

# 35

# Years of the HCIL



Ben  
SHNEIDERMAN

Catherine  
PLAISANT

Ben  
BEDERSON

Allison  
DRUIN

Jen  
GOLBECK

Mona Leigh  
GUHA

June  
AHN

Niklas  
ELMQVIST



# 8 Directors

**Ben Shneiderman** (1983-2000)

**Catherine Plaisant** (*acting*) (1996-1997)

**Ben Bederson** (2000-2006)

**Allison Druin** (2006-2011)

**Jen Golbeck** (2011-2014)

**Mona Leigh Guha** (*interim*)(2014-2015)

**June Ahn** (2015-2016)

**Niklas Elmqvist** (2016-present)





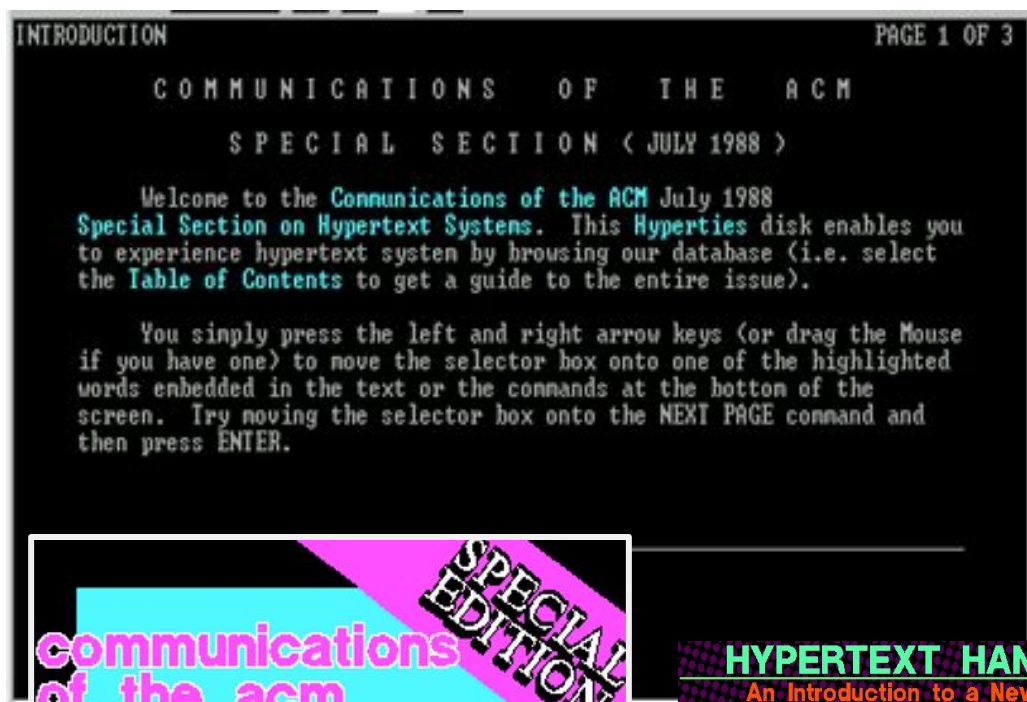
**Years**

**1983-2000**

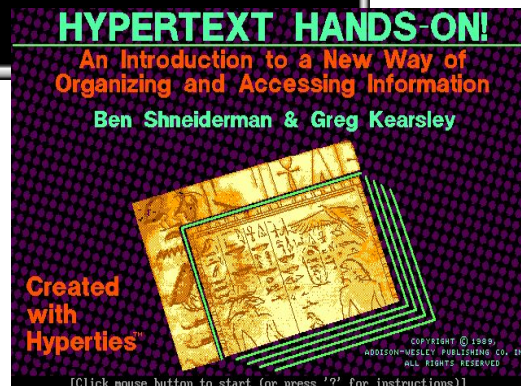
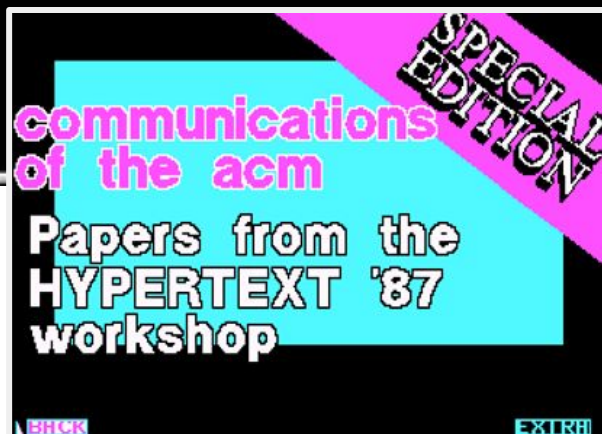
Ben Shneiderman  
Catherine Plaisant

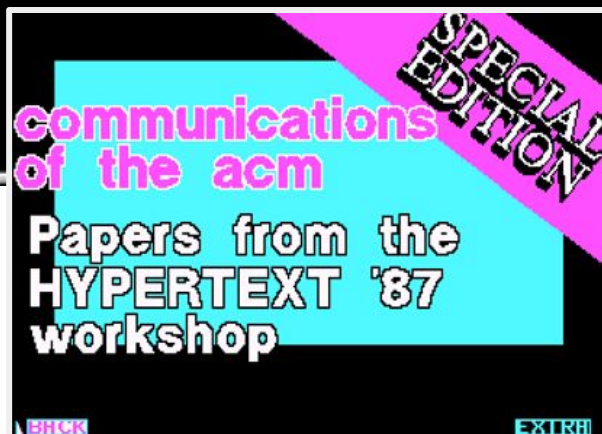
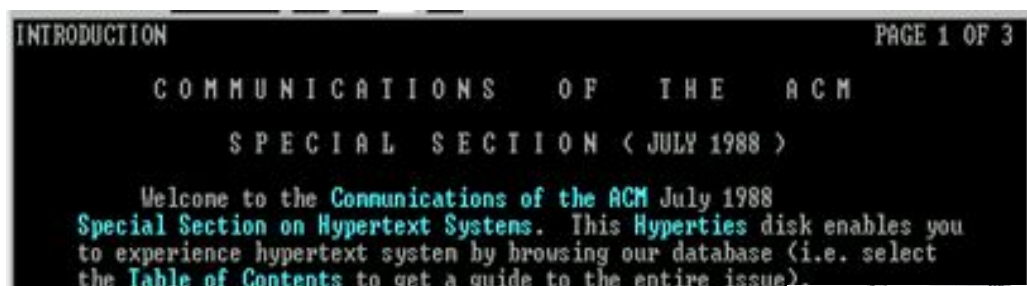
## Highlights

- Hypertext & the [link](#)
- Touchscreens
- Treemaps
- Photo-tagging
- Dynamic Queries
- Query Previews
- Lifelines
- *Designing the User Interface*
- QUIS: Questionnaire for User Interface Satisfaction



# Hypertext Hyperties 1983...





<http://www.cs.umd.edu/hcil/hyperties>



WIKIPEDIA  
The Free Encyclopedia

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[Contents](#)  
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# Hypertext Hyperties 1983...

[Article](#)

[Talk](#)

[Read](#)

[Edit](#)

[View history](#)

## Hypertext

From Wikipedia, the free encyclopedia

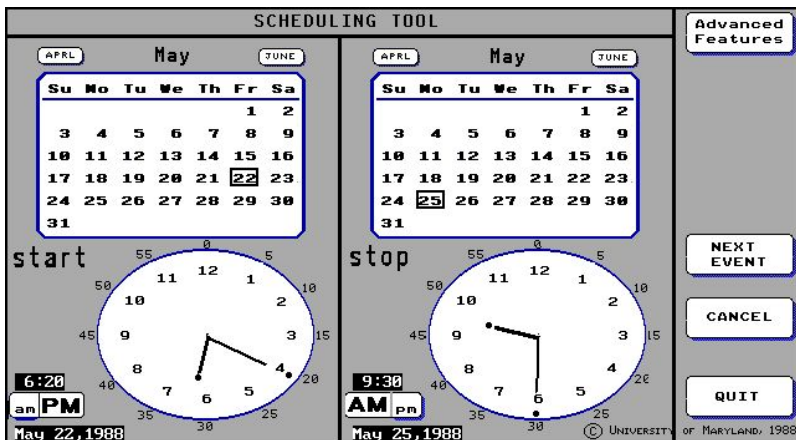
*For the concept in semiotics, see [Hypertext \(semiotics\)](#).*

*"Metatext" redirects here. For the literary concept, see [Metafiction](#).*

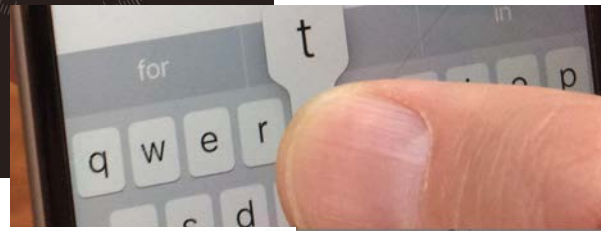
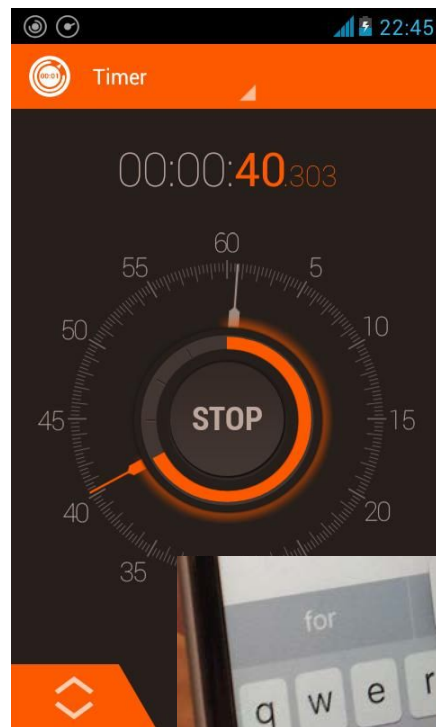
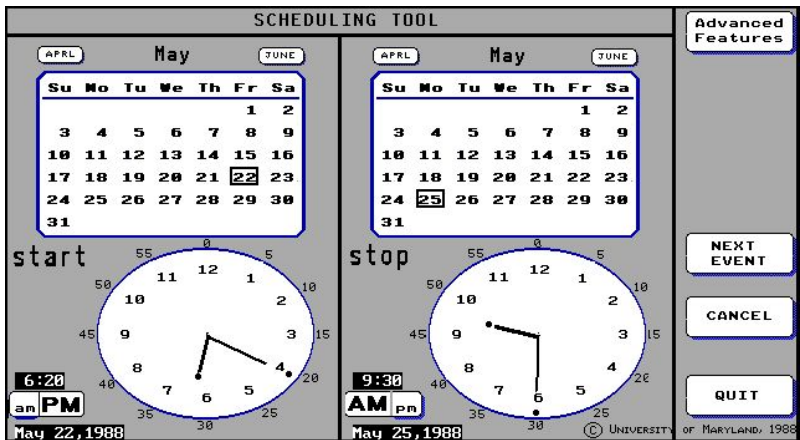
**Hypertext** is text displayed on a [computer display](#) or other [electronic devices](#) with references ([hyperlinks](#)) to other text that the reader can immediately access, or where text can be revealed progressively at multiple levels of detail (also called [StretchText](#)).<sup>[1]</sup> Hypertext documents are interconnected by hyperlinks, which are typically activated by a [mouse](#) click, keypress set or by touching the screen. Apart from text, the term "hypertext" is also sometimes used to describe tables, images, and other presentational [content formats](#) with integrated hyperlinks. Hypertext is one of the key underlying

