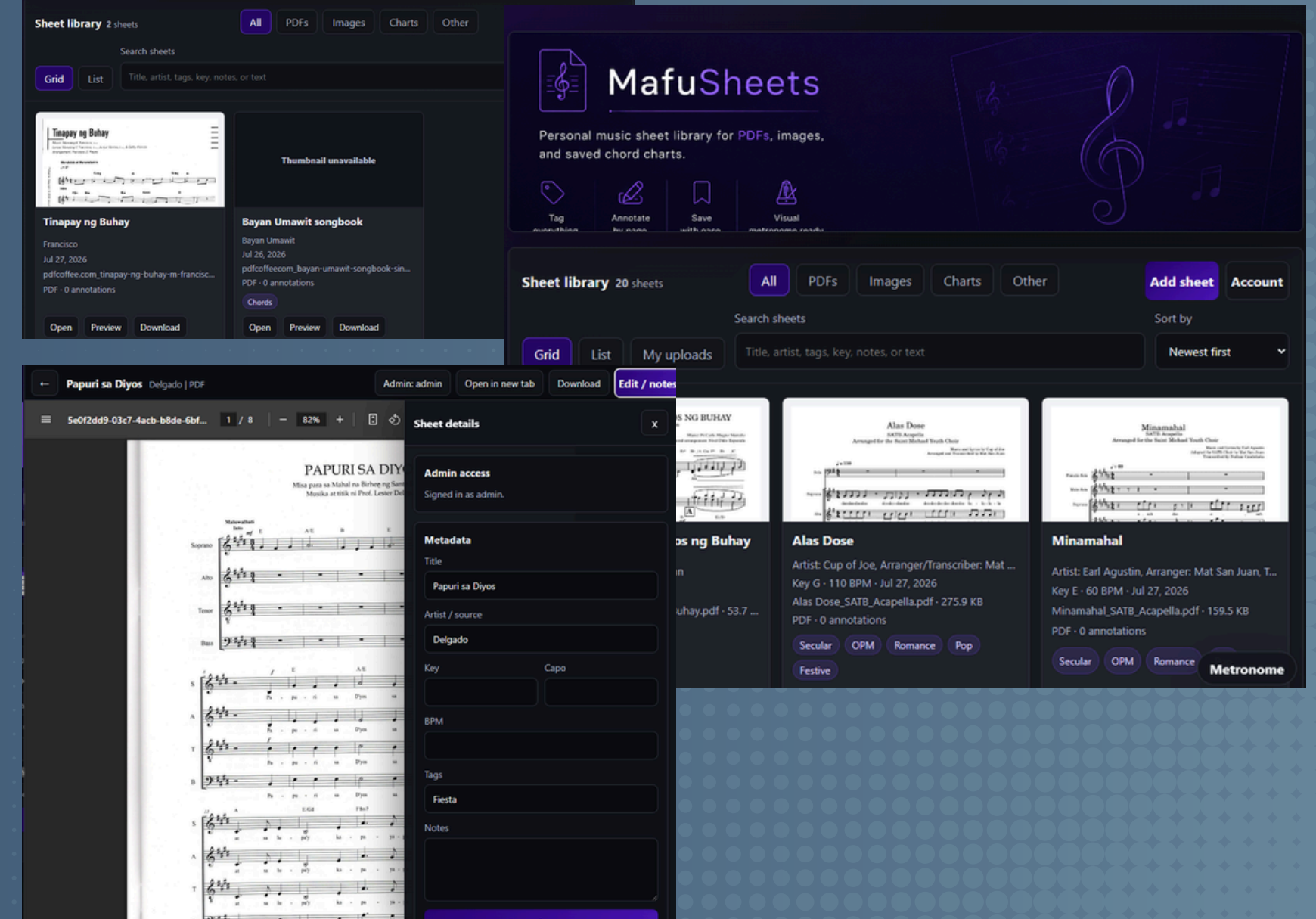
MafuSheets [project link](#)

- Self-hosted digital sheet music library with role-based access, search, and annotation tools.

