

Louie Jay Lomibao

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Citizenship: Filipino | Legazpi City, Philippines

Work History

Full-Stack Developer (Independent Contractor) | Michael / RealLIVE (US) Jan 2026 – Present

- Deliver continuous feature development, performance optimization, and platform stability for a production-grade live event ticketing and creator marketplace platform on a retainer basis—serving thousands of concurrent users across the US market.
- Evolved and maintained the PostgreSQL database tier — Extended the existing schema with new tables, triggers, and aggregate counters to support promotional discounts, loyalty rewards, SMS marketing contact lists, and multi-tier subscription plans—ensuring data integrity and real-time availability updates across all platform features.
- Engineered the monetization infrastructure expansion — Built and integrated Stripe Subscriptions and Stripe Checkout for platform monetization, promotional plans, and service fees—extending the existing Stripe Connect payout system to process automated collaborator payouts and reducing manual reconciliation from 5 days to instant settlement.
- Delivered the admin management suite — Architected a comprehensive administrative dashboard with paginated data tables, CRUD operations, and granular role-based access controls for managing users, events, venues, collaborators, and payouts—enabling platform administrators to maintain operational control without developer intervention.
- Built the creative booking & collaboration system — Designed the end-to-end booking workflow allowing event organizers to discover, apply, and collaborate with performers, DJs, and creators—including automated email notifications, collaboration fee negotiation, and real-time status tracking that reduced booking friction by 50%.
- Developed the SMS marketing platform from scratch — Built a full Twilio-powered SMS marketing suite including contact list management, scheduled broadcast messaging with pg_cron automation, TCPA/GDPR-compliant opt-out handling, and an integrated SMS credit purchasing system—enabling organizers to run targeted campaigns that increased attendee engagement by 40%.
- Implemented promotional discounts & rewards engine — Built a complete promo code system with server-side validation preventing client-side tampering, supporting percentage and fixed-amount discounts. Developed a points-based loyalty program with automatic point accrual on ticket purchases and admin-configurable rewards tiers—driving a 25% increase in repeat purchases.

- Delivered continuous feature enhancements — Implemented real-time Twitch and YouTube live streaming indicators, dynamic Open Graph link previews for social sharing, multi-step join registration with QR code sharing, free event checkout workflow, and group ticket discounts—consistently delivering new capabilities on a 2-week release cadence while maintaining 99.9% platform uptime.

Full-Stack Web Developer | RemoteVA (US)

Apr 2025 – Dec 2025

- Architected the complete platform from scratch — Built the entire full-stack application from the ground up using React 18, TypeScript, Vite, Supabase (PostgreSQL), and Tailwind CSS—establishing the monorepo structure, folder architecture, and foundational codebase that would scale to serve thousands of concurrent event attendees.
- Designed and deployed the PostgreSQL database foundation — Authored 60+ migration files defining the complete relational schema including users, profiles, events, tickets, venues, Stripe users, followers, reviews, creative works, and reward tiers—with custom enum types, materialized views, and automatic refresh triggers for query performance at scale.
- Implemented multi-tenant security with Row-Level Security (RLS) — Designed and deployed granular RLS policies across all public tables, enforcing strict data isolation between tenants with role-based access patterns (admin, promoter, performer, event-coordinator, user)—ensuring users could only access their own data while maintaining admin oversight.
- Built the Stripe payment & payout ecosystem — Engineered the complete Stripe integration including Connect onboarding for promoters, Checkout sessions for ticket purchases, and server-side Edge Functions for payment processing—enabling event organizers to receive direct payouts and processing thousands of ticket transactions with zero reconciliation errors.
- Developed the event creation & ticketing engine — Built the multi-step event creation workflow allowing users (DJs, promoters, performers, coordinators) to create and host events with venue selection, date/time pickers, ticket tiers, and image uploads—implementing real-time price calculations with dynamic service and platform fees.
- Engineered the QR code ticket claiming & scanning system — Built the end-to-end ticket claim flow with unique QR code UUID generation, real-time validation, and a camera-based scanner utility (html5-qrcode) for event check-in—validating ticket status, preventing duplicate redemptions, and reducing entry bottlenecks by 70%.
- Implemented role-based dashboards & admin portal — Built intelligent post-login redirection routing users to role-appropriate dashboards (admin portal, promoter dashboard, member dashboard)—creating comprehensive admin management interfaces for users, events, venues, and rewards with paginated data tables and CRUD operations.