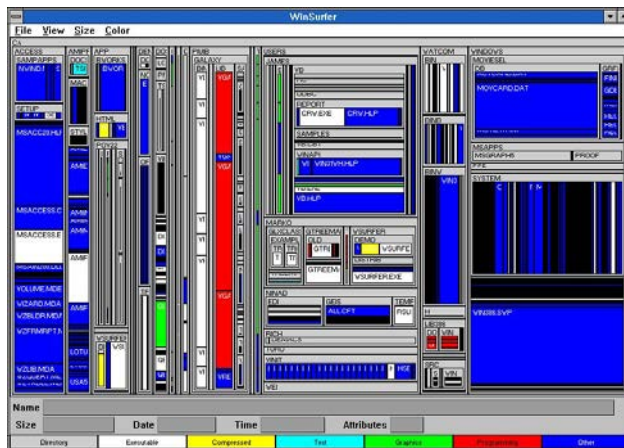
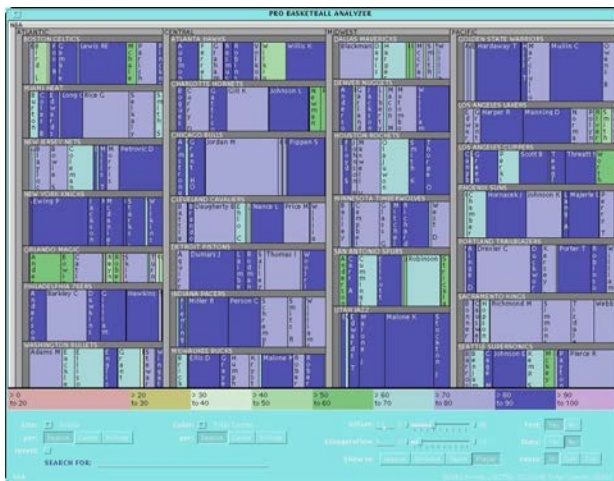


# Touchscreen interfaces 1991



# Touchscreen interfaces 1991...

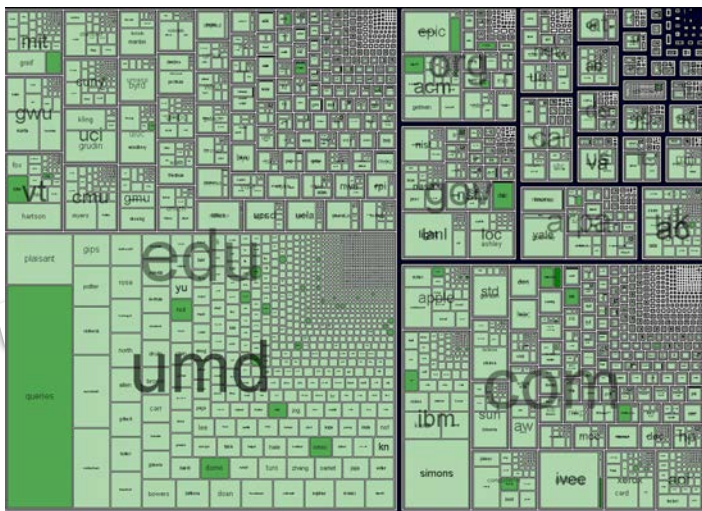




# Treemaps

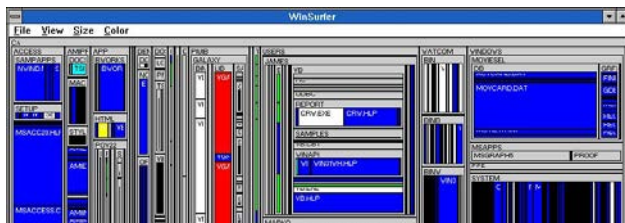
# 1991

<http://www.cs.umd.edu/hcil/treemap-history>

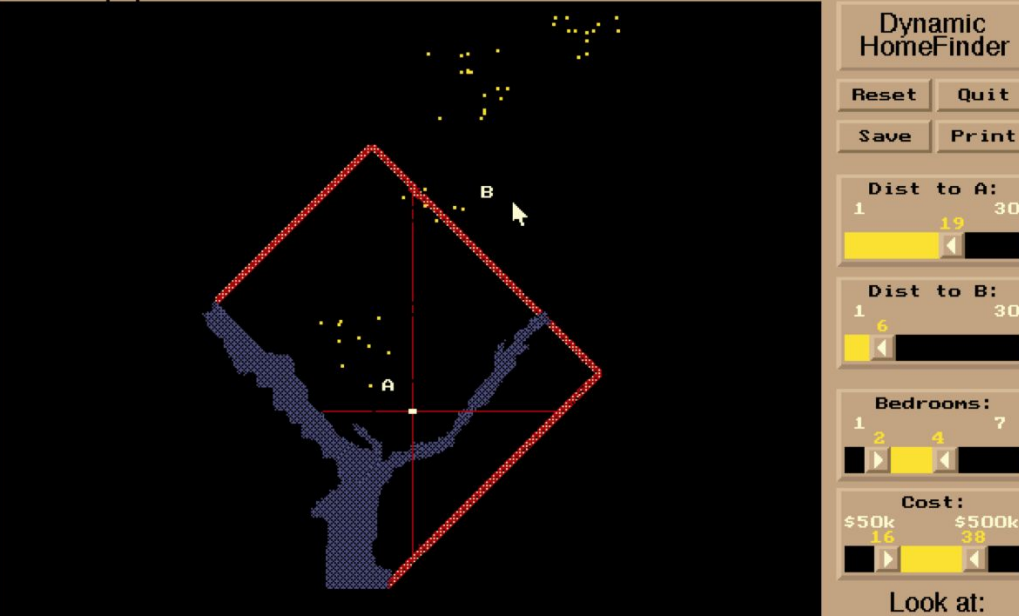


umd





# Dynamic queries for database search 1992



The yellow dots above are homes in the DC area for sale. You may get more information on a home by selecting it. You may drag the 'A' and 'B' distance markers to your office or any other location you want to live near. Select distances, bedrooms, and cost ranges by dragging the corresponding slider boxes on the right. Select specific home types and services by pressing the labeled buttons on the right.

**Dynamic HomeFinder**

Reset Quit

Save Print

Dist to A:  
1 30  
19

Dist to B:  
1 30  
6

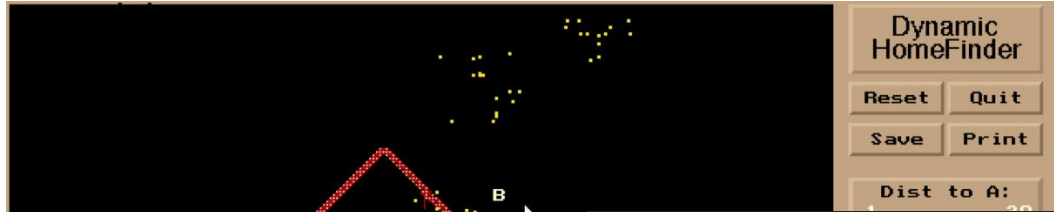
Bedrooms:  
1 7  
2 4

Cost:  
\$50k \$500k  
16 38

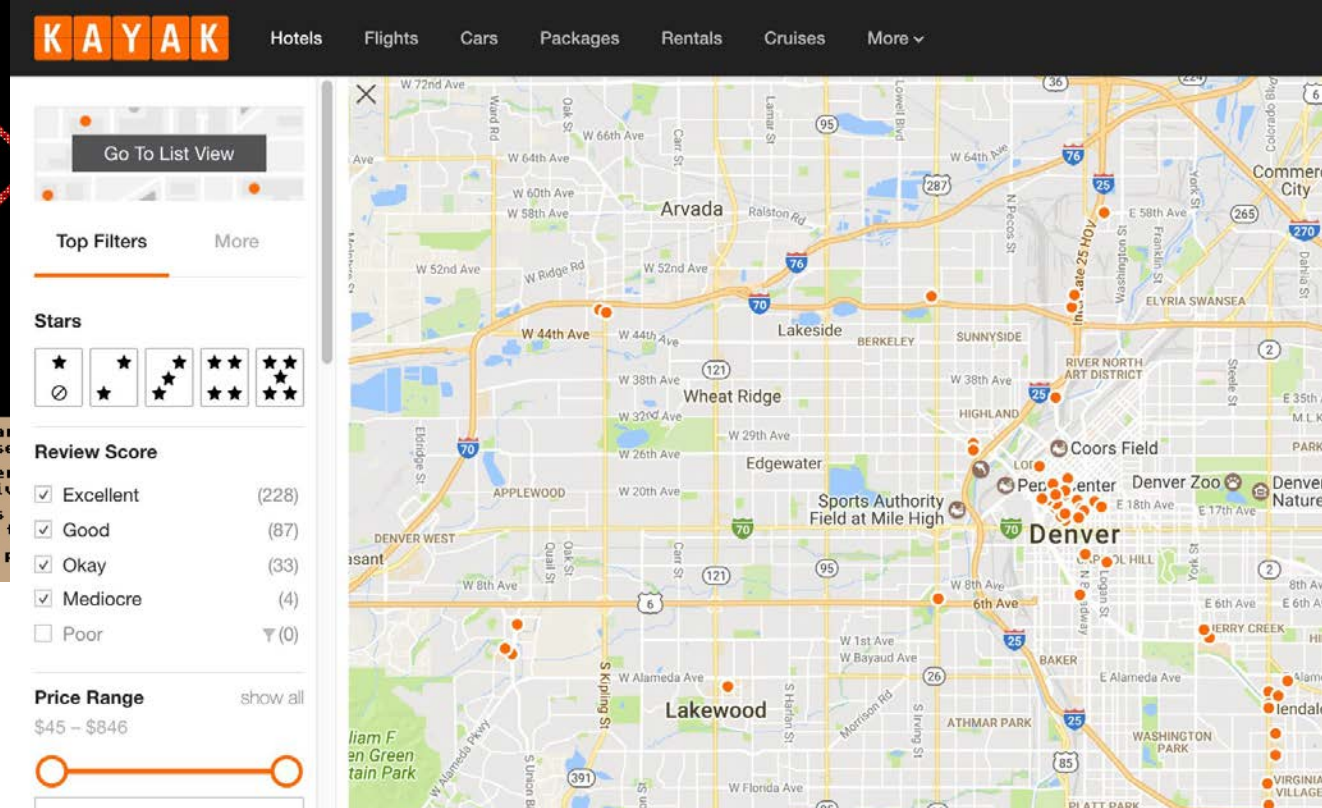
Look at:  
Hse TH Cnd

Features:  
Gr9 Fp1  
CAC New

# Dynamic queries for database search 1992



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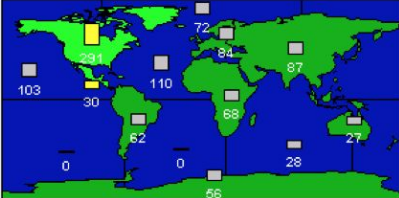
GCMD/HCIL Query Preview Panel - Version 3 (frames) - Netscape

File Edit View Go Communicator Help

Global Change Master Directory

Query Preview

Area Selection:



Select attributes of interest  
by clicking on map areas or preview bars.

