



# Zachary C. Miller-Ember

Business Process and Software Development Consultant

## About Me

I am an expert in **web application development**, the **management** of software engineering teams, and the **agile business processes** that empower those teams.

I have been writing data-driven web applications since 1993, when both I and the web were young. I am a **technical jack-of-all-trades**, with extensive experience with software engineering, full stack web development, database administration, data analytics, system administration, requirements analysis, agile project management, hiring processes, human resource allocation, revenue operations, customer relationship management, sales and marketing process, customer service process, and business intelligence. I love **solving hard problems** and my passion is **maximizing efficiency and quality in completely distributed workforces**.

In my spare time I play with power tools, board games, bicycles, harmonicas, and audio gear.

## Bio

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🏠 Home/Office

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# Work Experience

## **Director of Business Operations** at 42 Lines Inc, Chicago, Illinois, United States

2020 - 2022

As our company moved from bespoke contract software engineering to a **SaaS** product sales strategy with its Harmonize product for Learning Management Systems, I took on **Revenue Operations** (RevOps) duties along with running the **hiring process** for Sales and Marketing leadership roles. My existing business process duties expanded to include the design and implementation of:

- integration and syncing between **Salesforce, HubSpot, DocuSign, ZoomInfo**, and **FreshDesk**
- **sales and marketing automation**, reports, and workflows
- report **sales and marketing metrics** to the CEO to inform strategic decisions
- data cleanup, normalization, merging, and import (**ETL**) from disparate sources for Salesforce and HubSpot.

## **Director of Project Management** at 42 Lines Inc, Chicago, Illinois, United States

2018 - 2020

As our bespoke contract software engineering company grew to **support multiple clients**. I was tasked with expanding the Project Management Department, adapting our processes to allow for **simultaneous sprints, resource allocation, hiring processes for new roles**, expansion of the company to 50 employees.

- Analysis of both individual performance metrics and project status metrics in **Google Sheets** and **Tableau** using data I extracted through APIs from **JIRA, Git, Google Sheets, Confluence, Tom's Planner, Google Calendar, Tempo Timesheets, Smart Sheets**, and other systems.
- acted as **Business Intelligence Analyst, Sales Department Manager**, and **QA Department Manager** during times when these roles were empty
- **Supervised** a Project Manager and a Project Management Assistant.
- **Facilitated senior management meetings** and **strategic retreats**.
- Facilitated a shift from **Scrum** to **Kanban** for mature projects.



## Project Manager at 42 Lines Inc, Chicago, Illinois, United States

2010 - 2018

I managed a team of 20 fully remote software engineers, QA testers, designers, and devops engineers to formulate **iteration plans** and deliver on time.

- designed custom workflows in JIRA to support **Scrum processes** for a **fully remote** team.
- led the transformation of the company from ad hoc workflows to well managed Scrum.
- administrator for entire self-hosted **Atlassian Suite** (JIRA, Confluence, Crowd, Bamboo, Fisheye/Crucible).
- designed and maintained **company policies** relating to Hiring, Onboarding, Offboarding, and HR.
- ran **retrospectives**.
- oversaw sprint metrics
- reported directly to the CEO.
- developed billing software to generate invoices from JIRA data
- developed many API integrations between project management tools
- event management for semi-annual company retreat events that brought our fully remote employees together for team building.
- thanks to my unique Digital Video experience I also designed and implemented a custom streaming video infrastructure as well as an HTML5 client side video recording interface
- acted as in-house PHP expert as needed by our clients
- assisted engineering team with **data modeling**



## Software Development Consultant at CAM Systems, Oak Park, Illinois, United States

2017 - 2019

Part-time consulting project.

- Developed a **Perl** daemon in **OpenShift/Kubernetes/Docker** infrastructure to run periodic **MySQL** queries to detect certain data events and log them as **JIRA** tickets via **REST API**.
- Provided general assistance with application migration and deployment (**DevOps**) of the company's Java web application.

## Web Development Manager at G Media Pty Ltd, Melbourne, Victoria, Australia

2009 - 2010

Managed all aspects of software development for a multimedia publishing company.