- Integrated creator portfolio & community engagement features — Built the complete creative portfolio feature with project showcase pages, inline profile editing with YouTube/Twitch handles, YouTube Live embedding, and Disqus comment threads for community discussion—enabling creators to market their work directly on the platform.
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Frontend Engineer (Next.js & React) | QUX (US)

Oct 2023 – Oct 2024

- Spearheaded the end-to-end refactoring of a legacy high-latency React (Redux-Saga) codebase into a modern, type-safe Next.js 14 (App Router) and TypeScript architecture—leveraging Server-Side Rendering (SSR), Static Site Generation (SSG), and optimized client-side hydration to reduce JavaScript bundle size by 45%, improve Time-to-Interactive (TTI) by 60%, and achieve top-tier Core Web Vitals (LCP, INP, CLS) for an enterprise platform serving hundreds of active US users.
- Successfully migrated 100% of legacy application features with zero downtime, architected a modular, component-driven merchant storefront and SaaS dashboard enabling independent creators to configure custom storefronts, manage product catalogs, inspect revenue analytics, and scale e-commerce operations—driving a 35% increase in merchant onboarding.
- Engineered secure frontend transaction pipelines for the proprietary QUX Currency digital wallet ecosystem—building stateful, fault-tolerant workflows for ledger-to-wallet top-ups, balance reconciliation, direct bank/ACH integrations, and instant checkout flows with strict input validation and optimistic UI updates, processing over 50,000 monthly transactions.
- Scaled client-side media interfaces and interactive components for Qux.tv, an enterprise subscription and live-streaming platform—optimizing HLS/DASH media stream rendering, real-time live chat feeds, and dynamic content discovery to deliver low-latency, stutter-free playback to hundreds of concurrent viewers across desktop and mobile devices.
- Implemented robust state management using Zustand, TanStack React Query, and Zod runtime schema validation—standardizing API client interfaces with automated re-fetching and optimistic rollbacks to guarantee data consistency during user account operations and monetary transactions.
- Collaborated across cross-functional product, design, and engineering teams using Git/GitHub workflows (pull-request reviews, branch management)—establishing pixel-perfect component design systems with Tailwind CSS and reusable UI libraries, maintaining clean MVC architectural separation across all platform surfaces.

- Single-handedly architected, engineered, and delivered the complete client-side application from scratch as the sole frontend developer using Next.js 15 (App Router), React 19, TypeScript, and Turbopack—building a modern SportsTech talent discovery platform connecting emerging athletes with professional clubs and scouts worldwide.
- Built secure KYC (Know Your Customer) identity verification workflows supporting multi-file uploads (Government ID, selfie, proof of address) with real-time review status tracking and secure route guards—ensuring athlete authenticity and reducing manual verification delays by 60%.
- Architected the asynchronous data layer using TanStack React Query (v5) and custom data-fetching hooks (useRegistration, useGetNationalities, useGetCountryList)—managing server-state caching, optimistic updates, and background refetching against Python (FastAPI) RESTful API endpoints for sub-second player discovery and billing data retrieval.
- Designed and implemented compound component architectures (PlayerTable + PlayerTableItem, BillingHistoryTable + BillingHistoryItem) supporting dynamic multi-attribute filtering, sorting, and pagination across player discovery rosters and transaction histories—enabling scouts to filter thousands of athlete profiles instantly.
- Engineered the monetization engine with side-by-side membership comparison modals (Free, Basic, Pro), upgrade confirmation workflows, invoice views, and date-range-scoped Stripe billing history logs—driving subscription conversions through clear feature differentiation.
- Developed multi-step sign-up flows featuring role selection, nationality pickers, and client-side form validation—coupled with global context managers (GlobalContext, ModalContext) for auth-state persistence and route-based UI layout toggling, eliminating prop-drilling across 15+ complex route components.
- Implemented a three-tier CSS architecture combining centralized design tokens (CSS custom properties), global utility classes, and component-scoped styling via styled-jsx for zero-leakage UI isolation and consistent theming across the entire platform.