Topic Selection:

|                     |      |
|---------------------|------|
| Agriculture         | 473  |
| Atmosphere          | 1058 |
| Biosphere           | 939  |
| Cryosphere          | 166  |
| Human Dimensions    | 552  |
| Hydrosphere         | 544  |
| Land Surface        | 781  |
| Oceans              | 456  |
| Paleoclimate        | 67   |
| Radiance Or Imagery | 304  |
| Solar Physics       | 15   |
| Solid Earth         | 254  |
| Not Specified       | 0    |

Year Selection:

|               |     |
|---------------|-----|
| Prehistoric   | 0   |
| 0001 - 1699   | 0   |
| 1700 - 1799   | 0   |
| 1800 - 1849   | 1   |
| 1850 - 1899   | 4   |
| 1900 - 1929   | 7   |
| 1930 - 1939   | 9   |
| 1940 - 1949   | 11  |
| 1950 - 1959   | 12  |
| 1960 - 1969   | 23  |
| 1970 - 1979   | 59  |
| 1980 - 1989   | 121 |
| 1990 - 1999   | 215 |
| Not Specified | 40  |

Area Selection:

|                 |     |
|-----------------|-----|
| Africa          | 68  |
| Antarctica      | 56  |
| Arctic          | 72  |
| Asia            | 87  |
| Atlantic        | 110 |
| Australia       | 27  |
| Central America | 30  |
| Europe          | 84  |
| Indian Ocean    | 28  |
| North America   | 291 |
| Other           | 582 |
| Pacific         | 103 |
| Solid Earth     | 13  |
| South America   | 62  |
| Space           | 37  |
| Not Specified   | 30  |

RESULT: datasets selected = 304 out of 6877, based on data as of 05:02 on Thursday, June 17, 1999

304

1000 3000 5000

Reset Retrieve DIF Records Refine Query

Copyright (c) 1997, University of Maryland and Global Change Master Directory. Some portions Copyright (c) 1996 Sealevel Software, Inc.

Applet hcil.eosdis.querypreview running

# Query previews 1996



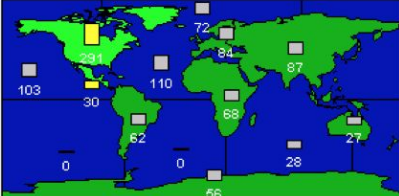
GCMO/HCL Query Preview Panel - Version 3 (frames) - Netscape

File Edit View Go Communicator Help

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| Oceans              | 456  |
| Paleoclimate        | 67   |
| Radiance Or Imagery | 304  |
| Solar Physics       | 15   |
| Solid Earth         | 254  |
| Not Specified       | 0    |

Year Selection:

|               |     |
|---------------|-----|
| Prehistoric   | 0   |
| 0001 - 1699   | 0   |
| 1700 - 1799   | 0   |
| 1800 - 1849   | 1   |
| 1850 - 1899   | 4   |
| 1900 - 1929   | 7   |
| 1930 - 1939   | 9   |
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Copyright (c) 1997, University of Maryland and Global Change Master Directory. Some portions Copyright (c) 1996 Sealevel Software, Inc.

Appllet hcil.eosdis.querypreview running

# Query previews 1996

Zappos.com  
POWERED by SERVICE®

snow boot

SEARCH BY: Size, Narrow Shoes, Wide Shoes, Popular Search

SHOES CLOTHING BAGS & HANDBAGS ACCESSORIES

ALPHABETICAL BRAND INDEX # • A • B • C • D • E • F • G • H • I

*"snow boot and Boots" we found 926 items!*

NARROW YOUR CHOICES

YOUR SELECTIONS: SNOW BOOTS

We adjusted your search results to be more relevant

NEW



Pajar CANADA  
Iceland  
\$160.00  
★★★★★

NEW

GENDER

Girls (313)  
Women (268)  
Boys (226)  
Men (187)

BOOT SHAFT

☐ Mid-Calf (690)  
☐ Standard (288)  
☐ Ankle (212)  
☐ Adjustable (133)  
☐ Knee High (32)  
☐ Stretch (18)  
☐ Wide (15)  
☐ Narrow (8)  
☐ Extra-Wide (7)  
☐ Over the Knee (1)

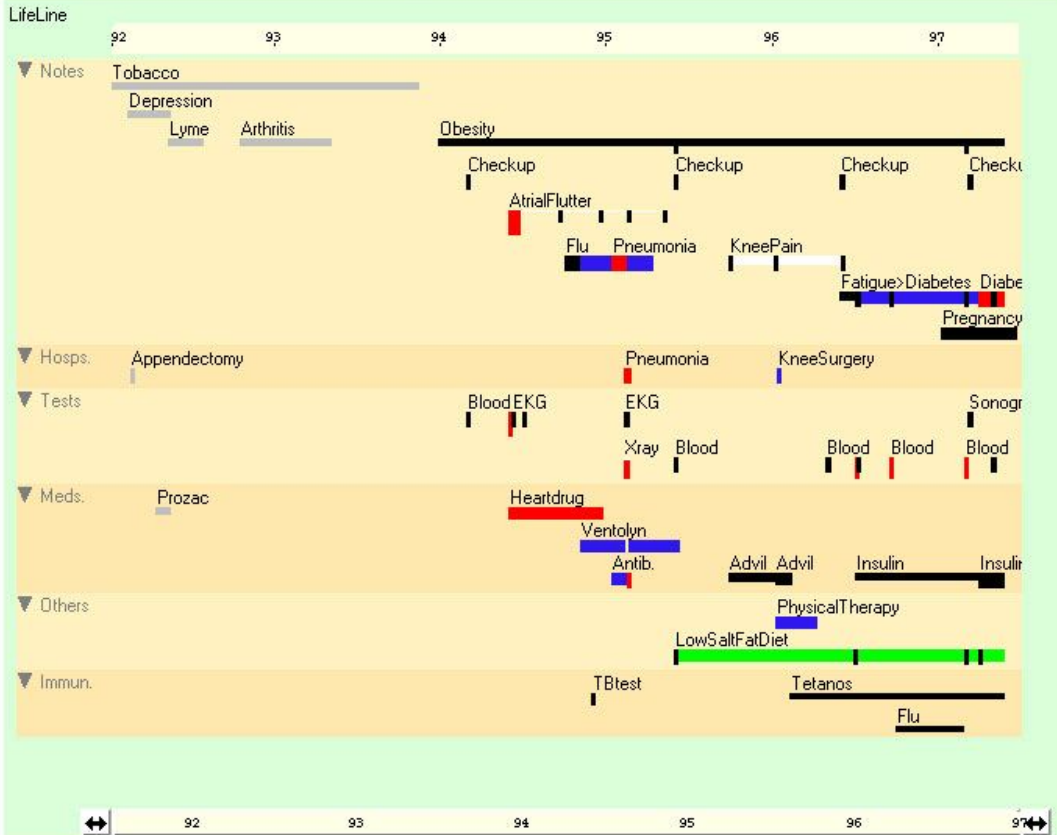
HEEL HEIGHT

☐ Flat (241)  
☐ Under 1 in (70)



Linda Simpson  
Female 40

Line from input file: %-.3-10-1997,3-12-1997,black,p10,Sonogram,images/babysonogre



# Lifelines

## 1996

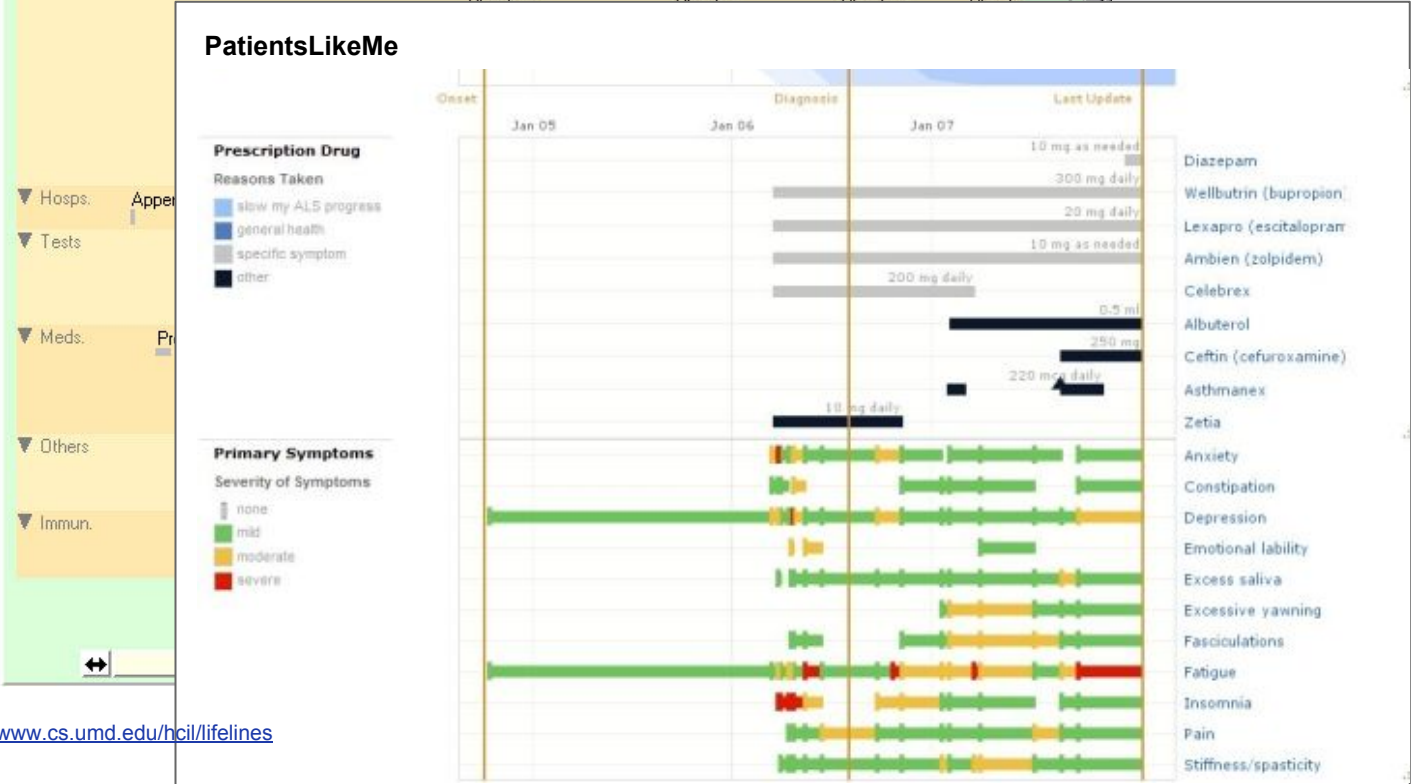
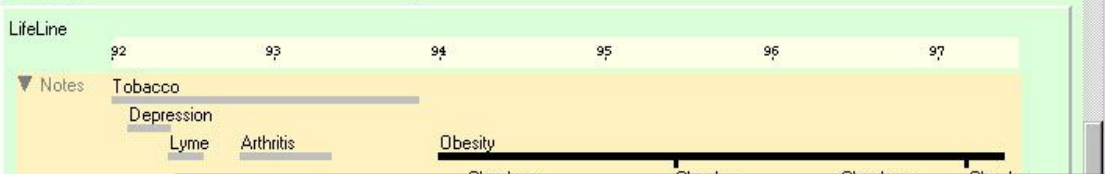


