

# Matthew David Litwin

## Software Engineering Manager and Lead

Managing engineers, designing and implementing front-end and back-end systems, creating educational software.

## Experience / Work History

### McGraw-Hill Education

07/31/2012 – Present

#### Software Engineering Manager

- Lead a diverse Full Cycle engineering team
- Backend, front-end, infrastructure and support
- API design, technical solutions
- Management of full time employees, contractors, and vendors

Selected projects:

#### *SmartBook 2*

An HTML5 update / rethink of older (flash based) SmartBook product. My team created the authoring application for augmenting ePub content with rich metadata, enabling an adaptive end-user experience. Angular 7 on the front-end, and multiple backend components (php, node).

#### *Rich-Text Glossary*

This is a component of MHE's internal authoring suite, enabling author creation of banks of glossary terms and definitions. Supports rich text, images, multiple languages. AngularJS on the front-end, node on the back-end.

**Software Engineering Lead** Design and implementation of "Web Sketchpad", an HTML5 viewer for Geometer's Sketchpad documents. This was a ground-up re-implementation of the desktop softwares internal C logic into HTML5 / JavaScript.

- Planning and design
- Implementation / coding
- Technical project management, several direct reports
- Negotiating feature-set and schedule with stakeholders

### KCP Technologies

03/22/1999 – 07/31/2012

Junior Programmer to Senior Software Engineer

- C, Windows MFC, and Mac Objective C programming on *The Geometer's Sketchpad*, an educational geometry visualization and interaction application.
- Mac and Windows programming on *Fathom Dynamic Data Software*, an educational statistics application. Used an in-house cross-platform C++ framework.

## Skills

- Practices: Scrum, Agile Programming, XP, Pair Programming
- IDEs: XCode, Visual Studio
- Source Control: git (svn, CVS)
- Issue Tracking: JIRA, Trello, Bugzilla
- Content Management Systems: Confluence, MediaWiki

## Programming Languages

- HTML5/JavaScript/typescript Application Development
- C / C++
- terraform
- node, Perl, PHP, bash

## Education

- University of California, Santa Barbara - MS Mathematics - 1997
- University of California, Berkeley - BS Mathematics - 1994

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