- Operated as Senior Full-Stack Developer within an Agile delivery framework—spearheading technical architecture, leading daily standup sprints, conducting peer code reviews, and actively engaging in iterative UI/UX design critiques with co-developers to deliver production-ready features on a 2-week release cadence.
- Built a high-performance single-page application (SPA) using React, TypeScript, and Tailwind CSS—implementing TanStack Query for asynchronous server-state management,

sub-second global search across 10,000+ CRM records, and zero-latency telemetry re-renders across high-density executive dashboards, improving data retrieval speed by 75%.

- Engineered a custom drag-and-drop calendar UI supporting Day, 3-Day, Week, and Month layouts—developing a team schedule matrix mapping live status badges, assigned services, recurring shift rules, and multi-studio staff allocations that reduced manual scheduling time by 60% for studio managers.
- Integrated backend workflows using N8N automation engines and WhatsApp Business API for automated client retention and real-time appointment signaling—achieving a 45% reduction in no-show appointments and increasing client engagement by 30%.
- Configured Supabase (PostgreSQL) database schemas and Row Level Security (RLS) policies for multi-branch workspace isolation—implementing hCaptcha anti-bot layers on public booking endpoints to shield downstream webhook infrastructure from resource exhaustion and credential stuffing attacks.
- Built dynamic promotional package builders supporting percentage (%) and fixed-dollar (\$) discount models, categorized service duration timing, and multi-location workforce allocation logic—enabling studios to launch targeted promotions that increased average order value by 25%.

Cloud Systems & Serverless Developer | The Knowledge Group, LLC (US) Apr 2024 – Dec 2024

- Architected and deployed the cloud-native, event-driven serverless backend infrastructure for Knowledge Webcasts, an enterprise media distribution platform delivering high-fidelity on-demand content to thousands of legal and tax professionals—programming event-triggered Node.js/TypeScript microservices on GCP/Firebase Cloud Functions to automate asynchronous data processing, video metadata indexing, and dynamic stream authorization.
- Integrated RevenueCat as a centralized billing abstraction layer across web and mobile surfaces—managing credit card processing, digital wallet integrations (Google Pay / Apple Pay), and automated multi-tier subscription models while engineering real-time, idempotent webhook listeners for instant entitlement sync, reducing billing errors by 95%.
- Designed and optimized a high-throughput Firebase Firestore NoSQL data model tailored for low-latency queries and real-time client state synchronization—authoring fine-grained Firebase Security Rules and query indexing strategies to ensure sub-second response times under concurrent viewer traffic, supporting 5,000+ simultaneous active users.
- Built an automated push notification pipeline utilizing Firebase Cloud Messaging (FCM)—orchestrating transactional push alerts, new webcast launch notifications, and

re-engagement messaging triggered by real-time user lifecycle events and subscription status changes, increasing user re-engagement by 40%.

- Engineered secure user onboarding and identity management workflows using Firebase Authentication and custom JWT claims—implementing server-side token validation and Role-Based Access Control (RBAC) to enforce strict access barriers surrounding premium, subscriber-only webcast streams and digital assets, preventing unauthorized access to 100% of premium content.
- Spearheaded multi-stage deployment workflows by building isolated staging, production, and UAT sandbox environments—validating edge-case webhook payloads, synthetic payment gateway transactions, and fault-tolerant fallback paths to ensure uninterrupted backend stability before production releases, achieving 99.9% uptime.

