# Matthew David Litwin

**Software Enginering Manager and Lead**

- Manange Engineers
- Design and Implement Front-end and Back-end Systems
- Math Education Software

## Experience / Work History

**McGraw Hill Education**

**Software Engineering Manager**

- Lead for a diverse Full Cycle engineering team
- Backend, front-end, infrastructure and support.
- Management of full time employees, contractors, and vendors.

**Software Engineering Lead**   Web Sketchpad

HTML5 viewer for the Geometer's Sketchpad. Interactive content in MHE products.

**KCP Technologies**

03/22/1999 to 07/31/2012

Junior programmer to Senior Software Engineer

- Technical project management, several direct reports
- C, Windows MFC, and Mac Objective C programming on The Geometer's Sketchpad
- Mac and Windows programming on Fathom™ Dynamic Data™ Software with an in-house cross-platform framework

## Skills

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

## Programming Languages

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

## Projects

### Smartbook 2

Smartbook 2 is the HTML5 update / rethink of older (flash based) Smartbook product.

My team created authoring application for augmenting ePub content with rich metadata, enabling adaptive end-user experience.

### The Geometer's Sketchpad

The Geometer's Sketchpad is an interactive Dynamic Geometry™ application, available for Windows, Mac, and iOS. I worked on the most recent major version, coding considerable portions of the Windows front end, also implementing core geometric and utility algorithms. I am also the tech lead for the development of an HTML5/JavaScript viewer for Sketchpad documents.

### Fathom

Fathom was a Dynamic Mathematics application for teaching Data Analysis and Statistics, available for Windows and Mac. I coded using an in-house cross-platform C++ framework, including HTTP download components, and mathematical algorithms (such as multiple linear regression, and primality testing).

### Education

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