

Markus M. Gray

SENIOR SOFTWARE ENGINEER

Philadelphia, PA · (267) 992-2272 · markusmgray@gmail.com
[linkedin.com/in/markusmgray](https://www.linkedin.com/in/markusmgray) · github.com/cryptixcoder

SUMMARY

Full-stack software engineer with **12+ years** designing, building, and shipping production web and mobile applications end-to-end. Deep expertise across **TypeScript/JavaScript, React, React Native, Node.js, and Laravel/PHP**, with hands-on ownership of system architecture, database design, payments, real-time systems, and cloud infrastructure. Track record of scaling a messaging platform to **10,000+ concurrent connections**, delivering a **FedRAMP-compliant federal system at 99.999% uptime**, and architecting scalable microservices for real-time social and marketplace products. Comfortable operating as the sole senior engineer or leading and mentoring a team, and a published technical author with Packt Publishing.

TECHNICAL SKILLS

Languages: TypeScript / JavaScript (ES6+), PHP, SQL, Solidity, Dart

Frontend & Mobile: React, Next.js, React Native (Expo), Flutter, HTML/CSS

Backend & APIs: Node.js, Express, Laravel, CodeIgniter, REST API design, GraphQL, Prisma, WebSockets (socket.io)

Data: PostgreSQL, MySQL, Redis, Firebase / Firestore

Cloud & DevOps: AWS (Elastic Beanstalk, EC2, RDS, S3, SQS), DigitalOcean, Docker, Terraform, Ansible, CI/CD, infrastructure as code

Integrations & Systems: Stripe / Stripe Connect (marketplace payments, payouts), Twilio, Mux, LiveKit (WebRTC), RevenueCat, IPFS, third-party API & webhook integration

Practices: Microservices & distributed systems, system architecture, database design, Agile / Scrum, code review, automated testing, technical mentorship

PROFESSIONAL EXPERIENCE

Syncware Technologies — Philadelphia, PA (Remote)

October 2015 – Present

Founder & Principal Software Engineer · Independent Software Consultancy

Run an independent software consultancy delivering full-stack web and mobile products for startups, research institutions, nonprofits, and SMBs. Act as the senior technical owner on each engagement — spanning system architecture, backend and mobile engineering, database design, payments, DevOps, and UI/UX. Selected engagements:

- **Real-time eSports social platform (PlayPalz):** Solely designed and built a multi-service social platform combining live streaming, community chat, content sharing, and creator monetization, shipping to closed beta in ~6 months. Architected independently scalable **microservices** (Node.js/Express, Prisma, PostgreSQL, Redis, socket.io) with a **Mux** video pipeline and **LiveKit** WebRTC voice/video; provisioned containerized infrastructure as code with **Docker, Terraform, and Ansible** on DigitalOcean. Solved a cross-system payments problem reconciling app-store-collected funds with **Stripe** managed-account payouts via a scheduled two-phase settlement.
- **Blockchain genetic-data platform (DNAID, healthcare) — Sept 2018–Apr 2019:** Architected an end-to-end MVP letting users retain cryptographic ownership of their DNA data while selling access to researchers. Wrote a custom **Ethereum/Solidity ERC-721** smart contract as a trustless escrow and built a Node.js/Express API orchestrating on-device encryption, **IPFS** storage, NFT minting, and secure re-encryption on purchase, with a React Native app on **AWS**.
- **On-demand security marketplace (SecurT):** Built a production-ready, two-sided marketplace with a full **Stripe Connect** escrow flow — per-guard managed accounts, card holds, conditional captures, platform fees, transfers, and automated weekly payouts — plus geofenced check-in, live location tracking, and a custom pricing engine. Stack: Laravel, MySQL, React Native, DigitalOcean.
- **Climate civic-tech apps for Drexel University research (Cleanlet, StormHands):** Rescued and shipped a stalled flood-mitigation app to the App Store and Google Play, then won repeat business for a second severe-weather volunteer app. Built weather-driven automation integrating the **National Weather Service API** with scheduled jobs to trigger targeted push notifications. Stack: **Flutter**, Firebase (Firestore, Cloud Functions, Cloud Messaging).