Full-Stack Engineer & System Architect (Contract) | Rooche Digital (PH) Jun 2023 – Jul 2023

- Engineered high-throughput, low-latency message-rendering queues for FlowChat™, a conversational commerce platform built on PHP and JavaScript—optimizing real-time message queue state transitions, asynchronous event dispatchers, and DOM-rendering pipelines that accelerated user interaction speeds by 50% and drove higher social selling conversion rates.
- Spearheaded the end-to-end technical architecture, relational schema blueprints, and system logic flowcharts for MilesHealth, an enterprise health tracking system—translating complex biometric and health metrics into modular, developer-ready data models, Entity-Relationship Diagrams (ERDs), and intuitive user-flow maps to guide front-end and back-end execution for cross-functional engineering teams.
- Decoupled legacy, tightly bound data layers within the chat engine by enforcing strict Model-View-Controller (MVC) architectural design patterns—separating database access abstractions from view presentation logic, eliminating technical debt, and significantly speeding up backend-to-frontend JSON payload delivery times by 40%.
- Drafted comprehensive technical specifications and architectural documentation detailing database normalization strategies, data validation rules, and third-party API integration pipelines—designing secure webhooks and RESTful interface models to guarantee real-time, encrypted user data synchronization across external endpoints and legacy third-party systems.
- Developed dynamic, responsive front-end chat interfaces using client-side JavaScript and event-driven state mechanics—implementing optimistic UI updates, message delivery status tracking (pending, sent, read), and fallbacks for network interruptions to ensure a seamless conversational experience during high-concurrency traffic bursts of 1,000+ simultaneous users.

- Designed and tuned relational database schemas (MySQL/PostgreSQL) supporting high-frequency chat logging and user activity tracking—applying advanced index configurations, query execution plan optimizations, and transactional write-locking to prevent database contention and maintain sub-second query response times under heavy user volume.

JavaScript & Automation Engineer (Contract) | Robot-Hub Ltd (NZ)

Jun 2023 – Jul 2023

- Designed, built, and deployed a headless, Node.js-based Robotic Process Automation (RPA) engine tailored for automated tax, compliance, and government document ingestion—developing custom execution hooks, dynamic DOM/file scrapers, and headless browser automation drivers (Puppeteer/Playwright) to replace manual document intake workflows with automated, zero-latency parsing tasks, reducing processing time from 30 minutes to under 2 minutes per document.
- Integrated high-accuracy Optical Character Recognition (OCR) engines (Tesseract.js, PDF.js) paired with dynamic pattern-matching macros (advanced regular expressions and NLP tokenization)—formatting unstructured PDF scans and complex governmental tax filings into clean, strongly typed JSON/CSV schemas with spatial bounding-box extraction logic, achieving 98% data extraction accuracy.
- Engineered robust, event-driven document routing pipelines and automated approval workflows—re-architecting multi-step document intake procedures into streamlined, sub-second processing channels that significantly reduced pipeline processing latency by 80% and eliminated human data entry errors across high-volume compliance operations.
- Implemented asynchronous queue management architectures (Node.js event loops / Redis task queues) to handle concurrent, high-frequency document processing jobs—preventing runtime memory leaks and process crashes during peak batch processing cycles through worker pool thread management, automatic backpressure control, and intelligent rate limiting, processing 10,000+ documents daily.
- Architected resilient error recovery and self-healing mechanisms within the RPA engine—building automated fallback parsing paths, exception-handling routines, and audit logging to isolate corrupted or misformatted documents, retry failed HTTP/IO requests, and alert human operators without halting overall batch execution, maintaining 99.5% job completion rate.
- Structured the automation engine using modular, decoupled JavaScript components to ensure script execution reliability and clean code separation—enforcing strict Git/GitHub version control protocols (branching models, code reviews, documentation blueprints) to facilitate seamless onboarding, rapid maintenance, and effective developer team handoffs.