**Linda Simpson**  
 Female 40

Line from input file: %-.3-10-1997,3-12-1997,black,p10,Sonogram,images/babysonogre

# Lifelines

## 1996





**Linda Simpson**  
 Female 40

Line from input file: %-.3-10-1997,3-12-1997,black,p10,Sonogram,images/babysonogra

LifeLine

92 93 94 95 96 97

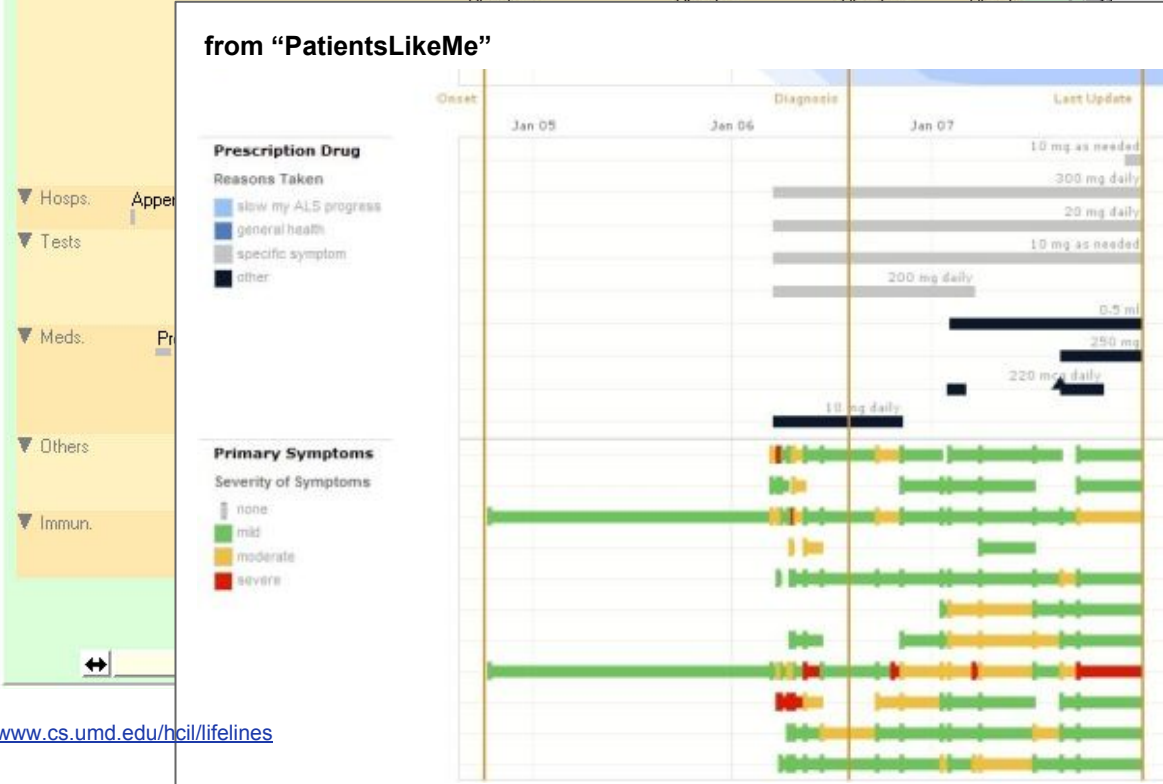
Notes

Tobacco

Depression

Lyme Arthritis Obesity

from "PatientsLikeMe"



# Lifelines

## 1996

Allscripts

AT&T 8:07 100%

DANFORD, Daryl 04-Feb-1948 | 64y Male | BCBS America Plan

Appointments Patient Timeline

ryn... (462) 09-Nov-2012 Acute pharyn... (462) Last Assessed: 09-Nov-2012 Abnormal blo... (790.6) Last Assessed: 02-Nov-2012 Migraine aur... (346.50) Last Assessed: 19-Oct-2012

Medications

METOPROLOL SUCCINATE METOPROLOL...E, 100MG

XANAX, 0.25MG XANAX, 0.25MG

IBUPROFEN, 200MG

IMITREX, 25MG

IMITREX, 25MG

IMITREX, 25MG

1 Tablet

SHANLEY, Ryan

Last Prescribed: 26-Jun-2012

Weight, Height & BMI

5 ft 6.0 in Height

155 lb 155 lb 150 lb...

