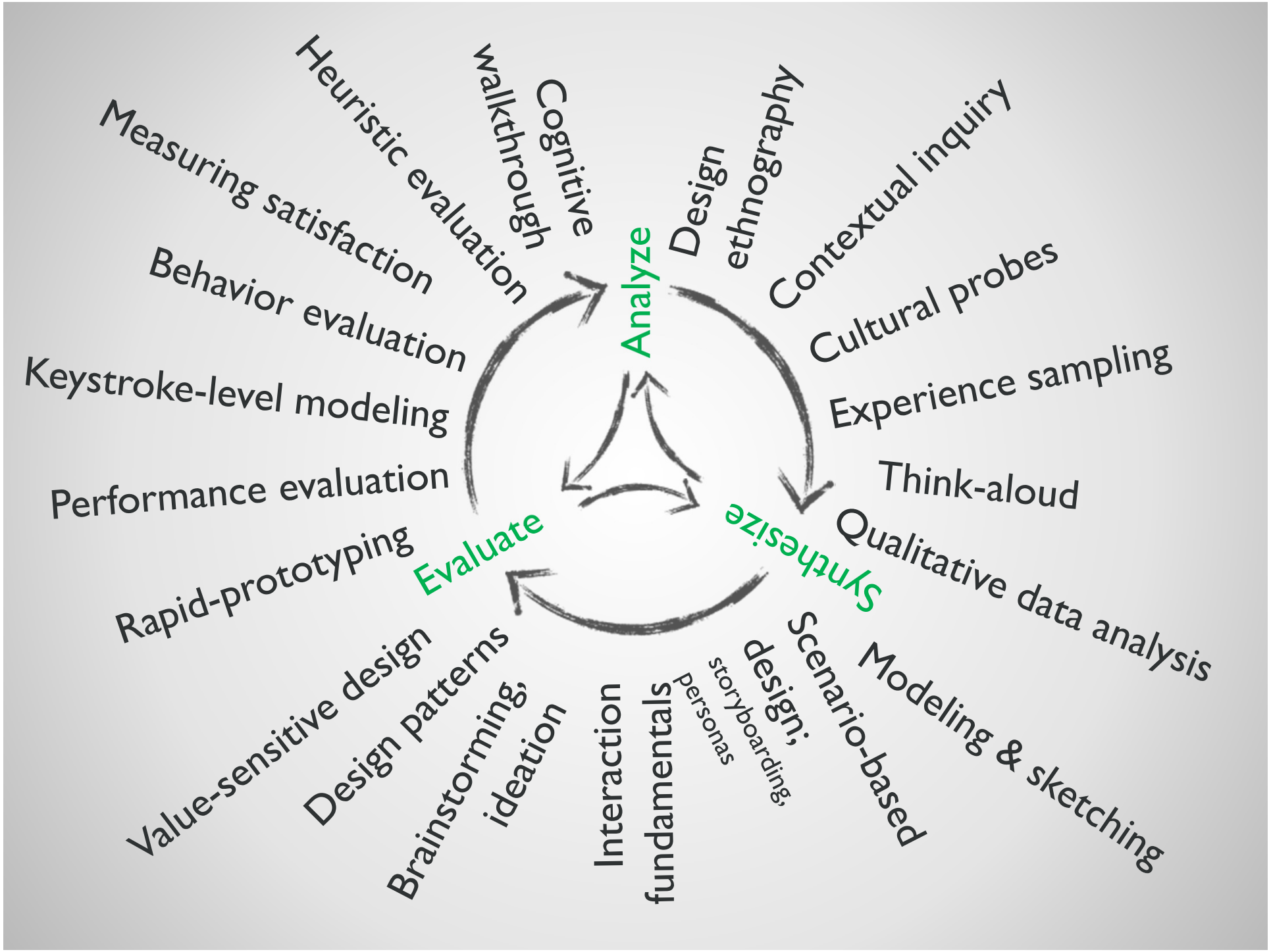
What Now?

