

John Filhmar Ola

AI and Systems Developer

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PROFESSIONAL SUMMARY

Full-stack engineer who builds real-time systems end to end, from hardware integration and event streaming through to the dashboards and infrastructure around them. Built and operate an on-site gateway that ingests live alerts from access-control and camera hardware over WebSocket and MQTT, streams RTSP camera feeds to a WebRTC video wall, and guarantees no event is lost by writing before sending and replaying after outages. Integrates LLM APIs into production workflows, including an MCP server that lets AI assistants act as permission-scoped team members, with human review gates on AI output. Promoted from Developer to Lead IT within the first year, and delivering remote client work independently since 2023.

TECHNICAL SKILLS

Languages: TypeScript, JavaScript, Go, Python, Java, C#, SQL, Bash, C++, PHP

Real-Time and Streaming: WebSockets, Socket.IO, WebRTC, RTSP, MQTT, Server-Sent Events, Redis Pub/Sub, Event-Driven Architecture, Low-Latency Delivery

AI and Automation: LLM API Integration, Prompt Engineering, Model Context Protocol (MCP) Servers, Structured Output Parsing, Human-in-the-Loop Review Gates, Embeddings and Vector Search (pgvector), AI-Assisted Development

Hardware and Integration: Access-Control and Camera Integration, Vendor Protocol Adapters, Media Server Integration (MediaMTX), IoT Sensors (Arduino), GSM and SMS Alerting

Back End and APIs: Node.js, NestJS, Express, Django, REST APIs, gRPC, RabbitMQ (AMQP), Microservices, Background Jobs, JWT and Session Authentication, Rate Limiting

Front End: React, Next.js, Tailwind CSS, TanStack Query, Zustand, Live Operator Dashboards, Progressive Web Apps

Databases: PostgreSQL, MongoDB, MySQL, Redis, Prisma, Schema Design, Migrations, Query Optimization

DevOps and Cloud: Docker, Docker Compose, GitHub Actions, CI/CD, Linux, nginx, TLS, AWS EC2, Prometheus, Grafana

Reliability and Testing: Durable Write-Before-Send Delivery, Replay and Reconciliation, Unit, Integration and End-to-End Testing, Jest, Playwright, Load Testing

Collaboration and Communication: Remote and async communication with stakeholders, scoping raw goals into technical requirements, self-directed ownership, clear progress reporting, out-of-hours production support

PROFESSIONAL EXPERIENCE

Lead IT Systems Developer, promoted from Systems Developer

YouCode Technologies Corporation, Philippines | July 2025 - Present

- Promoted from Developer to Lead IT within the first year, owning multiple commercial production systems end to end across requirements, architecture, development, automated testing, CI/CD and production operations.
- Built distributed backend services in TypeScript communicating over gRPC and RabbitMQ using publish and subscribe patterns, with per-service PostgreSQL and MongoDB ownership, Redis caching and WebSocket real-time delivery fanned out across multiple gateway instances.
- Delivered React and Next.js front ends in TypeScript with TanStack Query, Tailwind CSS and permission-aware interfaces, working from wireframes through to responsive, cross-browser production UI.
- Owned CI/CD and continuous delivery across the product suite, automating build, unit and integration test execution, security scanning, artifact signing and containerized deployment on self-hosted runner infrastructure.
- Maintain and troubleshoot production systems in operation, including server provisioning, container orchestration, monitoring with Prometheus and Grafana, and resolving live incidents outside regular hours.
- Delivered six commercial systems now in active use, described at product level under confidentiality: an encrypted mobile messaging platform published on iOS and Android that also serves as the push-notification backbone for the company's other products, a multi-tenant civic services platform live across three cities, a per-client HRIS, an access-control and attendance gateway, an offline-first learning platform, and an AI-integrated Kanban workspace.

Frontend and Web Developer Intern

Ynnovision Enterprise Solutions, Cavite, Philippines | February 2025 - May 2025

- Built and refined responsive front-end features across existing web applications during a 486-hour internship, translating design mockups into working cross-browser interfaces and fixing UI defects that improved interface consistency.

YOUCODE PROJECTS

YouGuard Master Bridge Server, On-Site Access Control and Surveillance Gateway

Sole Developer and Architect | Deployed on customer sites

- Designed and built a self-hosted Go service bridging on-site access-control and surveillance hardware to a cloud monitoring platform, replacing two single-purpose services with one binary behind a common adapter interface: live events from turnstiles and face-recognition cameras are ingested over WebSocket, MQTT, HTTP and TCP, de-duplicated and routed in real time; every event is written to durable storage before transmission and replayed oldest first after an outage, so no alert is lost to network failure; RTSP camera feeds are converted to WebRTC for a live video wall; and an embedded React operator console provides device onboarding, live event streaming, an audit trail and role-based access, verified with protocol contract tests, device simulators, decoder fuzzing and the race detector on every run.