900.94 25.08,28

148 lb 7 oz Weight

23.96 BMI

Vitals

99.10 Temperature

Systolic 121 mm/Hg

Diastolic 81 mm/Hg

Pulse 72 BPM

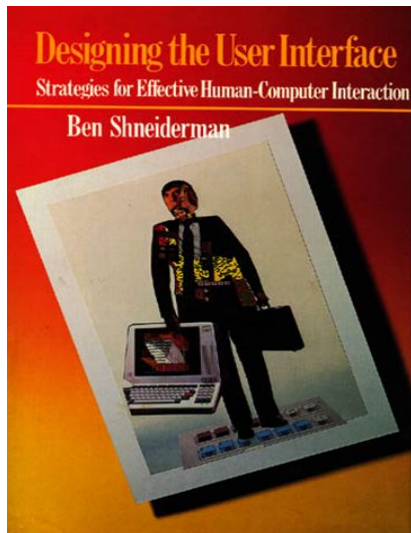
Respiration 27 b/m



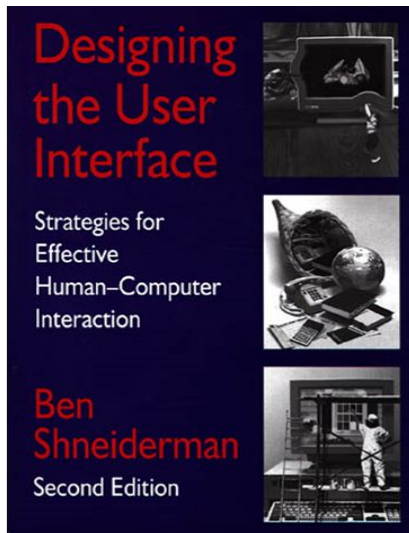


# Designing the User Interface

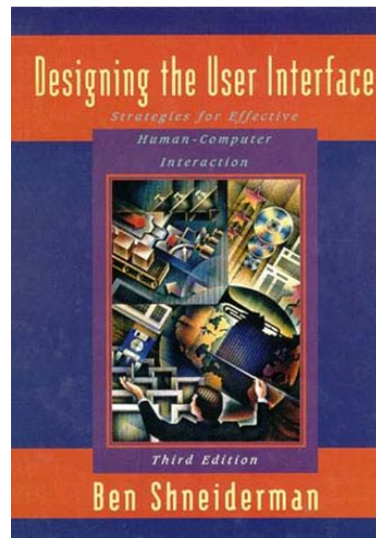
1986



1992

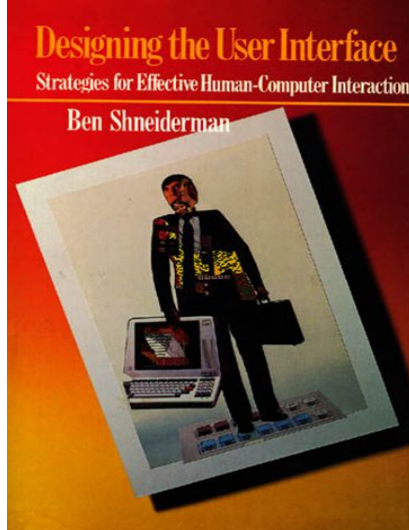


1998

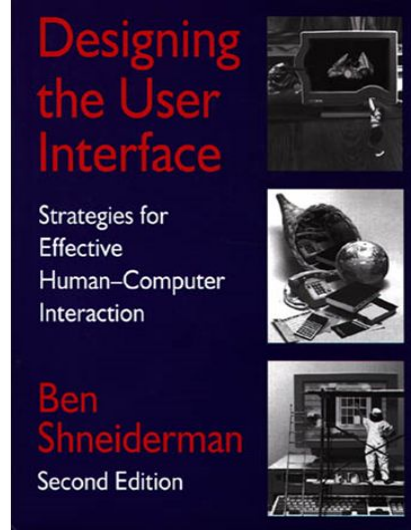


# Designing the User Interface

**1986**

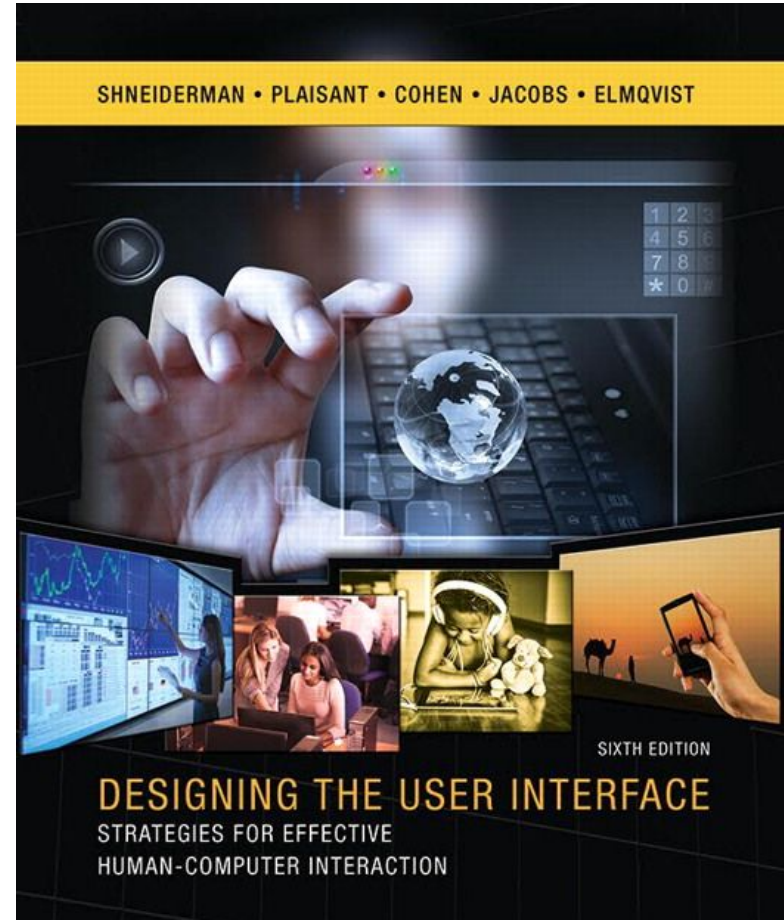


**1992**



**2016**

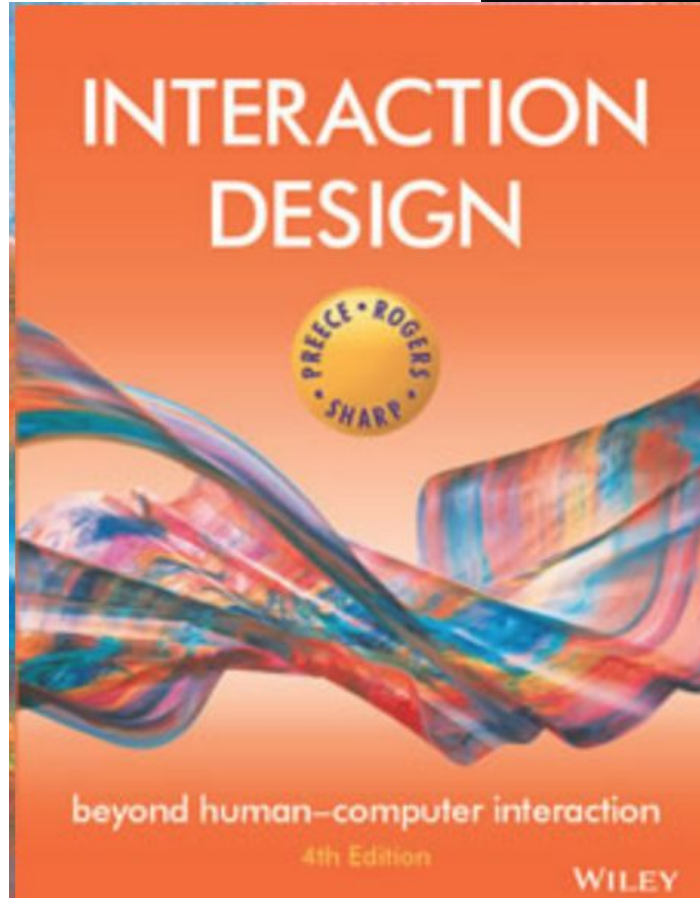
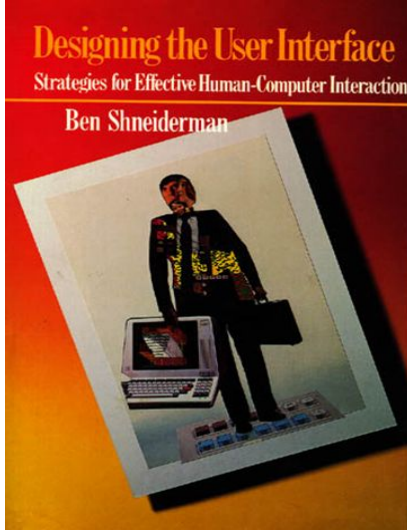
**6th edition**





# Designing the User Interface

1986







Cake always

HCIL advisory board meets after the symposium



# **Years** **2000-2005**

Ben Bederson

## **Highlights**

- Vis, Vis, Vis
- Sonification
- User Frustration
- Voting system usability
- Int'l Children's Digital Library
- Single Display Groupware
- Photo browsing
- Presentations
- Fisheye interaction
- Mobile home screens



## Simple Search

[Home](#) > [Read books!](#) > Simple Search

Rainbow Covers
 Red Covers
 Orange Covers
 Yellow Covers
 Green Covers

Three to Five
 Six to Nine
 Ten to Thirteen
 Make Believe Books
 True Books

+ + Any Language = 44 books

|                                              |                                                             |                                                       |
|----------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------|
| <p><u>The Amaru</u><br/>Spanish</p>          | <p><u>Aunt dear Aunt kind Daddy</u><br/>Persian / Farsi</p> | <p><u>Bakkar at the zoo</u><br/>Arabic</p>            |
| <p><u>Bakkar loves school</u><br/>Arabic</p> | <p><u>Bakkar visits the dentist</u><br/>Arabic</p>          | <p><u>The cat with a bell</u><br/>Persian / Farsi</p> |

Short Books
 Medium Books
 Long Books
 Recently Added Books
 Award Books

- Any Category
- Books**
- Animals
  - Literature & Fiction
  - Contemporary Literature & Fiction
  - Children's Books
  - Children's Zoology Books
  - Children's Reference
  - Science & Math
  - [See more](#)

## Refine by

## Delivery Day

- ☐
- Get it by Tomorrow

## Amazon Prime

- ☐
- [prime](#)
- 
- ☐
- [prime](#)
- | FREE One-Day

## New Releases

Last 30 days

Last 90 days

Coming Soon

## Book Series

- ☐
- Animal Series
- 
- ☐
- Animal
- 
- ☐
- Animal Hospital
- 
- ☐
- Animal Ark
- 
- ☐
- For the Love of Animals
- 
- ☐
- Starlight Animal Rescue
- 
- ☐
- Animal Healer series
- 
- ☐
- Animal Rescue Team
- 
- ☐
- Fairy Animals of Misty Wood
- 
- ☐
- Spirit Animals: Part II
- 
- ☐
- Bedtime Story Animal Picture Books For Kids
- 
- ☐
- Animal Jam
- 
- ☐
- Animal Ark Pets
- 
- ☐
- Animal Magnetism
- 
- ☐
- Spirit Animals

[See more](#)

Sponsored ⓘ

**Dinosaur Farting Animals Coloring Books: Funny, !**

by P.K. Hermes

Funny and Relax with 25 Cute Dinosaurs and They are farting.

Paperback

**\$6<sup>19</sup>** [prime](#)

Get it by Friday, May 18

**Animal Series Book Series (4 books)**

by K'wan and Cary Hite

1

**Animal** Oct 2, 2012 | Unabridged  
by K'wan and Cary Hite

Audible Audiobook

1 Credit

Whispersync for Voice-ready

Paperback

**\$12<sup>62</sup>** ~~\$15.99~~ [prime](#) | FREE One-Day

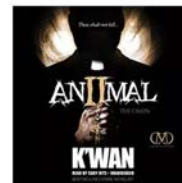
FREE Delivery by Tomorrow, May 17

Get it tomorrow for FREE on qualifying orders over \$35

More Buying Choices

**\$6.10** (72 used & new offers)Other Formats: [Kindle Edition](#), [Mass Market Paperback](#), [Audio CD](#)

2

**Animal 2: The Omen** Nov 19, 2013 | Unabridged  
by K'wan and Cary Hite

Audible Audiobook

1 Credit

Whispersync for Voice-ready

Paperback

**\$13<sup>27</sup>** ~~\$15.99~~ [prime](#)

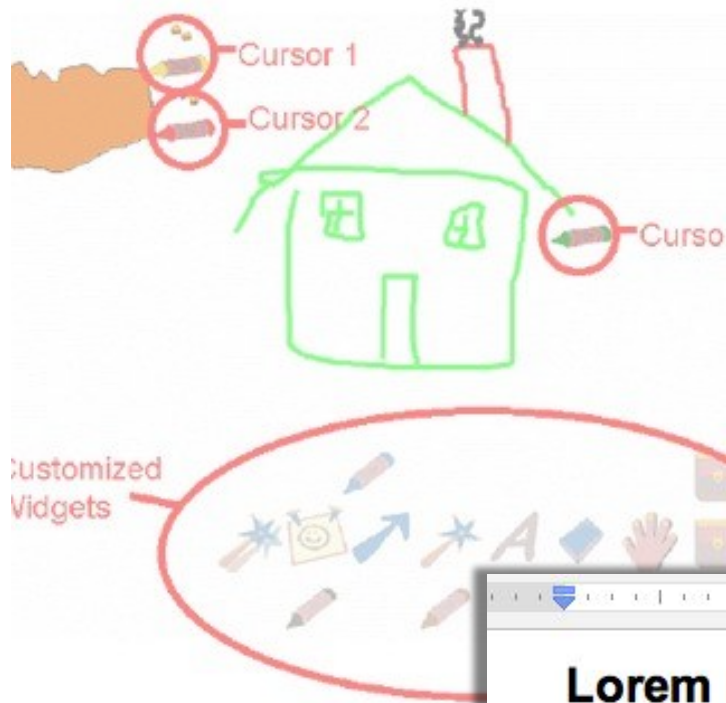
FREE Delivery by Friday, May 18

More Buying Choices

**\$7.99** (62 used & new offers)



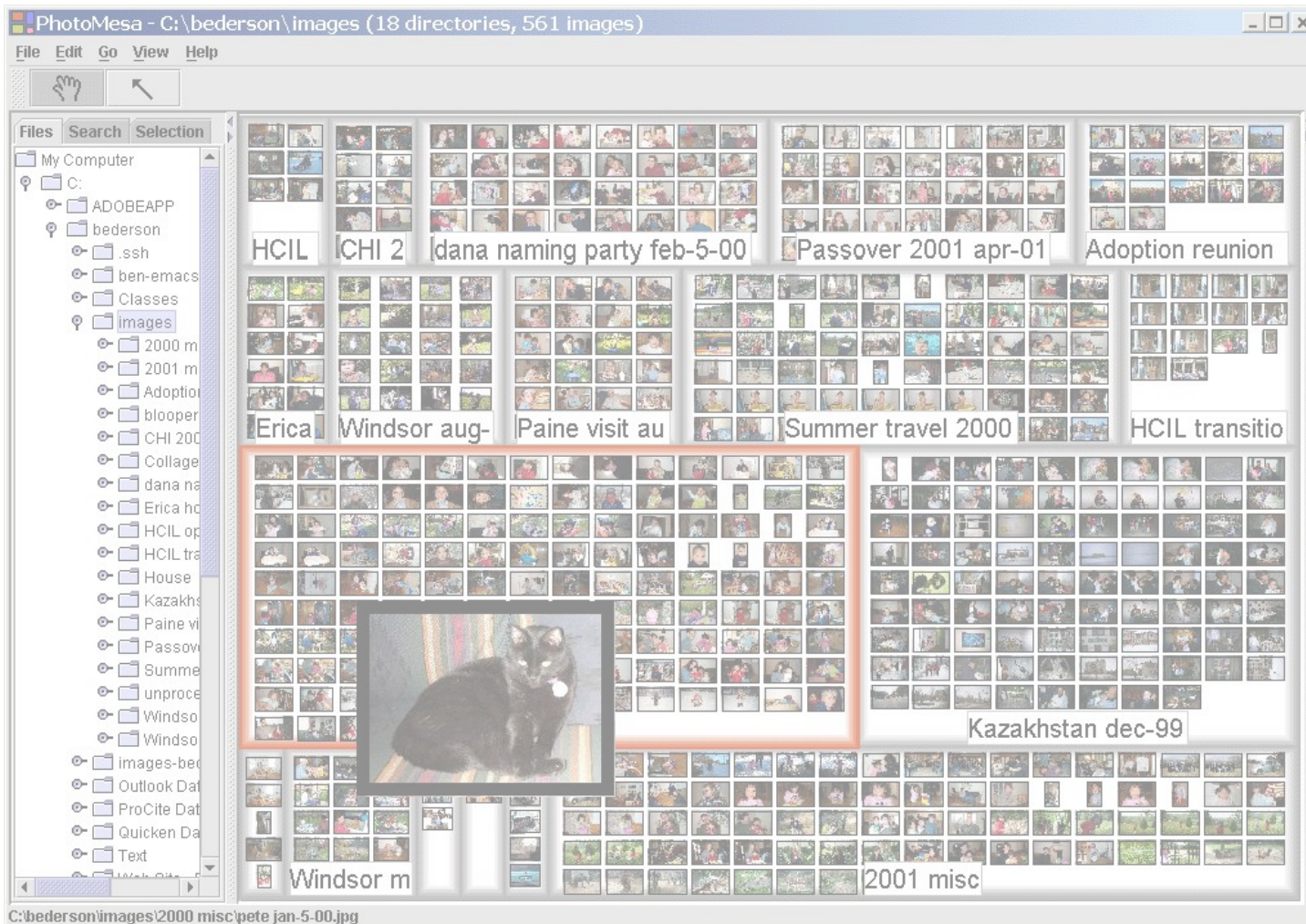
## KidPad (1995)