Guest View



Authenticated User



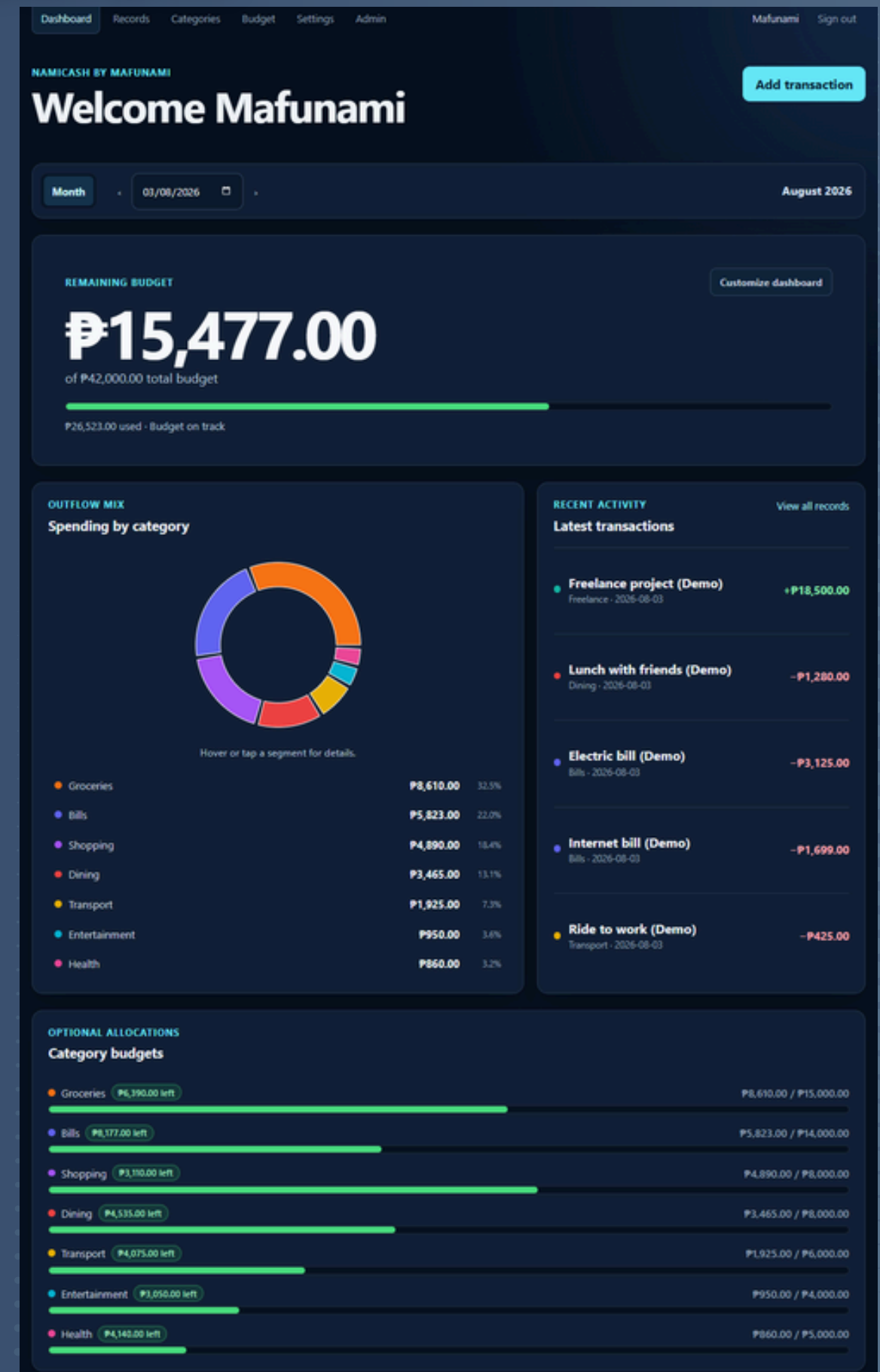