YouFlow, AI-Integrated Project Workspace | kanban.youcodetech.com

Sole Developer and Architect | Production

- Built a project tracking platform for teams working alongside AI agents, where an LLM suggests story point estimates and due dates from card content as suggested values that only a human supervisor can confirm, so only confirmed figures reach automated end-of-day reporting; exposed the platform through a Model Context Protocol server so AI assistants act as authenticated, permission-scoped team members, built on an Express API, a Next.js progressive web app, Prisma and PostgreSQL with Redis-locked scheduled reporting.

USAPP – A Private End to End Encrypted Messaging Application | SaaS Business Message Delivery

Sole Full-Stack Developer and Architect | iOS and Android | usapp.ph

- Architected and built a secure real-time messaging platform from scratch as the sole engineer, spanning the cross-platform mobile app, distributed backend and production operation: end-to-end encryption with client-side key handling so the server relays a payload it cannot read, passwordless one-time-code authentication with individually revocable per-device sessions, a WebSocket delivery layer covering sent, delivered and seen states, typing indicators and presence coordinated through Redis across instances, independently deployable NestJS services behind an API gateway using gRPC for request and response and RabbitMQ for asynchronous fan-out, and a partner integration capability with an organisation-facing API, template approval workflow and audited admin console that turns the platform into a B2B delivery product.

PROJECTS

PeraPlano, Automatic Personal Finance Tracker for the Philippines

Sole developer, architect and operator | Android, closed beta on Google Play | 2026 - Present

- Built a local-first Android app that keeps a complete personal ledger without manual entry, parsing bank and e-wallet notifications on-device into categorized entries with no bank credentials and no financial data leaving the phone: a custom Kotlin native module over NotificationListenerService provides reboot-surviving continuous capture into a TypeScript ingest pipeline with rule-based parsing, confidence gating, duplicate suppression and transfer detection, encrypted at rest with SQLCipher keyed through the Android Keystore under biometric unlock and an Argon2id recovery key, and covered by over 3,300 tests.

JMS E-Talyer, Multi-Branch Service and Inventory Management Platform

Sole developer, owner and operator | jms-e-talyer.shop | 2024 - Present

- Built and operate a multi-branch inventory and service management platform in TypeScript covering per-branch stock, sales, service orders and the stock ledger, with real-time monitoring and daily transaction reporting, where server-authoritative conflict resolution lets offline operations replay on reconnect without corrupting the ledger; built on Next.js, Express, MongoDB and Redis with more than 400 backend tests and CodeQL, dependency, container and secret scanning gating every release, running on a Linux server I provision and operate end to end.

Genesys, Game-Based Learning Platform for General Biology

Undergraduate thesis, deployed at a public senior high school genesys.filhmar.online | 2025

- Delivered a full-stack TypeScript learning platform where teachers host live rooms that students join with a six-character code and no account, with real-time monitoring and exportable analytics, built on Next.js, Express, MongoDB and Redis with an offline-tolerant client using session recovery and a retry queue, containerized with Docker behind nginx for a full academic year of classroom use.

Healthy Gram, Java Desktop Application

Individual project, TESDA Java NC III programme | github.com/JohnFilhmar/Healthy_Gram_Java | 2024

- Built a Java desktop application from scratch as the capstone of a Java NC III programme, structured around object-oriented principles with separated model, view and control responsibilities, applying inheritance, encapsulation, polymorphism, interfaces, collections and exception handling.

CERTIFICATIONS AND AWARDS

Programming (Java) NC III, TESDA National Certificate

BCRV Tech-Voc, Inc. | Batch 3, 2025

- Graduated Top 1 Awardee of the cohort, also receiving Best in Participation and Best in LMS Submission.
- Selected as Inspirational Speaker for the graduation ceremony on 23 August 2025.
- Certificates available at drive.google.com/file/d/1Ax1i3Fe6RYuwP_DCFN91GCGrDrNfo1zb/view

EDUCATION

Bachelor of Science in Information Technology

Mindoro State University, Philippines | 2021 - 2025

- Graduated with a Bachelor of Science in Information Technology, with an undergraduate thesis deployed at a public senior high school for a full academic year.

Languages: English (professional working proficiency), Filipino and Tagalog (native)