- **Academic networking platform (Scholars Nexus):** Designed and launched a full networking web app from the ground up — admin-gated onboarding, member directory and direct messaging, an opportunities board, collaboration hub, and feature-flagged rollout. Stack: **Next.js**, Firebase, Resend, Vercel.
- **Canvassing platform rescue (EDay):** Took over an incomplete Firebase-based platform and rebuilt both web and mobile apps from scratch, re-architecting to a **REST API + MySQL** stack and migrating hosting to cut unsustainable recurring cloud costs. Delivered real-time field coordination over **WebSockets** for 50–100 concurrent canvassers across multiple campaigns.

Jarvus Innovations — Philadelphia, PA

July 2022 – October 2023

Lead Laravel Engineer / Software Engineer

- Served as lead engineer on the client-facing **IndieVets** platform — a Laravel-based healthcare scheduling application connecting traveling veterinarians with hospitals across PA, MD, and NJ — fixing bugs, shipping new features, and improving reliability in two-week sprints.
- As the only React Native engineer across both teams, led development of the platform's new **React Native / Expo** mobile app from prototype to a successful launch, and **mentored fellow engineers** on the framework.
- Drove sprint planning, authored technical documentation, and wrote automated tests and deployments to raise release quality across a distributed team. (Title changed from Lead Laravel Engineer to Software Engineer during a company-wide reorganization.)

Call Loop / Sales Message — Delray Beach, FL (Remote)

September 2016 – January 2018

Full-Stack Developer

- Resolved a critical throughput bottleneck by replacing a monolithic messaging component with a **microservice**, scaling the SMS/voice platform to **10,000+ concurrent messages** with sub-second delivery latency.
- Built **HubSpot** and **MailChimp** integrations that expanded platform capabilities and **reduced manual customer workflows by 50%**.
- Incrementally upgraded a production **Laravel/PHP** platform (AWS, RDS, SQS, Twilio), improving uptime and reliability for thousands of SMB customers, and extended a sibling business-texting product (Sales Message).

The Tactile Group — Philadelphia, PA

October 2014 – February 2016

Web Developer

- Core developer on a **\$1.2B federally funded U.S. Department of Education** program tool (21st Century Community Learning Centers), reporting outcomes across all **54 states and territories**.
- Designed data and system architecture with security-first controls meeting **NIST 800-53, FISMA, and HSPD-12** requirements, and deployed to **FedRAMP-compliant AWS** infrastructure at **99.999% uptime** — the agency's first cloud-hosted data tool. Stack: CodeIgniter (PHP), MySQL.
- Delivered a **Section 508**-compliant UX and drove measurable outcomes: raised data certification from **61% to 98%** and cut required data points by **88%**, giving educators more time with students.
- Built responsive websites and CMS templates for government, business, and nonprofit clients (Philadelphia Water Department, Philadelphia Gas Works, and others), including a custom PDF search plugin for ExpressionEngine.

PUBLICATIONS

Published technical author and reviewer with **Packt Publishing**:

- **The PHP Workshop** — Co-author & Technical Reviewer — Packt Publishing (October 2019)
- **Beginning PHP** — Co-author — Packt Publishing (April 2018)
- **Laravel: Architect YouTube-Like Platforms** — Author — Packt Publishing (December 2017). Authored a video course on building a YouTube-style video platform in Laravel, developing the complete production codebase, and integrating **AWS S3** and **AWS Elemental MediaConvert** for video storage and transcoding.

EDUCATION

University of Phoenix — B.S. in Information Technology; Certificate in Advanced Software Development (2014–2017)

Drexel University — Computer Science coursework (2011–2012)