Stew McKinney

Developer
Software, Web, VR, and Games

mckinnsb@gmail.com

I am a prinicpal engineer and hands-on senior engineering leader that builds both service-oriented and monolithic architectures that empower companies to deliver value to their customers. I've coded in Ruby, Typescript, Python and Rust for over 18 years using frameworks like Rails, Django, and FastAPI, and I typically work at all levels in the stack. I build in the cloud as well; I have a strong knowledge of AWS solutions, and I prefer to build my infrastructure in code using Pulumi or Terraform. I've built CI/CD pipelines, automated and integrated systems, e-commerce platforms, and mobile applications. I love leading, mentoring, and developing ideas with teams. I've led teams as small as 3 as an Engineering Lead, and departments as large as 80 as a VP of Engineering.

I typically work remotely, but I am open to hybrid options in the greater Philadelphia area.

Principal Developer   April 2023 - April 2025
Calibrate
Remote (New York, NY)

- Acted as a cross-domain subject expert and assisted all areas of the application platform, from the mobile application to the cloud infrastructure
- Addressed process and cultural issues with other leadership, chiefly the VP of Engineering
- Designed and built the main **authentication** system, a decentralized attribute-based access control and authentication platform using **Auth0**
- Built re-usable components in **Pulumi** to interact with the authentication system and set ABAC permissions for different routes
- Deprecated old architecture and imported older components into **Pulumi**, achieving a near 100% Infrastructure as Code coverage rate
- Rebuilt our CI pipeline on **Buildkite** in **Dagger**, to allow for composable pipelines that could be run anywhere
- Built a dynamic CI configuration interface which allowed users to configure their CI runs, using **Dagger** and **Typescript**
- Created an isolated **demo** environment for the platform for the sales team, with its own deploy pipeline to manage a separate cadence, and mocked integrations
- Built a tenant system for the platform, for the demo environment and other tenants, and integrated the tenant system with the mobile application
- Migrated our administrative website from **AWS Cognito** to using **Okta** federation w/ **Auth0** (and tied it to the general auth system)
- Created automated systems that imported issues from our security solutions(s) on **AWS** to **JIRA**
- Divided the head of security's responsibilities with the IT manager upon their departure, including overseeing the **2023/2024 SOC II certifications**

Chief Architect   January 2022 - April 2023
Calibrate
Remote (New York, NY)

- Designed and built a cloud native healthtech platform for Calibrate, using **AWS** and **Kubernetes** (EKS), built IaC-first using **Pulumi**
- Built and managed a department of **8** people, which was split into three seperate functions, **platform**, **infrastructure**, and **QA**

- Discussed software choices with other leaders and oversaw all architecture decisions in the department
- Planned, orchestrated, and oversaw a major rewrite of a prototype application from **Django** to **Python** with **FastAPI** and **SQLAlchemy**
- Created a plan to manage external vendors during the transition, deprecating some and migrating others
- Acted as main point of contact for all things related to engineering security within the Engineering department
- Worked with the CTO to make sure the department could meet future objectives especially regarding future scale
- Worked with the head of security to design and enforce controls for our **SOC Type I/II** audits, and participated in interviews for those audits
- Discussed policy with the head of security and other engineering management for our **ISO27k1** certification.
- Ensured that controls were automatically enforced where possible, following zero trust and minimum necessary guidelines for **HIPPA** compliance
- Discussed contractual language with counsel to make sure that future engineering initiatives were provided for
- Worked with the QA manager and team to design test strategies with **shift-left** and **automated** principles in mind
- Built two services in **Rust** (Rocket/Diesel) to assist w/ product engineering efforts and built their custom **OTEL** instrumentation
- Upgraded and improved our observation platform to enable end-to-end tracing from API Gateway to the container using **OTEL**
- Built the CI/CD pipeline that enforced said controls and ran automated tests against PRs before and after merge
- Wrote a toolchain (anglerfish) in **Typescript** for engineering department, which handled daily basic tasks

Vice President, Software Development   **February 2021 - December 2021**

CapitalRX
Remote (New York, NY)

- Oversaw the rapid growth of the department as the hiring manager for **20** developers and **8** QA Engineers, which saw the overall Engineering team scale to **70** from **27** in the space of a few months.
- Partnered with the CTO of **CapitalRX** to expand the tech leadership team by promoting from within and hiring outside of the company.
- Worked with the SVP of Product to establish a system of metrics (**KPIs**) to measure team progress and ensure steady progress to hit important deadlines and milestones.
- Oversaw the growth of the department from **2** scrum teams to **10**, working with the Director of Agile and product leadership to balance resources to meet needs.
- Coached and directly managed **23** Engineers, including **2** Engineering Managers.
- Initiated continuing education through a series of Chapter Meetings with the Director of Agile and engineering leadership.
- Collaborated with the new **Senior Director of Engineering** to deliver a **de-identification** framework to fully test highly data-driven behavior.
- Spearheaded and organized a cross-team effort to develop a **microfrontend** framework, to enable fully indpendent teams.
- Supervised the growth and development of the QA department, to group of **14** Engineers and a Director of QA.
- Established standards with the CTO and engineering leadership for our service migration, and new **microservice** development.
- Worked with the **Director of QA** to formalize processes and set new process standards within the QA department to meet growing needs, using a "shift left" mentality.
- Made critical changes to automation strategy to deal with scaling issues, including introducing smoke tests and parallizing full runs.
- Set work standards and processes for the Engineering and QA departments.
- Fixed many issues within the CI/CD pipeline and automation suites.
- Developed a reputation as a soft problem solver and technical expert, working to address critical issues as they arose.