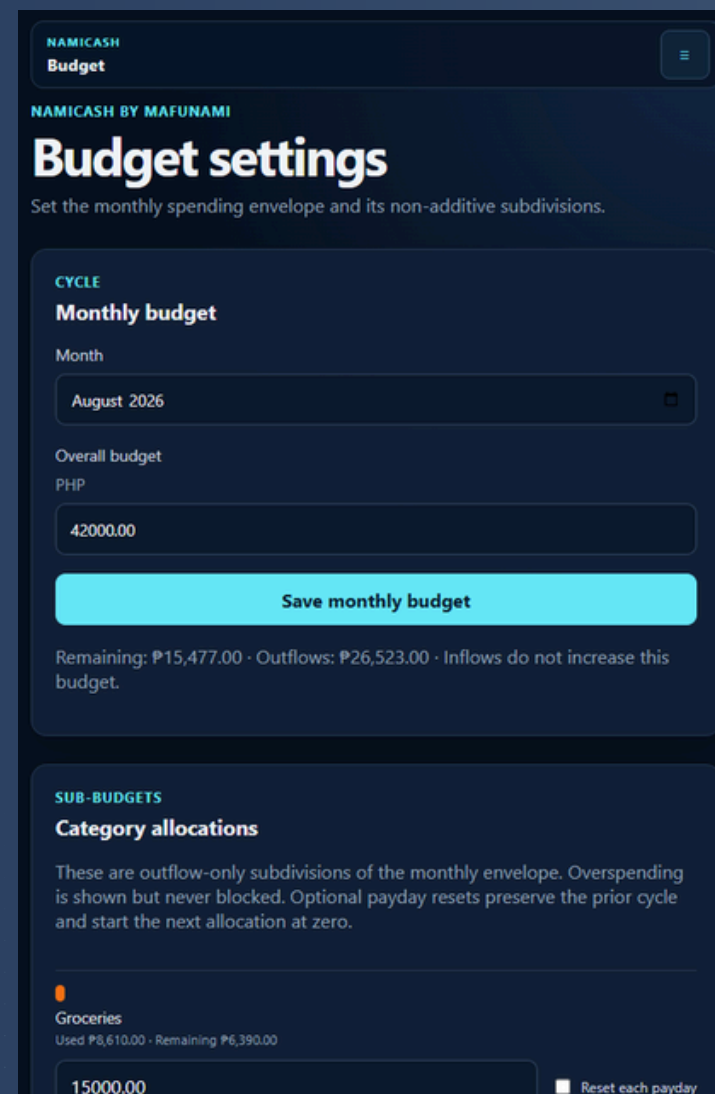
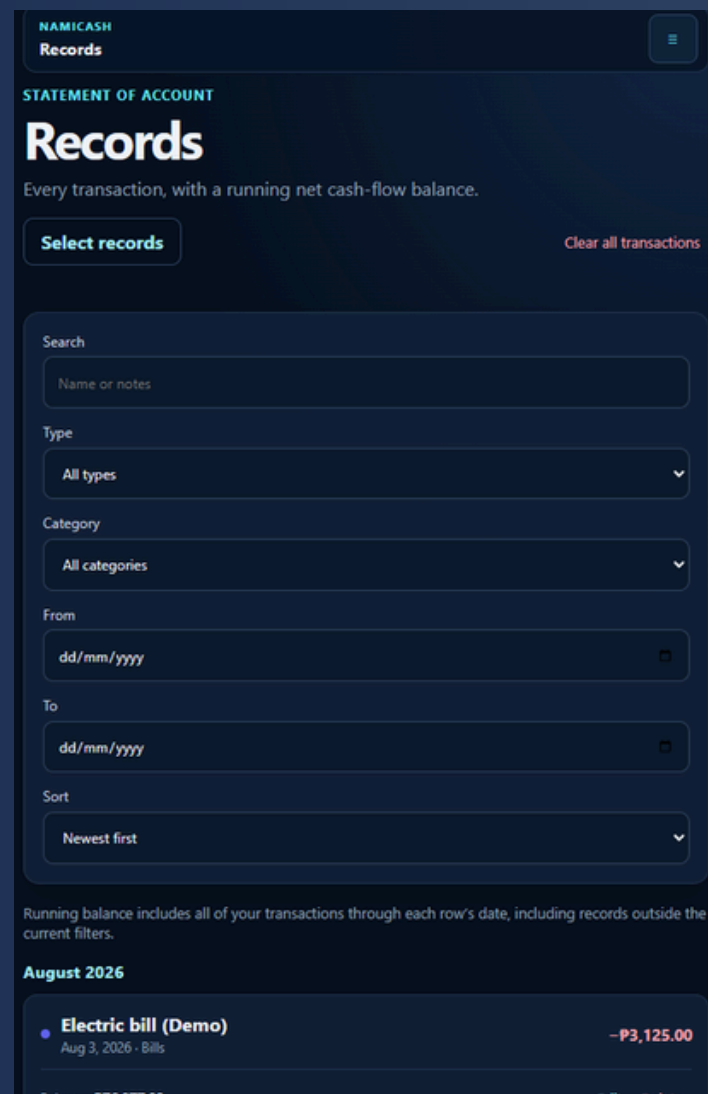