- Architected and delivered comprehensive curricula on software system design and architecture—instructing students on Object-Oriented Programming (OOP) paradigms, SOLID principles, design patterns, and MVC architectural separation while leading practical labs building full-stack Laravel (PHP 8.x) e-commerce applications implementing custom authentication, HTTP/HTTPS web protocol communication, and diverse SDLC methodologies (Agile, Waterfall, Spiral, Iterative, and Prototyping).
- Taught advanced relational database engineering and performance optimization principles—guiding students through complex SQL query execution, ACID-compliant transaction processing, database normalization standards (1NF to 3NF/BCNF), data concurrency models, multiple granularity locking, indexing mechanisms, and relational query processing engines.
- Led multi-tiered web programming courses covering end-to-end client-server architectures—teaching core frontend engineering using HTML5, CSS3, dynamic JavaScript (DOM manipulation, event-driven programming, form validation, JSON handling, and data structures) alongside secure backend PHP development incorporating session/cookie state persistence, form handling, and web cryptography primitives using PHP OpenSSL and hashing functions.
- Served as an expert Thesis and Capstone Review Panelist evaluating final-year computer science and information technology engineering projects—auditing system architecture blueprints, evaluating code maintainability, stress-testing application endpoints, and verifying database schema integrity and security postures prior to graduation clearance.
- Taught modern cross-platform mobile application development leveraging Flutter, FlutterFlow, and Firebase backend services—guiding students through mobile screen widget layouts, dynamic memory management, stateful navigation, Firebase Authentication (including OAuth/social login), third-party API consumption pipelines, and integrating AI cloud microservices.

- Architected and integrated location-aware logistics and spatial tracking utilities powered by the Google Maps Platform APIs (Geocoding, Directions, Distance Matrix, Places API)—engineering asynchronous RESTful payload handling, spatial query bounds, and client-side coordinate caching to optimize API call volumes, minimize rendering latency, and enable real-time dynamic route optimization for delivery fleets.
- Designed and deployed high-performance QR code matrix generation and real-time camera-based scanning modules for rapid item validation and inventory tracking—building end-to-end data processing pipelines using client-side decoders coupled with transactional

database updates that eliminated manual data entry bottlenecks and automated status state transitions across the delivery lifecycle.

- Deployed, customized, and optimized scalable web solutions leveraging the WordPress (PHP 8.x) core runtime and MySQL/MariaDB relational databases—authoring custom PHP hooks, tailored database query abstractions, and configuring server-side caching mechanisms to maximize backend throughput and accelerate digital content delivery under heavy user traffic.
- Engineered interactive, accessibly compliant web interfaces using modern JavaScript (ES6+), TypeScript, and modern CSS frameworks (Tailwind CSS/Bootstrap)—implementing dynamic DOM rendering, responsive layout grids, and optimized client-side asset delivery pipelines (code splitting, lazy loading, asset minification) to elevate page performance and user engagement.
- Implemented web application security best practices including rigorous input sanitization, cross-site scripting (XSS) and CSRF defenses, secure API key vaulting, and Role-Based Access Control (RBAC)—managing hosting environment configurations, SSL/TLS certificate provisioning, database backup routines, and DNS records to maintain uptime and data privacy.
- Collaborated within cross-functional engineering teams utilizing structured Git/GitHub workflows (Gitflow, pull-request code reviews, branch management)—leading direct client-facing technical discovery syncs, converting high-level business goals into explicit technical requirement specifications, database schemas, and iterative development milestones.

Personal Projects

Ann's Kitchen — D2C FoodTech Frontend Storefront Prototype | Personal Project May 2022 – Jun 2022

- A high-fidelity frontend web application tailored to the operational requirements of an active local bakery business—validating UI workflows against real-world commercial needs with modular, reusable ReactJS components to prototype interactive menu displays, product customization panels, and local shopping cart layouts.
- Engineered a high-fidelity frontend web application tailored to the operational requirements of an active local bakery business—validating UI workflows against real-world commercial needs.
- Developed modular, reusable ReactJS visual components to prototype interactive menu displays, product customization panels, and local shopping cart layouts.

- Implemented a highly responsive user experience leveraging the Bootstrap grid system—ensuring seamless cross-device adaptability and crisp visual presentation on all screen sizes.
- Delivered exceptional design execution and clean code structure, resulting in the successful delivery of the complete frontend codebase and UI layout to the business owner for future platform deployment.

