Timothy Walter Kukulski

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Summary

20 years experience designing and building highly interactive UI at companies large and small.

Experience

Adobe

Lead Scientist, Architect
MARCH 2010
— PRESENT

Experience Design
I build application architectures to enable 'playful development' where the design team works hand-in-hand with product engineering. By decoupling deep rocket-science (e.g.: a fast graphics stack) from application structure and fine-grained interaction, the boundaries between iterative design and production code are reduced.

I stake out technical vision and best practices for multitouch and stylus interaction for mobile, desktop, and installation-scale displays. By providing inspiration and key architectural solutions to the design and engineering teams, I get better product out the door faster. Recent projects: Mighty (cloud-enabled stylus), Context (big-screen, cross-device collaboration), Children's Creativity Museum 'Sense It' room (8x14' touch-sensitive LED wall with active floor, embedded linux)

LUA • C++ • OBJECTIVE-C • OPENGL/GLES/GLSL • IOS • ANDROID • EMBEDDED HTML5
INTERACTION DESIGN • LEAN STARTUP • PROTOTYPING

Senior Experience Engineer
AUGUST 2008
— MARCH 2010

Experience Design
Bootstrapped multitouch for Flash and AIR -- devised initial experiments, producing fully functional systems that proved the concept and drove the API definition.

Technical heft, deep interaction prototyping, and commando engineering, occasionally embedding in product teams to ensure feature delivery.

AS3 • C++ • JAVA

Senior Software Engineer
SEPTEMBER 2005
— JULY 2008

Adobe Acrobat
Lead architecture and development of PDF Portfolios for Acrobat 9 and 9.1 and its underlying SDK. Architecture and implementation of performant secure bridge to embed the Flash runtime into Acrobat.

High fit & finish, UI implementation (pixel shaving) with an eye toward performance, ensuring the front end remains fluid and responsive.

C++ • AS3 • UI DEVELOPMENT • API DEVELOPMENT • EMBEDDED JAVASCRIPT • EMBEDDED FLASH

Senior Computer Scientist
OCTOBER 2004
— AUGUST 2005

Advanced Technology Labs
Architecture and implementation of markup-driven java UI framework.

Developed a concise XML grammar an an accompanying runtime to instantiate and configure Java objects from concise markup. System has swappable back-ends to deploy the same application against varying target platforms such as Swing, SWT, or SVG.

JAVA • XML • XBL

Autodesk

**Senior Product
Designer**
JANUARY 2001
— JUNE 2002

AutoCAD
Lead the design process for the Tool Palettes Extension and 3d navigation, face picking, and direct-manipulation extensions to AutoCAD.

Lead design of enterprise features for AutoCAD. Observed the work practices of key customers in order to refine the feature set and define workflows and data models.

Negotiated requirements, developed and validated conceptual designs. Applied technical knowledge within design reviews to improve adoption of features into product. Produced and iterated upon detailed interactive prototypes and formal specifications including detailed descriptions of edge-case behaviors.

CONTEXTUAL DESIGN • FORMAL SPECIFICATIONS • CONCEPTUAL DESIGN • PROTOTYPING • FLASH

Therm

Artist, Machinist
SEPTEMBER 1998
— OCTOBER 2002

Design and fabrication of components of kinetic sculpture for public exhibition.

MECHANICAL DESIGN • LATHE • MILL • TIG WELDING

Xigo.com, Ububu.com, Asera

Consultant
SEPTEMBER 1998
— JANUARY 2001

Extended Oracle8 database schema and implemented accompanying WebLogic/JDBC code to deliver servlet-based solutions in the consumer and ASP markets, providing seamless integration of syndicated content, relational data, and third-party collaboration software to HTML, XML and Macromedia Flash clients.

Optimized and extended 3rd party AWT classes to provide performance, small footprint, and browser compatibility, delivering best-in-class UI for a next-generation electronic stock brokerage.

JAVA • SQL • FULL-STACK • FLASH • APPLICATION ARCHITECTURE

Ensemble Solutions

**Senior Engineering
Architect**
DECEMBER 1997
— JULY 1998

Delivered four releases of client-side and server-side components on time under a tight schedule. Implemented best-practices to the requirements and scheduling processes, ensuring that development goals were in line with technology plan and sales needs.

Developed public-key security subsystem and administrative UI for distributed object system.

WebFlow

**Manager of
Product Design**
MAY 1996
— DECEMBER 1997

Built team responsible for UI design and development for DHTML and ActiveX clients. Lead transition to SQL-based three-tier architecture.

PAPER PROTOTYPING • CONTEXTUAL INQUIRY • SQL • C++ • JAVA • JAVASCRIPT • VISUAL BASIC

Vicarious

Senior Software Engineer
JANUARY 1995
— MAY 1996

Tools and Applications
Cross platform UI, SIMD-optimized antialiased text engine and high-performance data access infrastructure for CD-ROM multimedia encyclopedia.

Oracle

Software Engineer
JUNE 1993
— JANUARY 1995

Oracle Office Directory Services
UI design and development. Improved performance and scalability by optimizing client-server communications and use of PL-SQL stored procedures.

MIT Media Lab

Undergraduate Researcher
SEPTEMBER 1989
— MAY 1993

Visible Language Workshop
Interaction design and development in collaboration with graduate researchers from design and engineering backgrounds.

Apple

Engineering Intern
MAY 1992
— AUGUST 1992

Quickdraw GX
Design and development of direct-manipulation vector-editing UI

NYNEX

Intern, Consultant
MAY 1991
— DECEMBER 1991

Science and Technology
Technology transfer -- design and implementation of multimedia scripting and presentation environment for large HiDPI displays.

Education

Massachusetts Institute of Technology

Bachelor of Science
SEPTEMBER 1989
— MAY 1993

Electrical Engineering and Computer Science
Thesis: *Sturdy Fonts for CRT Display: Improving readability of text at small pixel sizes*
Thesis advisor: Muriel Cooper