

# Jonathan Isaac Helfman

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## Objective

The design and engineering of insightful user experiences with integrated data visualization.

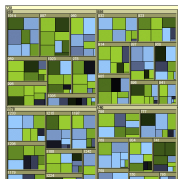
## Profile

A Designer, Engineer, and Researcher with significant experience working with multidisciplinary teams to create interactive applications and services that streamline business processes and create new opportunities. Skills: Identification of tasks and patterns, specification of requirements, prototyping on multiple platforms, data visualization, animation, graphic and interaction design, photography. Languages/protocols/systems: ActionScript, C, C++, CSS, FLEX, HTML, HTTP, Java, JavaScript, JSP, Lisp, MIDI, PHP, SQL, XML. Tools: Adobe, Jdev, MySQL, Office, Oracle.

## Principal Research Scientist

2004-present

Oracle, Applications User Experience Research, Redwood Shores, CA  
Fourteen patents pending, five publications.



Usability evaluation, requirements gathering, multi-platform prototyping, and documentation of implementation issues for a Treemap data visualization component for integration into multiple enterprise software products and support tools. Development of a Flex Treemap component for Oracle Enterprise Manager Grid Control product allowing DBAs to monitor the performance of thousands of Oracle databases.

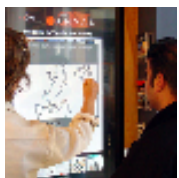
Design and development of: a system for analysis and visualization of eye-tracking data; JavaScript visualization components for prototyping; a system for matching datasets to appropriate visualization components; a JavaScript faceted browser decision-support tool to help developers identify appropriate design patterns; design patterns to help developers identify appropriate graph types; FireFox web clipping extension; evaluation of FLEX as a RenderKit for JSF/ADF.

## Visiting Scientist

2002-2003

FX Palo Alto Laboratory, Inc., Palo Alto, CA (a Fuji Xerox Company)

One patent, four patents pending, four awards, seven publications, and four public deployments.



Design and implementation of user-interfaces for an international network of large, public touch screens, winning two ACM DIS 2004 Design Awards. Screens display user-posted content as web pages. A strip of thumbnails provides an overview and access mechanism.



Graphic design, software design, and implementation of JSPs, beans, applets and servlets for managing a MySQL database of user-posted content for the above network. Overviews show thumbnails of posted content by channel or user. Forms let users post, modify postings, register, login, edit personal information, and upload, crop, and scale images to produce uniformly-sized thumbnails.



Invented and prototyped a way to create documents for Web shopping and research by clipping and annotating web pages. Uses C# and .NET to extend IE's toolbar. Cropped images of rendered web pages are associated with HTML fragments and JavaScript required to render the clips, which are collected in a new document that can be immediately re-clipped.



Designed and implemented a hyper-video player. Selectable thumbnails of video frames indicate when a link is available. When following a link, the current video frame animates into a new thumbnail, forming a link back. As multiple links are followed, thumbnails form a list of bread crumbs back to any video in the call-stack.

## Member of Technical Staff

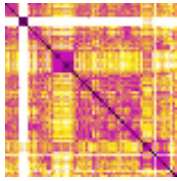
1986-2002

Human-Computer Interaction / Online Platforms Research

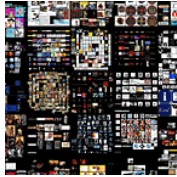
AT&T Labs-Research, Menlo Park, CA and Florham Park, NJ; AT&T Bell Labs, Murray Hill, NJ

Five patents, four patents pending, 19 publications, six invited talks, AT&T Doctoral Support Program Award.

Designed and implemented the following tools and systems:



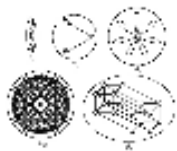
Tools for translators that enabled new service offerings for AT&T Business Translations. Created a text editor for synchronizing documents with their translations and a similarity pattern browser for organizing thousands of files and matching renamed or split files across versions and languages (on the left is the similarity structure of a software module of the AT&T 5ESS switch).



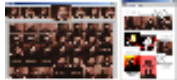
Mandala is a way to browse the Web by viewing groups of images from web pages that are collected from proxy caches, grouped by browsing session and site of origin, and stored as imagemaps that function as persistent visual site indexes, bookmarks, session summaries, and cache visualizations. Selecting any image loads the associated web page in a browser.



Ishmail is an email system for sorting, prioritizing, archiving, and identifying important messages, increasing the productivity of dozens of managers at Bell Labs and several universities who use it to handle hundreds of emails a day.



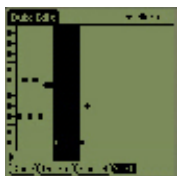
Bonsai is a reusable graph browser UNIX component, for visualizing, manipulating, and animating relational data, which was used to visualize the results of natural language parsers and provide a graphical interface for configuring the topology of AT&T DSP3 multi-processor machines.



Shortcut Comix is a Java system for creating comics from videos, using JMF for video sampling, J2D for image processing, and Swing GUIs and text editors. Comic balloons reshape as text is edited. A special Composite object allows alpha-channel masks to be edited by painting directly on video still frames.



Rollover image menus provide visual previews in the form of smoothly dissolving and zooming high-resolution images. The use of zoom allows an interactive preview of available information by revealing more visual details the more the user leaves their cursor on an area of interest in the menu.



Dub is a Palm graphical editor for creating and modifying MIDI sounds quickly, without requiring mastery of traditional music notation. Designed to work with HubBub, an instant messenger for sending MIDI messages, Dub is used to customize a user's personal sound ID and create new types of sound instant messages.

## Education

**Harvard, AB (cum laude)** joint degree in Visual & Environmental Studies and Engineering & Applied Sciences, focusing on film animation and Electrical Engineering, Cambridge, MA. Aiken and Crandon Scholarships. Cross-registration at **MIT**.

**Columbia, MS** Computer Science, New York City, NY, AT&T Tuition Assistance Program.

**University of New Mexico, PhD** Computer Science, Human-Computer Interaction, Albuquerque, NM, AT&T Bell Labs Doctoral Support Program.