### Lorem ipsum

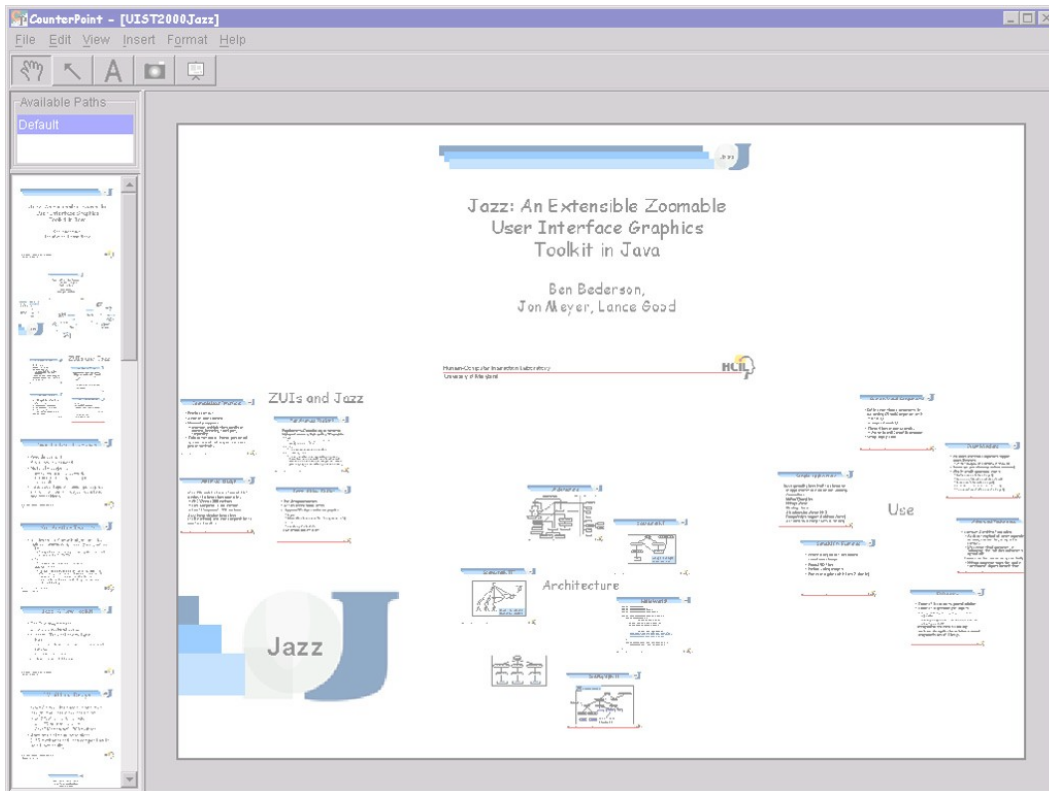
*Dolor sit amet*, consectetur adipiscing elit. Suspendisse ac tristique ipsum. Nunc tellus justo, eleifend sed fermentum non, interdum id felis. Suspendisse potenti. Nullam porta accumsan nisl vitae condimentum. Donec ipsum nunc, aliquet id pellentesque et, blandit a nisl. Nulla sapien enim, bibendum et mollis non, rhoncus eget ipsum. In <sup>kate</sup>habitas platea dictumst. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aliquam <sup>jeff</sup>erat volutpat. Sed gravida ornare tristique.





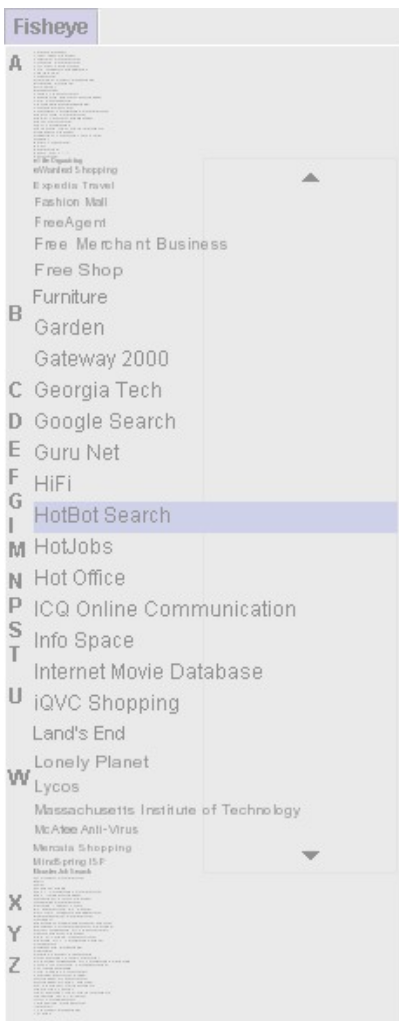
## PhotoMesa (2001)





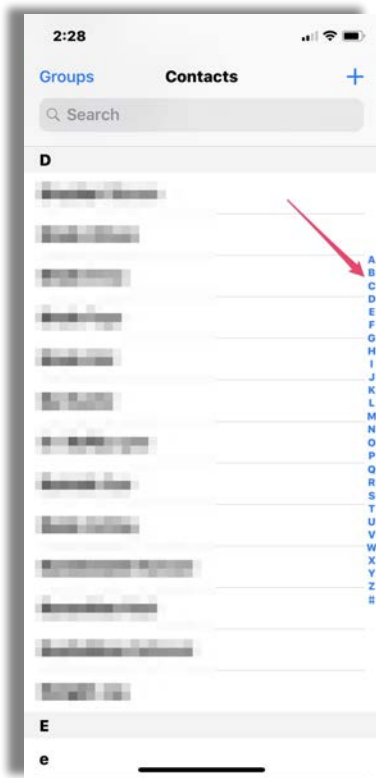
CounterPoint (2001)





Fisheye Menus (2001)

iOS Contacts



MacOS Dock





# LaunchTile Visual Design

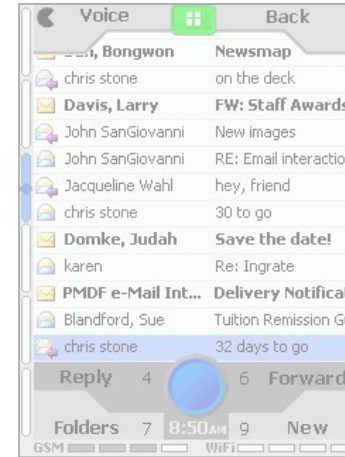


- Three (pure) zoom levels



World

Zone



Application

LaunchTile (2005)



iOS 6





**Years**  
**2006-2011**

Allison Druin

## Highlights

- Participatory Voice for Users
- Community-based design
- Technologies for air-traffic controllers, older adults, learners in Mongolia, scientists, National Park Rangers...



*Call for Action:* **Design for the World**

# **HCI Peace Corps**

**Service projects** around the world

**Master's projects, Ph.D. work, sabbatical work**

based on HCIL's annual service project

(HCIL Symposium 2009)



# HCIL Service Day May 26<sup>th</sup>

(HCIL Symposium 2010)



*"We're grateful for the knowledge and expertise you shared with us today..."*



## Participant Organizations:

- WAMU 88.5 FM American University Radio
- Kids.gov / Federal Citizen Information Center
- The Nonprofit Village
- National Park Service, Interpretation and Education Program
- CASAde Maryland
- Thrive DC

43 volunteers from HCIL  
and  
11 outside organizations  
6 non-profits



*Encyclopedia of Life: Motivating public enthusiasts and expert scientists to document the world's species* (HCIL Symposium 2011)

Cynthia Parr, Dana Rotman, Jennifer Preece, Derek Hansen, Jen Hammock

*Human-Computer Collaborative Translation* (HCIL Symposium 2010)

Chang Hu, Ben Bederson, Philip Resnick

*Enhancing Air Traffic Control Displays with Perceptual Cues*  
(HCIL Symposium 2009)

Tim Clausner, Evan Palmer, Chris Brown, Phil Kellman

*The International Children's Digital Library goes to Mongolia*  
(HCIL Symposium 2008)

Ben Bederson, Sheri Massey, Anne Rose

*Promoting Older Adult-Computer Interaction: Age-Appropriate Design and Training* (HCIL Symposium 2007)

Bo Xie

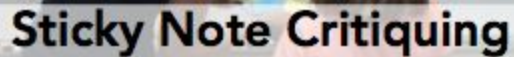


## 20 years of Co-Design with & for children



Walsh & Foss, 2015; Druin, 2014; Fails et al., 2014; Guha et al., 2013; Walsh et al., 2013; Yip et al., 2013; Subramaniam et al., 2012; Ahn et al., 2012; Druin, 2011; Bederson et al., 2009; Guha et al., 2004; Druin, 2002; Druin, 1999.

## Co-Design Techniques:



## Layered Elaboration



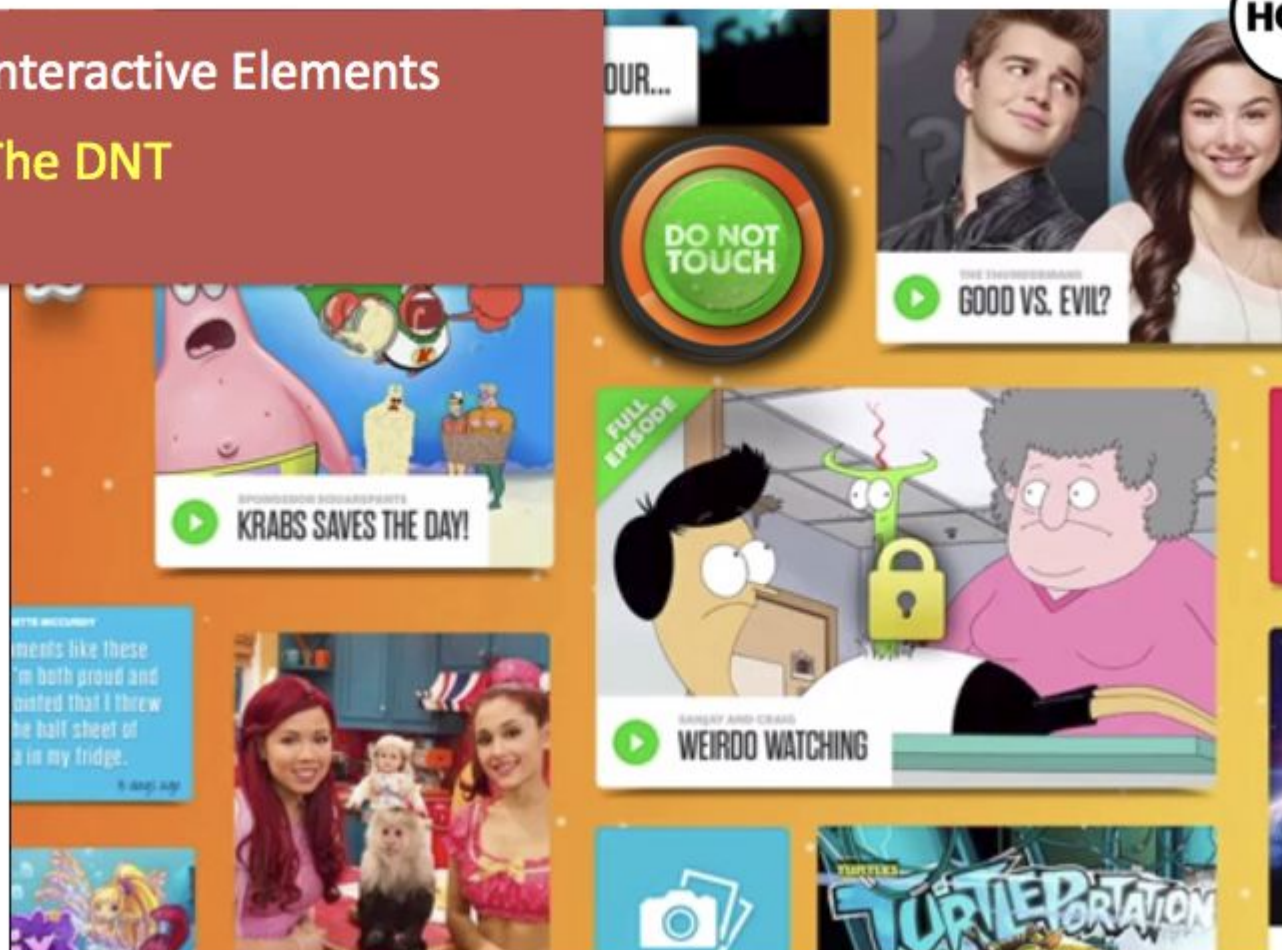
### 3D Prototyping:





## Interactive Elements

### The DNT



# Wearables

## The BodyVis Project

### IDEATION

Norouz didn't start with a shirt. In computer science Professor Jon Froehlich's "Maker" class, she came up with a riff on the Copper: a bedsheet that turns the room's lights off when somebody climbs onto the mattress. But she crossed the live wires in her prototype and started a fire.

