

Andrew Marcuse

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Summary

Hands-on software architect and manager with a proven track record (3 startups!) of building and delivering innovative fintech & eCommerce systems.

Technologies

I am not a fan of long bullet lists, since one of the keys things I offer is the ability to quickly acquire the new skills needed. However, this seems to be a resume requirement, so here are the things in which I have multiple years of experience (If you would like to see my complete list, try the buzzword bingo page!):

- TypeScript, JavaScript (Node.js), Java, Go, Python
- SQL, PostgreSQL, Redis, MySQL, Microsoft SQLServer, Kafka, ElasticSearch
- React (Next.js, Remix), React-native, HTML, CSS, PDF
- Kubernetes, Docker, Amazon Web Services (AWS), Google Cloud (GCP), Azure

Experience

Head of Engineering / Senior Software Architect

2016 to present

Moven – mobile banking & financial wellness

Progressed from senior level team leader focused on customer initiatives to architect of the core product and then to head of software development and key member of the executive leadership team.

Recruited and managed the team of 16 software developers as we rebuilt the iOS and Android mobile apps in React-Native and migrated the backend to microservices running on Docker and Kubernetes running on AWS and Azure.

The system is deployed on 7 different cloud environments around the world and has over 6 million end users and 18 billion transactions.

- Led transition of backend from REST-based monolith that only ran on AWS, to a GraphQL & microservices architecture based on Docker and Kubernetes that runs in any cloud or on premises.
- Led transition of the mobile apps from Cordova/backbone to React Native.
- Implemented a system of “Architecture Decision Records” (ADRs) to keep the entire team focused and aware.
- Built an internal reporting system for real-time & scheduled reports for support, accounting, executives & clients.
- Built an internal management tools for easy troubleshooting of end-user issues without needing database access.
- Built a sandbox for customers and prospects that provides documentation and testing tools for our API and data integrations.
- Added Storybook for clients of our SDK and internal developers.

- Prototyped an AI-based query tool for clients to run custom database queries.
- Instituted a monthly “Gardening Day” where the team works on getting all dependencies up to date.
- Started a weekly security & log review to identify & triage all issues.
- Setup automated QA for the both the front-end mobile apps with AWS DeviceFarm and the back-end microservices using Jest.
- Led migration from Jenkins to Github Actions for both frontend apps and all backend services.
- Automated the CI/CD deployments to staging environments.
- Integrated monitoring with DataDog and Prometheus including custom metrics.
- Seamlessly integrated Moven’s app with customers’ iOS and Android mobile apps including secure single-sign-on, deep links and push notifications.
- Localized mobile apps to work seamlessly across multiple customer languages, currencies and time zones.
- Rewrote the categorization system with a flexible rules-based engine including regex-based name normalization.
- Led the team using agile software development methodologies including distributed version control, continuous integration and automated deployment.

VP Technology / Software Architect

2000 to 2016

BlueGolf – golf tournament management and eCommerce

Technical co-founder. I designed and wrote the initial system and managed its evolution to meet 15 years of challenges without interruption. The system now supports thousands of customers with millions of users in 4 languages from 5 continents doing hundreds of thousands of transactions per year.

- Created the initial product, a mobile application for players to enter scores and see a tournament leader board, along with the server backend to calculate the results. This was back in 2000, so the mobile app was in C running on Blackberry pagers.
- Expanded the backend to handle all aspects of running an event, from running the website to handling registrations and payments, to managing the players and scores, to awarding points and prizes.
- Managed and grew the team from just myself to 7 full time developers.
- Registration system that could handle flash crowds where an event sells out in a few seconds.
- Online payment support, including marketplaces fees, coupons, card tokenization and PCI compliance through multiple payment gateways in 5 different currencies.
- Mass email support, including analytics, templates, and spam prevention/monitoring.
- Mobile applications for iOS and Android that use the same backend infrastructure as the website.
- Localized and integrated translations into 4 languages for customers in 10 different countries.
- Automated billing system via ACH and credit cards.

- Event venue database, including profile pages, satellite/aerial overviews, searching and building lists.
- Managed infrastructure with 24x7 uptime and customers around the globe, including migration from self-hosted in our office, to simple collocation, to full-rack collocation and finally to Amazon Web Services.

Director of Systems Architecture

1997 to 2000

Ceridian – payroll & HR

Led the development of the Ceridian Source 500 product, including the integration of the existing FLX Visual HR product with a completely new payroll engine that used the Ceridian Signature payroll back-end.

Ported Source 500 to Oracle. This used the same system as the Jet-SQLServer layer, and existed in the same code base.

Developed an outsourced solution using Citrix and Microsoft Terminal Server so Ceridian could act as an Application Service Provider (ASP).

Enabled multi-lingual and multi-national support. This support used the built-in customization capabilities and did not require changes to the core system. Worked extensively with developers in the UK.

Designed and developed a web self-service interface to the HR system.

Developed a KnowledgeBase to support the distributed development and QA teams. Access was later expanded to include support, professional services and eventually clients.

- Template-based look & feel to allow rapid user-interface changes and support a separate look & feel for clients.
- Security and registration to keep sensitive content from being seen or searched.
- Logging, auditing & reporting: used proactively to find problem areas that could be addressed in the software or in documentation, as well as instances where problems occurred in the field but had not been formally reported.
- Enhanced searching and search tips for failed searches to try to guide users to the appropriate documents.
- Automatic site index.
- Portable URLs that were short, easy to use, and did not break when documents were moved.
- Email this page: complete pages could be emailed to people offsite or clients.
- Weekly newsletters: keep users informed about changes to the system as well as new information that was found in the field.
- Public discussion areas that could be viewed and searched instead of private email or phone calls.
- User-entered notes and feedback, so users could share tips and hints about specific articles.

Senior Developer

1989 to 1997

FLX Corporation – flexible benefits management

- Enhanced the original FLX product, RecordKeeper, was a flexible benefits administration system written in C on the Btrieve/XQL database engine.
- Developed a "Control Center" that integrated in FLX modules as well as third party report writers.
- Ported to NetWareSQL, one of the first PC-based client/server databases.
- Developed a multi-year database that could manage a single company for multiple plan years in a single database.

Developed a custom reporting language, PrintBasic, to ease production of custom forms and statements. It was a subset of Basic with a library of functions for printing and data access. It was used extensively by the FLX professional services group.

Developed Visual HR, a human resources and benefits system in FoxPro for Windows, later migrated to Visual Basic and the Microsoft Jet database engine.

Developed a system to simultaneously support Microsoft SQLServer and Microsoft Jet. This allowed a cost-effective low-end solution, while scaling up to address the needs of high-end clients.

Developed a benefits system with wizards for simple configuration and VBA for complex customization. This engine could support the most complex benefits and scaled to the largest clients, but was simple to learn and use.

Led the effort to achieve Microsoft Office Compatible certification. This helped new users learn and understand the software and got FLX market recognition and credibility.

Developed integrated, modular customization system that

- allowed novice end users to perform extensive customization
- could be used by professional services to seamlessly integrated custom modules.
- allowed development to isolate changes without duplicating code.

Integrated the Crystal Reports Engine with security and custom dynamic filtering.

Developed a recruiting management module with integrated scanning, OCR and full-text searching.

Technical point person during acquisition by Ceridian. Oversaw a two week performance and functionality review during due diligence.

Programmer

1987 to 1988

Princeton Telecom Corporation

Developed home banking & financial planning software for IBM PC and Apple Macintosh

Education

BA Physics, Concentration in Computational Science
Haverford College

1987

Fluent in French: high school junior year abroad
Lycée International de Saint-Germain-en-Laye

1982