Stack: React, JavaScript, Bootstrap, HTML5, CSS3, Webpack

Iponaryo — FinTech Platform & Automated Resource Distribution Hub | Personal Project Dec 2022 – Dec 2022

- An interactive financial application engineered using ReactJS custom hook states to handle real-time compound interest computations and dynamic ledger updates on the client side. Features an asynchronous data-ingestion pipeline integrating RSS feeds to stream, parse, and render real-time macroeconomic updates, financial indexes, and business news directly into the user interface.
- Engineered strict semantic HTML5 markup and native JavaScript DOM methodologies optimized with CSS Grid and Flexbox layouts—achieving lightning-fast rendering times and absolute device responsiveness.
- Spearheaded the platform's deployment lifecycle by establishing automated Git/GitHub CI/CD pipelines to securely push production-ready builds onto Netlify's high-availability edge servers.

Stack: React, JavaScript, HTML5, CSS3, Netlify, XAMPP, Webpack

Libranix — Automated Relational Data & Operations Platform | Personal Project Oct 2019 – Nov 2020

- A full-featured management ecosystem using a strict Model-View-Controller (MVC) software architecture—completely decoupling the UI rendering tier from core transactional business logic and data access layers. Designed a high-integrity MySQL database schema with strict foreign key constraints to model complex relational transactions seamlessly linking member profiles to catalog items during checkout, renewal, and return cycles.
- Built a dynamic, multi-attribute search and filtering engine executing optimized queries across 9+ schema parameters (ISBN, Title, Author, Publisher, Genre, Item Type, and Stock Quantity).
- Integrated JavaMail API and Twilio SDK as an asynchronous messaging layer—establishing automated event listeners that fire real-time SMS alerts and email reminders based on loan status and due-date triggers.

- Leveraged ApachePOI to architect an automated document-streaming pipeline—programmatically compiling system audits, inventory states, and member activity into production-ready Word documents and formatted spreadsheets.
- Built an interactive operational dashboard utilizing JFreeChart—rendering real-time graphical data analysis, circulation velocity indexes, and resource utilization metrics.

Stack: Java 8, MySQL, MVC Architecture, JDBC, Twilio SDK, JavaMail API, ApachePOI, JFreeChart, Eclipse

ShieldedZip — Cryptographic Data Compression & Archiving Engine | Personal Project Apr 2019 – Apr 2019

- A standalone security utility implementing AES-256 encryption schemas to wrap sensitive user archives in secure, password-protected layers using native Java Core Cryptography. Features an advanced configuration engine via Zip4j allowing users to dynamically dictate compression methods (Deflate, Store), processing loads (Fastest to Ultra), and bit-strength variations (128 to 256-bit).
- Developed a highly intuitive desktop interface utilizing OS-level file dialogs with multi-file selection capabilities and native Drag-and-Drop interceptors for a frictionless user experience.
- Structured robust exception handling and stream closures (Try-With-Resources) to ensure zero memory leaks, safe thread execution, and complete file unlock states upon task completion.

Stack: Java, Zip4j, Apache NetBeans, AES-256 Encryption, Swing

Acrostock — Institutional Asset Management System | Saint Vincent de Ferrer College Aug 2018 – Mar 2022

- A web-based enterprise asset management system designed to digitize, streamline, and automate physical equipment tracking, asset allocation, lifecycle auditing, and maintenance scheduling across institutional departments. Built with a decoupled React.js single-page application (SPA) client, Laravel (PHP) RESTful API backend, and MySQL relational database layer—honored with the Excellent Thesis Award for outstanding software architecture, database normalization, system performance, and real-world institutional impact.
- Implemented real-time inventory telemetry, barcode/QR asset identification workflows, Role-Based Access Control (RBAC) for departmental staff, automated asset depreciation reporting, and audit logging.

- Designed and tuned normalized relational database schemas with strict foreign key constraints and optimized multi-table query execution plans for high-performance asset tracking.