- Hired and managed a team of 5 direct reports (2 full stack programmers, 1 front-end engineer, 1 designer) while acting as lead programmer.
- Implemented **Agile+XP** methodology with **Continuous Integration and Delivery** (CI/CD) and **Test Driven Development** (TDD).
- Reported directly to the CEO.
- Produced revenue and site usage reports to inform, implement, and measure marketing initiatives.

## Lead Programmer at G Media Pty Ltd, Melbourne, Victoria, Australia

2007 - 2009

Architect and implementation lead for a custom in-house subscription-based multimedia **content management system**.

- Developed frameworks and standards for next generation content management.
- Developed and maintained internal software systems for **asset management, customer support, marketing, project management, customer support, payments processing**, and **continuous integration** use.
- Architect for **XML/XLST** based content management system with an emphasis on **multi-lingual content delivery (i18n/l10n)** and efficient separation of front-end and back-end concerns.

## Features Programmer at G Media Pty Ltd, Melbourne, Victoria, Australia

2005 - 2007

Added new features to existing in-house software as needed.

- Created Web 2.0 list/tag system
- video thumbnail extraction with **mplayer**
- streaming **video transcoding** infrastructure with **ffmpeg** and **ffmpeg**, custom **PHP content delivery network** with **distributed zip file creation** and **on-demand image watermarking**
- maintenance of pre-production and post-production database systems
- **MySQL optimization** including query, schema, and server optimization



## **Consultant** at G Media Pty Ltd, Urbana, Illinois, United States

2004 - 2005

Created customizable HR/pre-production database with **MySQL** and **Perl**. This was a bespoke highly customizable web application for tracking pre-production planning.



## **Festival Director** at Porcupine Mountains Music Festival, Ontonagon County, Michigan, United States

2005 - 2007

Created a 3 day folk music festival in a state park in rural Upper Peninsula of Michigan. Along with 1 other volunteer festival directory I was the sole paid employee responsible for creation, **talent booking, site logistics, web site design, budgeting, marketing, and coordination of over 100 volunteers**. This was a 25% time job. The festival continues to operate annually after over 15 years.



## **Co-Founder** at Champaign-Urbana Community Wireless Network, Urbana, Illinois, United States

2004 - 2005

Non-profit, grant-funded, initiative to implement a mesh wireless routing protocol called **Hazy-Sighted Link State (HSLS)**. I helped specify the overall **architecture**, administered the **testing platform**, performed **field installations**, and developed **network visualization** and configuration software in **C**. I was a **technical representative** for the project at **conferences** in Seattle, Washington DC, and Denmark and in meetings at the Federal Communication Commission and with several US Congresspeople.



## **Systems Engineer** at National Center for Supercomputing Applications, Champaign, Illinois, United States

2001 - 2004

**Manage servers** for Hierarchical Data Format group and Caterpillar research group including HP-UX, Solaris, Linux, IRIX, and Windows machines. **Problem solver** for research groups with special computing needs not otherwise met by the normal support structure.

## ○ Chief Technology Officer at Slots.com, Urbana, Illinois, United States

2000 - 2001

Dotcom startup with an early vision of **interactive advertising**. In the days of banner ads this company sought to replace banner ads with interactive slot machine games that would reward engaged prospective customers with coupons to drive impressions to conversions more efficiently. I created the **Java applet** based web front end as well as the **Apache/Perl** based server backend. I also specified, acquired, and maintained the **server infrastructure**.

## ○ Software Developer at Zach Miller Consulting, Urbana, Illinois, United States

1999 - 2001

Various clients. Developed **C++/Apache** integration for a C++ web application framework. Developed modular **Perl**-based "meta-search" engine for educational purposes - parsing and comparing search results from multiple search engines.

## ○ Lead Programmer at US Geological Survey, Urbana, Illinois, United States

1995 - 1999

Web programmer and software engineer for the Illinois District of the Water Resources Division. Designed and built a modular system for distributing **real-time stream gauge data** to the public including both **CSV/TSV** files and **graphs**. Our team was one of the first government agencies to put real time data on the Web. I was **lead programmer** on a team of seven. I was also involved in **system administration** within the Illinois district and at the national headquarters.