Her interest in e-textiles ignited (truly). Norouz watched a video about a New York University student's sweatshirt invention that warns of the presence of carbon dioxide. She was already working on education technology with 3- to 10-year-old volunteers in the HCIL, and wondered if a shirt could be used as a teaching tool.

After researching elementary school science textbooks, Norouz suggested a shirt featuring the digestive, respiratory and circulatory systems. "The KidzTeam wanted lots of visual and sound effects and colors," she says. Actually, they diamonded to see what happens to a swallowed potato chip.

This was something to chew over.

### PROTOTYPE 1

RESEARCH & DESIGN: 2 WEEKS  
CONSTRUCTION: 1 MONTH



### PROTOTYPE 2

RESEARCH & DESIGN: 1 MONTH  
CONSTRUCTION: 3 MONTHS



### PROTOTYPE 2.1

RESEARCH & DESIGN: 2 MONTHS  
CONSTRUCTION: 2 MONTHS



### EXECUTION

With Froehlich, she tested different microprocessors, thin wires, LEDs that could be embedded in fabric, and pulse sensors, then used a sewing machine and soldering iron to put together her first shirt.

But this rapid prototype was bulky and heavy—especially the large intestine.

Norouz lightened things up, flattening the organs and replacing the wires and LEDs with conductive thread and sewable LED pixels. About a third of the way through, she and Froehlich demonstrated this shirt at the Silver Spring (MD.) Maker Faire, and the organs "blew." "I didn't understand how much more battery power I needed," she says.

Back to the drawing room, or in this case, the hackerspace: This time, Norouz picked thin, flexible wire and switched in a bigger battery pack. Because she had a limited knowledge of circuitry, she bought a respiratory monitor with a chest strap to avoid building her own.

She and Froehlich brought in an undergraduate to develop a "swallowing sensor" to activate the entire shirt, but it became clear it was a big project requiring more manpower. Instead, she sewed on a "Snack Time" button as a short-term fix.

Meanwhile, Froehlich and doctoral student Matt Mauriello '13, M.S. '14, M.B.A. '16 programmed an app to run the system.

Then Norouz collected feedback from children at local Boys and Girls Clubs and teachers.

### WHAT'S NEXT?

But challenges persist, including programming bugs and having kids wear four AA batteries and a tangle of wiring between two layers of fabric. Norouz is also eager to add live visualizations on organs beyond the stomach.

She'll get her chance: In August, the National Science Foundation awarded the pair \$50,000 to keep improving the shirt and get to the bottom of things. "Now I can add the waste functions and reproductive system," she says.

See more on Taylor's project: <http://www.usc.edu/~norouz>



## A Visitor Experience

### The Lincoln Memorial



CARNEGIE HALL



Discovery  
COMMUNICATIONS™

veX IQ

Pearson



Microsoft

HEXBUG®

sesameworkshop®



nick™

Google



NATIONAL  
GEOGRAPHIC



20 years... 60+ child design partners...  
53 projects... 23 partners... papers/talks...



**Years**  
**2011-2014**

Jen Golbeck

## Highlights

- Medical informatics & electronic health records
- Data visualization
- Social media & networks
- Accessibility
- Kidsteam



2014





## **Years** **2014-2016**

Mona Leigh Guha  
(June Ahn)

### **Highlights**

- Mobile, touch, and virtual interactions for individuals with accessibility challenges
- Crowdsourcing to identify accessibility issues in cities
- Data visualization for complex information domains
- Wearable technologies for learning and social interaction
- Understanding the human impacts of social media use
- Ubiquitous technologies to promote smart learning communities
- Participatory design, children, and learning

# CHARACTERIZING PHYSICAL WORLD ACCESSIBILITY AT SCALE

USING CROWDSOURCING, COMPUTER VISION, & MACHINE LEARNING

## HandSight: The Design and Evaluation of a Finger-Mounted Camera and Feedback System to Enable Blind Persons to Read Printed Text

Lee Stearns<sup>1</sup>, Ruofei Du<sup>1</sup>, Uran Oh<sup>1</sup>, Catherine Jou<sup>1</sup>, Yumeng Wang<sup>2</sup>,  
Leah Findlater<sup>3</sup>, Rama Chellappa<sup>4</sup>, David A. Ross<sup>5</sup>, Jon E. Froehlich<sup>1</sup>

University of Maryland: Computer Science<sup>1</sup>, Architecture<sup>2</sup>, Information Studies<sup>3</sup>, Electrical Engineering<sup>4</sup>,  
Atlanta VA R&D Center of Excellence in Vision and Neurocognitive Rehabilitation (CVNR)<sup>5</sup>

Science



makeability lab

UNIVERSITY OF  
MARYLAND

makeability lab



COMPUTER SCIENCE  
UNIVERSITY OF MARYLAND

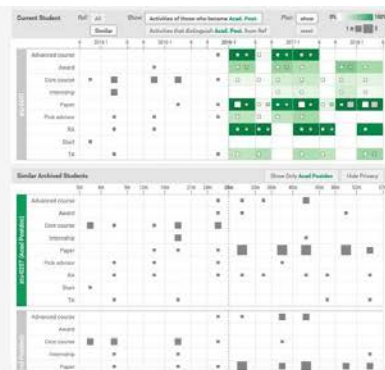
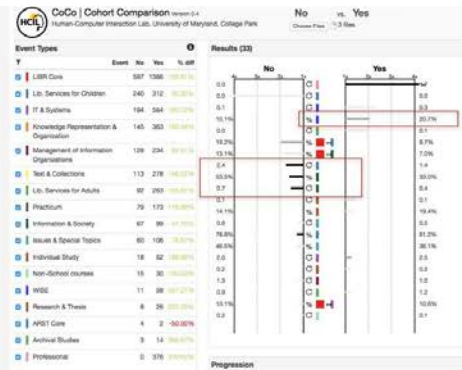
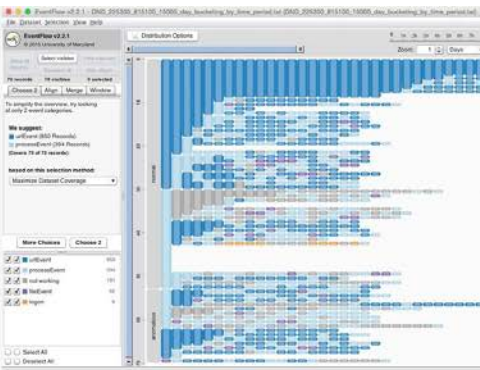
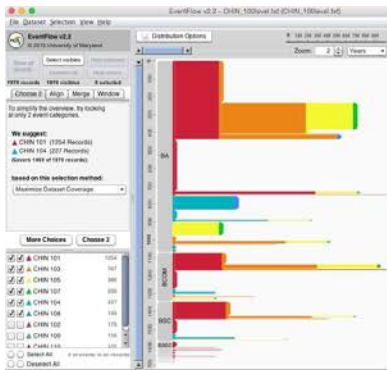
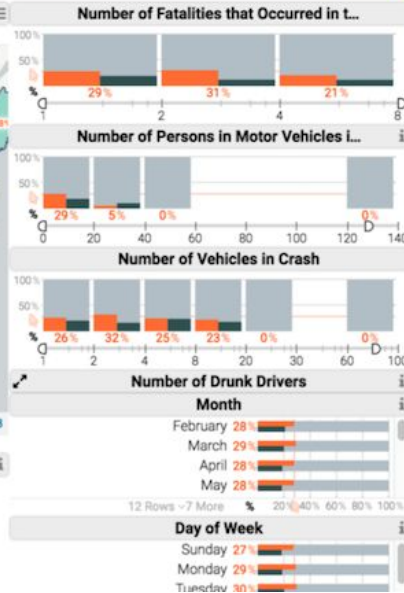
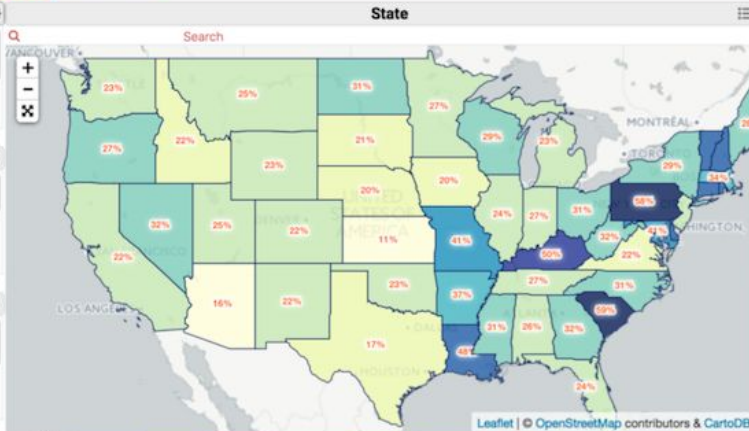
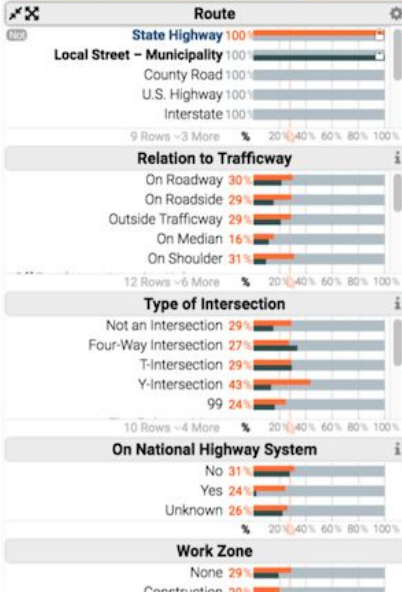