Senior Director, Software Engineering   **March 2020 - February 2021**

CapitalRX
Remote (New York, NY)

- Worked with the CTO of **CapitalRX** to lead a team of 27 developers in delivering a pharmacy claims adjudication service, **JUDI**, the first launched in 25 years.
- Coached, managed and worked alongside 14 Engineers during the development of **JUDI**.
- Worked with SVP of Product to develop an Agile Pilot, which led to a successful adaptation of Scrum methodologies using **JIRA**.
- Worked with the CTO to build out subdepartments where we found gaps, including QA, DevOps and IT.
- Hired developers, scrummasters, and QA engineers to meet our launch goals for the year.
- Wrote an integration test pipeline using **CypressJS** and **Codebuild**.
- Developed several core packages to facilitate automated testing in **CypressJS** and **Pytest**, using **Python**, **NodeJS** and **AWS Lambda**.
- Built core tooling for the dev experience, including automatic code linters and a seeding framework, written in **Python**, **NodeJS** and **Typescript**.
- Built out a QA department and set up QA processes, including bug triage and testing requirements.
- Fixed production issues as they arose on our system health dashboard.
- Worked with both vendors and clients on several critical integrations for launch.

CTO   **August 2018 - November 2019**
SBM Consulting (Contract w/Olleyes)
New York, NY

- Worked with the founder of **Olleyes** to correct issues in a prototype medical device, a **FOVE VR** headset that performs visual tests, readying it for FDA class 1 medical device trials.
- Transitioned the device from an all-in-one prototype to a secure cloud-based platform using **AWS**, readying it for pre-release to first clients.
- Abstracted away platform-specific dependencies of different VR platforms behind interfaces using **Unity** and **Zenject**, and created a new product using that architecture on the **Pico 4k** (Android).
- Audited a **Django** application and re-wrote it to support multiple users, accounts, offices, devices, managers, employees, and patients.
- Leveraged **UniRx** (RxNET for Unity) and **Unidux** (Redux for Unity) to create a state-driven architecture that separated the data and network layer from the UI layer.
- Ported an **Electron** application to a web-native **Angular** application, which included the addition of new API endpoints.
- Customized and refined the **Angular** application for mobile phone and tablet usage in client settings.
- Extended the **Angular** application to include real-time test monitoring with secure **Websockets** and **Django Channels**.
- Created a **Docker Compose** setup for local development that boots all required services and additional development services (such as a fake mail server).
- Deployed the new application to the **AWS** platform using **ECS** on **Docker Compose**.
- Worked closely with vendors to establish technical specifications and debug hardware issues.
- Wrote basic installation scripts (.bat) for Windows using the **AWS CLI** and PowerShell.

Senior Platform Developer   **January 2017 - January 2018**
Paperless Post
New York, NY

- Helped complete the transition from **Rails 2** to **Rails 4** for a large Rails codebase (250k+ lines in one major component) with a great deal of technical debt.
- Worked with a small team to develop a complete mobile version of the website, including virtual card creation, in **React/Redux**

(using **RxJS** and **Redux-Observable**)

- Created a developer setup for the application and all required services (13+) using **Docker**, which included charting dependencies.
- Performed fundamental, decoupling changes required to **Rails** and **Go** services to facilitate **Dockerization**.
- Worked on a team to migrate our production environment from **AWS EC2** instances to **Docker** on **Kubernetes**, using the dependency chart I created as a guide.
- Worked extensively with the QA team to create a suite of **NightmareJS** tests, including instructional sessions and code review, to facilitate service integrity during these transitional periods.
- Made new API endpoints for the **Rails** application for mobile-specific purposes for our new **React** app and existing **iOS** app.
- Worked with the iOS Team Leader to ensure API consistency across versions, experience consistency between mobile app and mobile web, prevent service disruptions, and agree on new changes/additions.
- Wrote many tests to cover critical previously uncovered parts of the **Rails** and desktop **React** applications.
- Worked with load response teams to prepare the application to handle high volumes of users during the holidays and Valentine's Day.
- Developed an internal reputation in the company as a problem solver by reducing the complexity of previous solutions.

Other Positions

Founder | **Wandermight, LLC** | **New York, NY**	**January 2018 - Present**
Director of Engineering | **FarmersWeb** | **New York, NY**	**April 2013 - January 2017**
Senior Developer | **The Barbarian Group** | **New York, NY**	**June 2011 - April 2013**
Developer | **The Barbarian Group** | **New York, NY**	**June 2010 - June 2011**
Developer / **Analyst** | **RecycleBank** | **New York, NY**	**January 2010 - June 2010**
Founder | **Kazoo Interactive** | **Southbury, CT**	**March 2008 - Oct 2010**
Senior UI Developer | **Amedia Creative** | **Ramsey, NJ**	**February 2008 - November 2008**
Webmaster | **The Guitar Hangar** | **Brookfield, CT**	**October 2007 - June 2008**

Education

Boston College
Bachelor of Science, Computer Science
Minor in Mathematics

May 2007