## ○ Network Systems Administrator at Illinois Mathematics and Science Academy, Aurora, Illinois, United States

1993 - 1995

Lead **Solaris** and **Netware** systems administrator. My duties included maintenance, upgrade, and development of several networked machines with a user base of over **1000 users**. Implementation of one of the **earliest school websites**. Member of a 3 person team which designed and installed a Solaris and Netware server cluster for the students and faculty of IMSA. Played a leading role in designing a **campus wide ethernet LAN** with several hundred drops, several subnets, multiple protocol support, and a high speed server backbone. Assisted in **hiring process** for full time system administrators. **Coordinated** student network system administrator program. Maintained a collection of **open source tools**.

# Education



**BS Computer Science** from University of Illinois at Urbana-Champaign

1995 - 2000



**BA Linguistics** from University of Illinois at Urbana-Champaign

1995 - 2000



**High School** from Illinois Mathematics and Science Academy

1993 - 1995

# References



**Clinton Popetz**

President/CTO at Harmonize / 42 Lines, Inc



Zach is a very deep thinker, a person who takes the time necessary to consider all aspects of a problem and is able to analyze the costs and benefits of possible solutions. His attention to detail is unmatched. He was a crucial and valuable member of our team for many years in various roles, and his contributions were always welcome. He's also an extremely ethical, thoughtful, and empathetic human, which makes him an excellent addition to any team regardless of his specific role.

# Professional Skills

## Agile Development (Expert)

Scrum, Kanban, Extreme Programming (XP), Distributed Teams, ScrumMaster, Retrospectives, Burndown, Velocity, Planning, Commitment, Points, Stories, Pairing

## Project Management (Expert)

Agile, Scrum, Kanban, Ticketing Systems, Workflows, Human Resource Allocation, Estimation, Retrospective, Continuous Improvement, Projections, Portfolio Management

## MySQL (Expert)

Query Optimization, Index Optimization, ETL, Database Administrator (DBA), Schema Design, Data Modeling

## Revenue Operations (RevOps) (Expert)

Salesforce, HubSpot, DocuSign, CRM, Integration, Configure, Price, Quote (CPQ), FreshDesk, Reporting, Forecasting, Sales Process

## Atlassian Suite (Expert)

JIRA, Confluence, Crown, Fisheye/Crucible, Trello

## WordPress (Proficient)

Admin, Customization, Elementor, Plugins, Themes

## Systems and Network

### Administration (Proficient)

Linux, Security, Reliability, DevOps, AWS, Firewall, LAN, Routing

### Containerization (Competent)

Docker, OpenShift, Kubernetes

## Full Stack Web Development (Expert)

HTML5, CSS3, JavaScript, Responsive Design, Accessibility, Bootstrap

## Hiring Process (Expert)

Recruiting, Job Description, Pre-Screen, Interview, Practical Test

## PHP (Expert)

Zend Certified Engineer, PHP5, PHP7, Doctrine ORM

## Salesforce.com (Expert)

Apex, Workflows, Process Builder, Lightning, Integration, Migration, RevOps

## Web Services (Expert)

REST, SOAP, JSON, Integration, Authentication, API, RSS

## Jekyll (Proficient)

Static Website, JSON, Liquid

## C++ (Proficient)

STL, C++98

## Java (Competent)

## Business Intelligence (BI) (Expert)

SQL, Tableau, Google Sheets, Data Analysis, Reporting, ETL, OLAP, Normalization, Denormalization, Database Administrator (DBA)

## Software Development (Expert)

Patterns, YAGNI, DRY, OOP, Perl, Python, PHP, Security, Model/View/Controller (MVC), Requirements, Design, Implementation, Testing, Deployment, Support, Updates, Reliability, Performance, Security

## Perl (Expert)

Modern Perl, Embedding, mod\_perl, CPAN

## HubSpot Marketing Hub (Expert)

Workflows, Automation, Configuration, Administration, Integration, Campaigns, Sync

## Digital Video (Expert)

ffmpeg, mplayer, transcoding, MediaCapture, HTTP Live Streaming (HLS), AWS MediaConvert, Closed Captioning, Subtitles

## XML (Proficient)

Extensible Stylesheets (XSL), XSL Transformations (XSLT), XML Path Language (XPath), XML Schema (XSD)

## Git (Proficient)

Branch, Merge, Hooks, Diff, Blame, Rebase

## Python (Competent)