Stack: React.js, Laravel PHP, MySQL, RESTful API, HTML5, CSS3, JavaScript, QR/Barcode generation

Education & Certificates

Bachelor of Science in Information Technology | Saint Vincent de Ferrer College (PH) Aug 2018 – Mar 2022

- Full-Stack & OOP Development: Applied Object-Oriented Programming (OOP) principles using Java, JavaScript, and CSS/Advanced CSS layout modules—mastering core programming logic, control structures, array manipulation, and modular software design.
- System Quality Assurance (SQA) & SDLC: Trained across diverse Software Development Life Cycles (SDLC)—including Agile and Waterfall—implementing rigorous software testing methodologies, code reviews, and quality assurance standards to deliver reliable, bug-free applications.
- Visual Systems Blueprinting (UML): Translated complex business requirements into concrete architectural blueprints using Unified Modeling Language (UML) diagrams—including Use Case Diagrams, Class Diagrams, Sequence Diagrams, and State Diagrams.
- Enterprise System Architecture: Mastered system integration patterns, Application Programming Interface (API) design, platform technologies, and systems administration to support scalable enterprise infrastructures.
- Advanced Database Management: Engineered normalized relational database schemas, multi-table queries, and data management pipelines across Information Management and Advanced Database Systems courses using MySQL and SQL.
- Data Structures & Quantitative Problem-Solving: Leveraged Data Structures & Algorithms, Discrete Mathematics, and Data Analytics to solve complex computational problems, optimize execution efficiency, and analyze business telemetry.

Thesis / Capstone — Acrostock Institutional Asset Management System

- Engineered a web-based enterprise asset management system using React.js single-page application (SPA) client with a Laravel (PHP) RESTful API backend and MySQL relational database layer—implementing real-time inventory telemetry, barcode/QR asset identification workflows, Role-Based Access Control (RBAC) for departmental staff, automated asset depreciation reporting, and audit logging.
- Honored with the Excellent Thesis Award for outstanding software architecture, database normalization, system performance, and real-world institutional impact.

Technical-Vocational-Livelihood (TVL) — ICT Programming Track | Forbes Academy (PH) Aug 2016 – Mar 2018

- Established early core programming logic, algorithm design, control structures, array manipulation, and computational problem-solving across compiled, interpreted, and web languages—including C++, Java, VB.NET, PHP, JavaScript, HTML5, and CSS3.
- Mastered foundational Object-Oriented Programming (OOP) paradigms (encapsulation, inheritance, polymorphism, and abstraction) to structure modular, reusable code bases.
- Designed and developed a standalone desktop library management system using VB.NET to automate book cataloging, borrower record management, circulation tracking, and overdue fine calculations with relational database tables and high-reliability CRUD operations.
- Awarded the Work Immersion Award for demonstrating outstanding technical execution, workplace discipline, initiative, and practical software troubleshooting during industry immersion placement.

National Certification: Computer Systems Servicing NC II | TESDA (PH) Aug 2018 – Sep 2018

- Assembled desktop PC hardware systems, configured BIOS/UEFI firmware parameters, managed storage allocation and RAID setups, and executed clean installations across Windows and Linux operating systems.
- Fabricated custom Ethernet network cables, configured wireless routers and network switches, administered static and dynamic (DHCP) IPv4/IPv6 network settings, and configured server roles including Active Directory Domain Services (AD DS), DNS, and DHCP servers.
- Executed routine preventive hardware maintenance, malware remediation, and system recovery using disk imaging and restore checkpoints. Awarded the Work Immersion Award for demonstrating outstanding technical execution, workplace discipline, initiative, and practical software troubleshooting during industry immersion placement.

National Certification: Electronic Products Assembly & Servicing NC II | TESDA (PH) Sep 2018 – Oct 2018

- Executed precision hand soldering and hot-air desoldering for Through-Hole Technology (THT) and Surface Mount Devices (SMD), assembled single/double-sided PCB modules, and performed point-to-point wiring and chassis mounting.
- Utilized digital/analog multimeters, digital oscilloscopes, and signal/function generators to analyze voltage, current, impedance, and signal waveforms—applying systematic fault-tree analysis and signal-tracing techniques to isolate hardware anomalies.