UNIVERSITY OF  
MARYLAND

## 30,057 Accidents

**Route:** Local Street – Municipality

Route: State Highway



MAKING WITH A SOCIAL PURPOSE

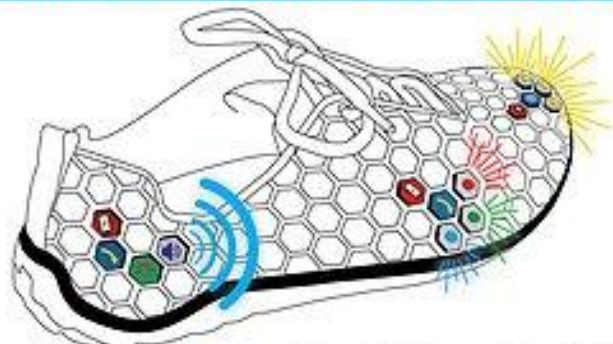
# TRANSFORMING STEM LEARNING THROUGH WEARABLES

Jon Froehlich | Assistant Professor | Computer Science



## MakerShoe:

Towards an E-Textile Construction Kit to Support Creativity, Playful Making, and Self-Expression



Majeed Kazemitabaar<sup>1</sup>, Leyla Norooz<sup>2</sup>, Mona Leigh Guha<sup>2</sup>, Jon E. Froehlich<sup>1</sup>

<sup>1</sup>University of Maryland: Computer Science<sup>2</sup>, Information Studies<sup>2</sup>



makeability lab

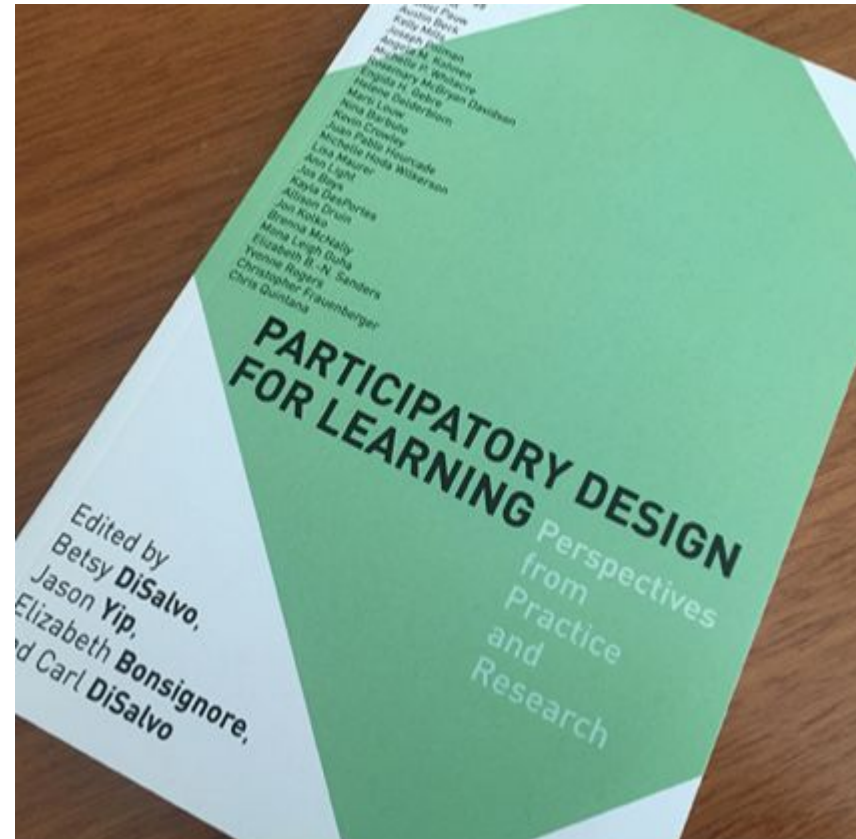
UNIVERSITY OF MARYLAND





# Science Everywhere: Connecting Science Inquiry Across Neighborhood Settings

National Science Foundation #1441523









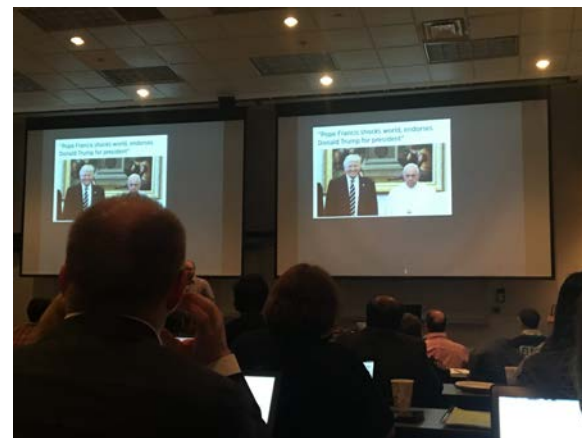
**Year**  
**2017**

Niklas Elmqvist

## Highlights

- Privacy and security
- Inclusion and access
- Crowds and crowdsourcing
- Visual analytics
- **Human dimensions in HCI**





**But the HCIL Symposium is also about...**

**PEOPLE**

A photograph of a man in an orange short-sleeved button-down shirt, seen from the side, gesturing with both hands as if speaking. He is seated at a long table in a large room filled with other people, also seated at similar tables. Many of the other people have laptops open in front of them. The room has a modern, open-plan feel with large windows in the background. The text "But the HCIL Symposium is also about..." is overlaid at the top, and the word "PEOPLE" is overlaid in large, bold letters across the bottom of the image.

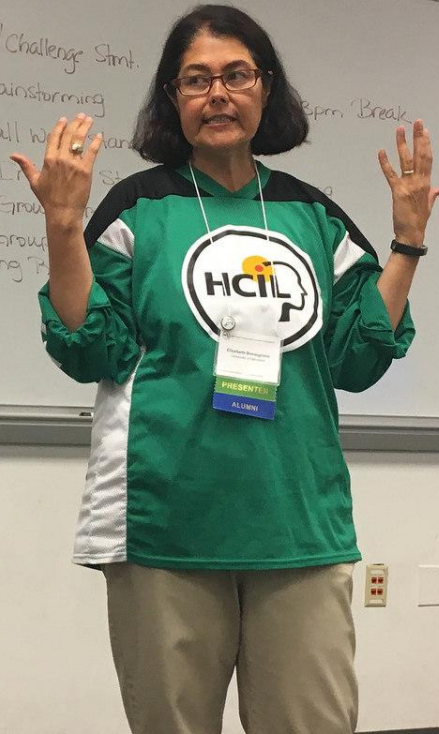


# PEOPLE



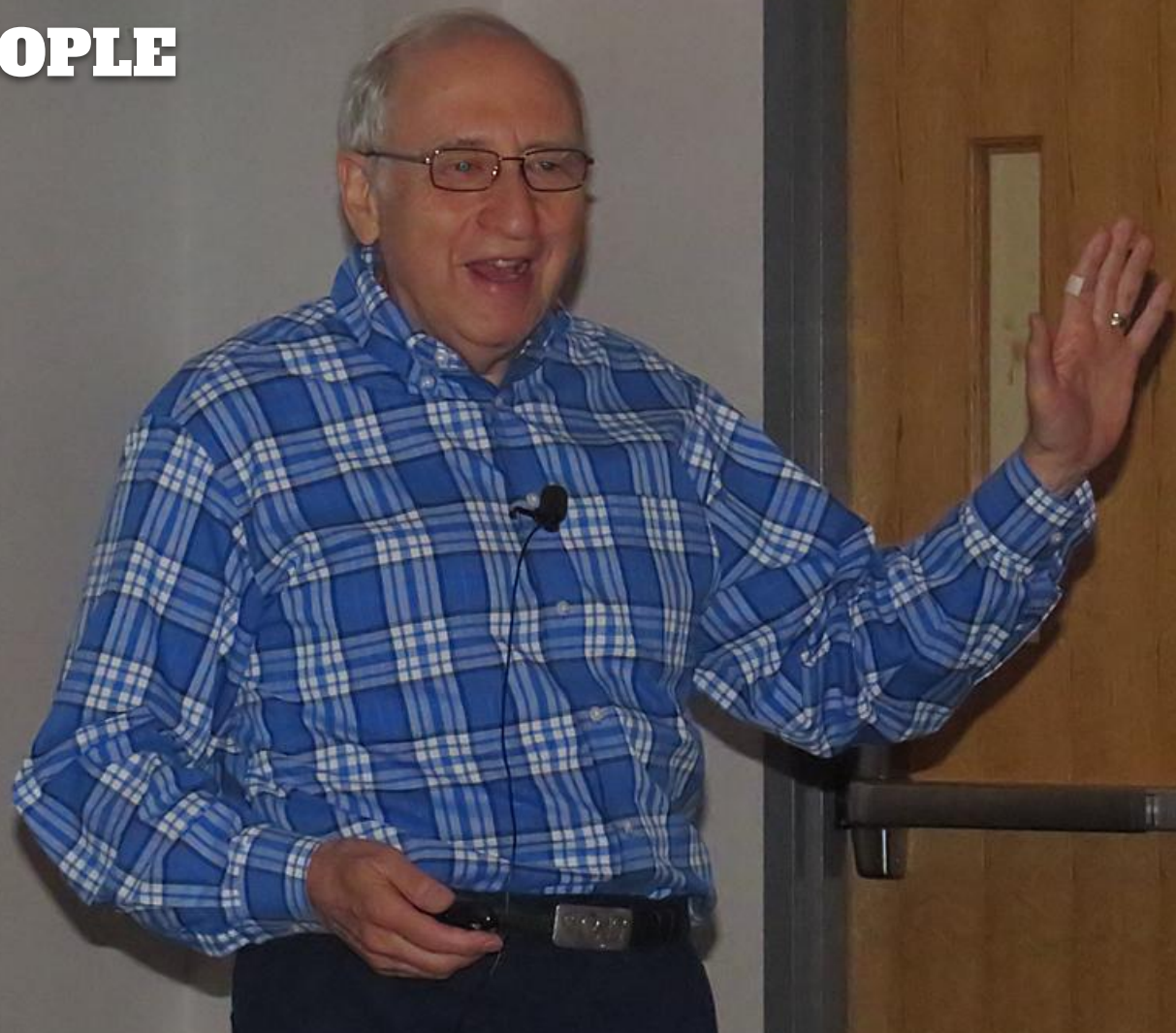
# PEOPLE

2-2:45 pm Intro/Challenge Stmt.  
BREAK  
3:00 - 3:25pm Brainstorming  
3:25-3:45 pm Wall W/ Mar  
3:45 - 4:00 pm Intro St  
4:00-4:20 pm Group  
4:20-4:40 pm Group  
4:40-Spm. Closing R





**PEOPLE**





**FRIENDS**

**FRIENDS**





# FRIENDS

"Tweeting about the  
HCL Symposium?"  
#hcl



1120

OFFICE





**...and CAKE!**

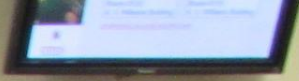




**Lots of cake!**



Registration  
Sponsors







**Year**  
**2019?**

Where is the HCIL Symposium  
going next?





Next year the HCIL Symposium will be colocated with the iConference 2019  
here on the UMD campus!

Mark your calendars for

**April 4, 2019!**

# Questions?

Slides will be posted at:

<http://hcil.umd.edu/8directors>

A woman with long brown hair, smiling, stands with her arms crossed in front of a background featuring social media logos. The logos include LinkedIn, Facebook, MySpace, and Twitter, all rendered in a stylized, colorful, and slightly blurred manner. The woman is wearing a dark blue dress with a white floral pattern and a red and white geometric border. She is also wearing a necklace with a large, light-colored, oval pendant.

# **Introducing** *Dr. Jennifer Golbeck*