

# NICHOLAS HOYT

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## SUMMARY

Software developer and interaction designer specializing in user interface design and front end development.

Over thirty years of software design and development experience with a focus on user experience design and web application development using JavaScript, HTML & CSS. Significant experience in JavaScript (ES6 and later), Java, C and OCaml; interaction design; conceptual modeling; usability analysis and web accessibility evaluation.

## EXPERIENCE

### **Software Developer & Interaction Designer, University of Illinois — 2005–present**

Lead designer and developer of the 'Skip to Landmarks and Headings' browser extension for Chrome and Firefox, which constructs and displays a menu that provides keyboard access to the landmark regions and headings on a web page. Developed using Web Components and WebExtensions APIs. [Chrome version](#), [Firefox version](#)

Contributor to W3C ARIA specifications: Developed example components and documentation, which included JavaScript code along with descriptions of the component behaviors in alignment with the ARIA Authoring Practices Guidelines.

Lead designer and developer of CKEditor plugins in JavaScript for the 'A11yFirst' Project, including the 'Heading/Paragraph', 'Image', 'Link', 'Character Style' and 'A11yFirst Help' plugins, which are available at [CKEditor Add-ons](#).

Lead designer and contributing developer of 'AInspector WCAG', a Firefox browser add-on that provides web accessibility evaluation based on WCAG 2.0 requirements, available at [Firefox Browser Add-ons](#).

Lead designer and developer, in conjunction with Pixo, of the 'Accessibility Bookmarklets', web accessibility visualization tools compatible with all major browsers, available at [Accessibility Bookmarklets](#).

Lead designer and contributing developer of the 'Functional Accessibility Evaluator' (FAE), a Django/Python web application that analyzes the accessibility of websites, available at [Run FAE](#).

### **Interaction Designer & Front End Developer, Web UI, Chicago, IL — 1999–2005**

As principal of Web UI, Inc., provided software design and development services with an emphasis on interaction design and front end web application development for Fortune 500 clients, including ABN AMRO, Accenture, Allstate Insurance, DeVry University, Fidelity Investments, HOLT Value Associates and the Illinois Institute of Technology.

### **Interaction Designer & Front End Developer, Fidelity Investments, Marlborough, MA — 1997–1999**

Served as principal interaction designer in the redesign of 'NetBenefits', a web application providing retirement savings account access to over one million customers. Improved the user experience through contextual inquiry, task flow analysis and usability testing.

According to an article published in the New York Times, in the year following the deployment of the new design of 'NetBenefits', the number of retirement savings account customer service calls was reduced by 50 percent compared to the previous year.

Designed and developed retirement investing tools for 401k.com, Fidelity's website for institutional investors. Tools included the 'Contribution Calculator', 'Withdrawal Calculator' and 'Take Home Pay Calculator'.

### **Senior Software Engineer & User Interface Designer, BGS Systems, Waltham, MA — 1991–1997**

Responsible for X Window/Motif user interface design and C/C++ development of capacity planning and performance analysis products on Unix and VMS platforms. Investigated the feasibility of using Java for migrating to platform-independent user interface development.

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## EDUCATION

University of Massachusetts Boston — BA in Computer Science with Distinction, Summa Cum Laude, 1991

Harvard Extension School, Cambridge, MA — Introductory Computer Science courses, 1987–1988

Berklee College of Music, Boston, MA — Jazz Composition & Arranging major, 1981–1984

## SKILLS

### Interaction Design

Requirements gathering and analysis; development of conceptual models, personas, scenarios, essential use cases, user role- and task-models; creation of wireframes using Sketch, OmniGraffle and Visio.

### Front End Development

Modern JavaScript (ES6 and later), HTML, CSS, Sass, DOM scripting, ARIA & WCAG accessibility requirements, responsive design, Web Components, Chrome and Firefox browser extensions, WebExtensions API, experience with React.

### Web Development

Git, GitHub, Node.js, npm, webpack, Gulp, Nunjucks (Jinja2) templates, modern JavaScript, Django, Python, XML, XSLT, OCaml, Java, SQL, PostgreSQL, C/C++.

### Usability Analysis and Testing

Creation of interactive prototypes, task lists and surveys for testing; facilitation of discount and lab-based usability testing; quantitative and qualitative analysis of test results.

### User Research & Information Architecture

Field observations, contextual interviews, user role- and task-modeling workshops, card sorting exercises, paper prototyping.

## CONTACT INFO

[LinkedIn Profile](#) — Additional details available upon request