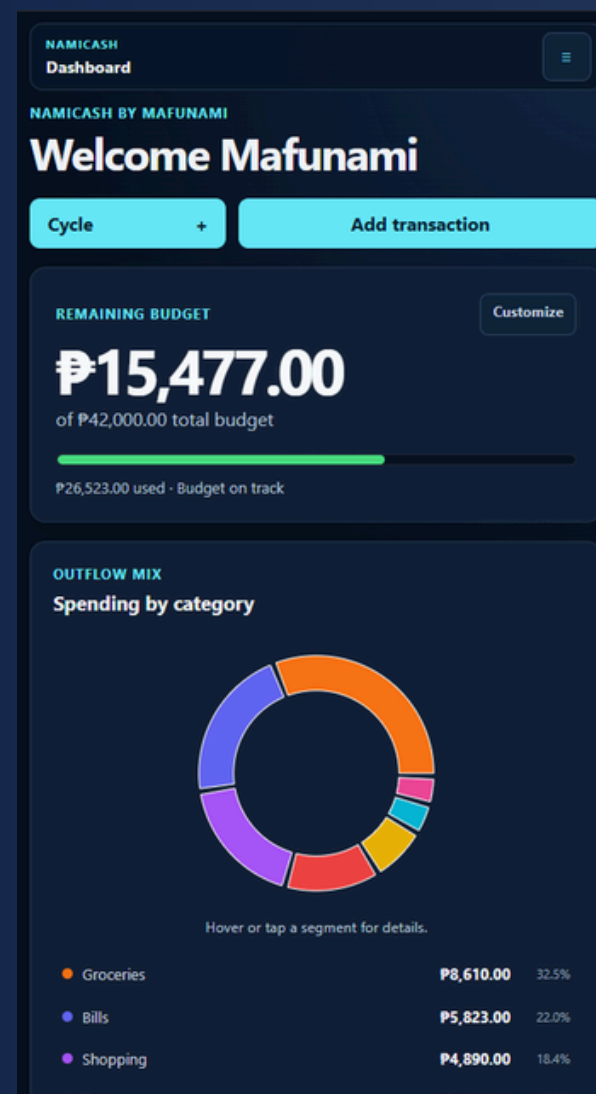
Business Application

NamiCash

[project link](#)

Personal Finance Platform

- Personal budgeting and expense tracking
- Monthly budgets and payday allowances
- Dashboard analytics and reporting
- Secure invite-only user management
- Self-hosted full-stack web application



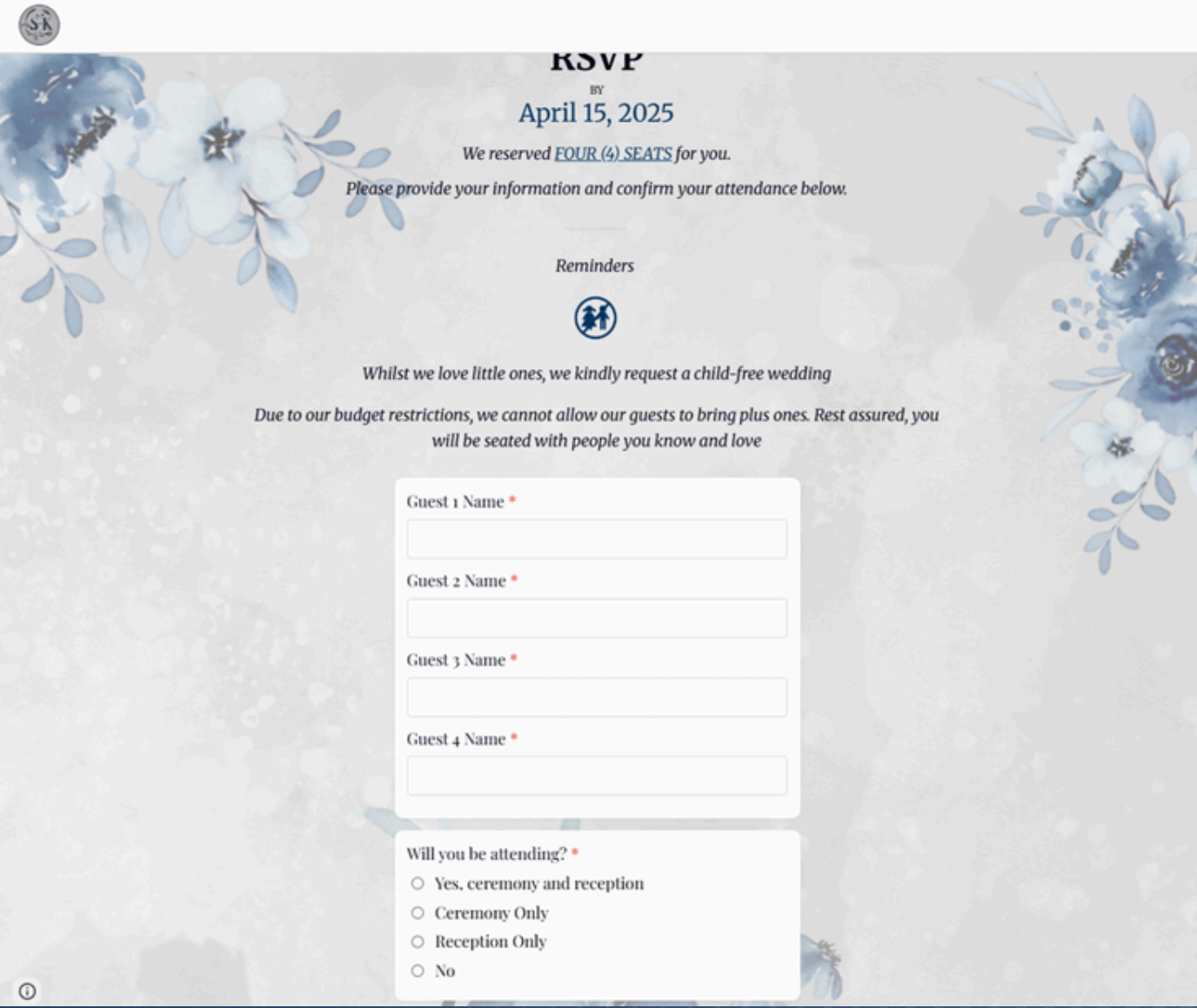
• React • TypeScript • FastAPI • PostgreSQL • Docker • Alembic •

Business Application

Custom RSVP Platform

Google Forms Integration Platform

- Custom UI over Google Forms backend
- Reverse-engineered form submission endpoints
- Integrated with existing Google Forms workflow
- Personalized RSVP experience



The screenshot shows a custom RSVP form with a light blue and white floral background. At the top, it says "RSVP BY April 15, 2025". Below this, it states "We reserved FOUR (4) SEATS for you." and "Please provide your information and confirm your attendance below." There is a "Reminders" section with a family icon and text: "Whilst we love little ones, we kindly request a child-free wedding" and "Due to our budget restrictions, we cannot allow our guests to bring plus ones. Rest assured, you will be seated with people you know and love". The form includes four input fields for "Guest 1 Name", "Guest 2 Name", "Guest 3 Name", and "Guest 4 Name", each with a red asterisk. At the bottom, there is a section "Will you be attending?" with radio button options: "Yes, ceremony and reception", "Ceremony Only", "Reception Only", and "No".



What I'm Exploring

Current Interests

- Exploring new self-hostable services that I can benefit from
- AI-assisted development do's and donts
- DevOps and Cloud Technologies

Currently learning

- System Design
- Kubernetes
- CI / CD pipeline and post-deployment monitoring and maintenance



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