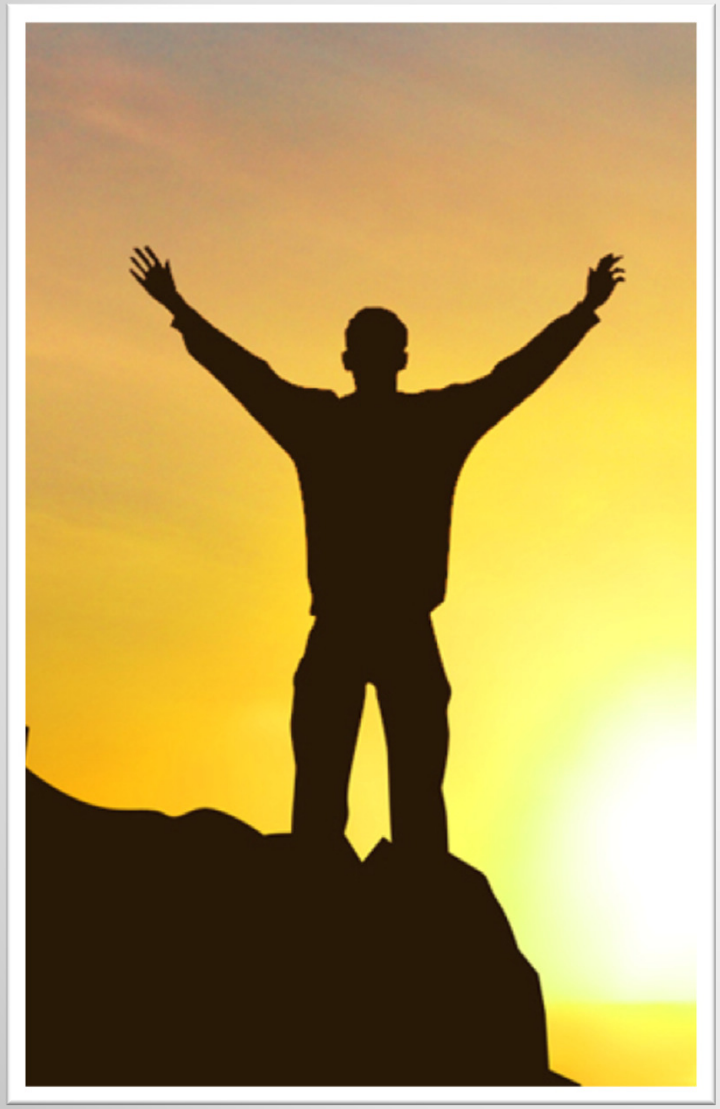
Irene Rae
Computer Sciences

CS-570 Introduction to Human-computer Interaction

KEEP
CALM
AND
VICTORY
IS OUR'S


Analyze
Design ethnography
Contextual inquiry
Cultural probes
Experience sampling
Think-aloud
Synthesize
Qualitative data analysis
Modeling & sketching
Scenario-based design, storyboarding, personas
Interaction fundamentals
Brainstorming, ideation
Design patterns
Value-sensitive design
Evaluate
Rapid-prototyping
Performance evaluation
Keystroke-level modeling
Behavior evaluation
Measuring satisfaction
Heuristic evaluation
Cognitive walkthrough

Careers you can choose



- Research
  - Corporate research
  - Faculty positions
- Industry
  - Researcher
  - Senior UX strategist
- Start-up
  - Your own company!

Some scenarios…

Scenario 1: Hated it!

Hated CS-570

Never wants to do HCI again!

```
def removeComment(self, view, commentData, region):
    (lineComments, blockComments) = commentData

    wholeRegion = view.extractScope(region.begin())

    # Try and remove it as a block comment first
    for c in blockComments:
        (start, end, disableIndent) = c
        startRegion = sublime.Region(wholeRegion.begin(),
            wholeRegion.begin() + len(start))
        endRegion = sublime.Region(wholeRegion.end() - len(end),
            wholeRegion.end())

        if view.substr(startRegion) == start and view.substr(endRegion) == end:
            # It's faster to erase the start region first
            view.erase(startRegion)

            endRegion = sublime.Region(
                endRegion.begin() - startRegion.size(),
                endRegion.end() - startRegion.size())

            view.erase(endRegion)
            return True

    # Try and remove any line comments
    foundLineComment = False

    startPositions = [advanceToFirstNonWhitespaceOnLine(view, r.begin())
        for r in view.lines(region)]

    startPositions.reverse()

    for pos in startPositions:
        for c in lineComments:
            (start, disableIndent) = c
            commentRegion = sublime.Region(pos,
                pos + len(start))
            if view.substr(commentRegion) == start:
                view.erase(commentRegion)
                foundLineComment = True
                break

    return foundLineComment

def blockCommentRegion(self, view, blockCommentData, region):
    (start, end, disableIndent) = blockCommentData
    view.insert(region.end(), end)
    view.insert(region.begin(), start)

def lineCommentRegion(self, view, lineCommentData, region):
    (start, disableIndent) = lineCommentData

    startPositions = [r.begin() for r in view.lines(region)]
    startPositions.reverse()

    # Remove any blank lines from consideration, they make getting the
    # comment start markers to line up challenging
    nonEmptyStartPositions = filter(lambda p: hasNonWhitespaceOnLine(view, p),
        startPositions)

    # If all the lines are blank however, just comment away
    if len(nonEmptyStartPositions) != 0:
        startPositions = nonEmptyStartPositions

    if not disableIndent:
        minIndent = None

        # This won't work well with mixed spaces and tabs, but really,
        # don't do that!
        for pos in startPositions:
            indent = advanceToFirstNonWhitespaceOnLine(view, pos) - pos
            if minIndent == None or indent < minIndent:
                minIndent = indent

        if minIndent != None and minIndent > 0:
            startPositions = [r + minIndent for r in startPositions]

    for pos in startPositions:
        view.insert(pos, start)

def addComment(self, view, commentData, preferBlock, region):
    (lineComments, blockComments) = commentData

    if len(lineComments) == 0 and len(blockComments) == 0:
        return

    if len(blockComments) == 0:
        preferBlock = False

    if len(lineComments) == 0:
        preferBlock = True

    if region.empty():
        if len(lineComments) == 0:
            # add the block comment
            self.blockCommentRegion(view, blockComments[0], region)
        else:
            # comment out the line
            self.lineCommentRegion(view, lineComments[0], region)
    else:
```

Scenario 2: Loved it!

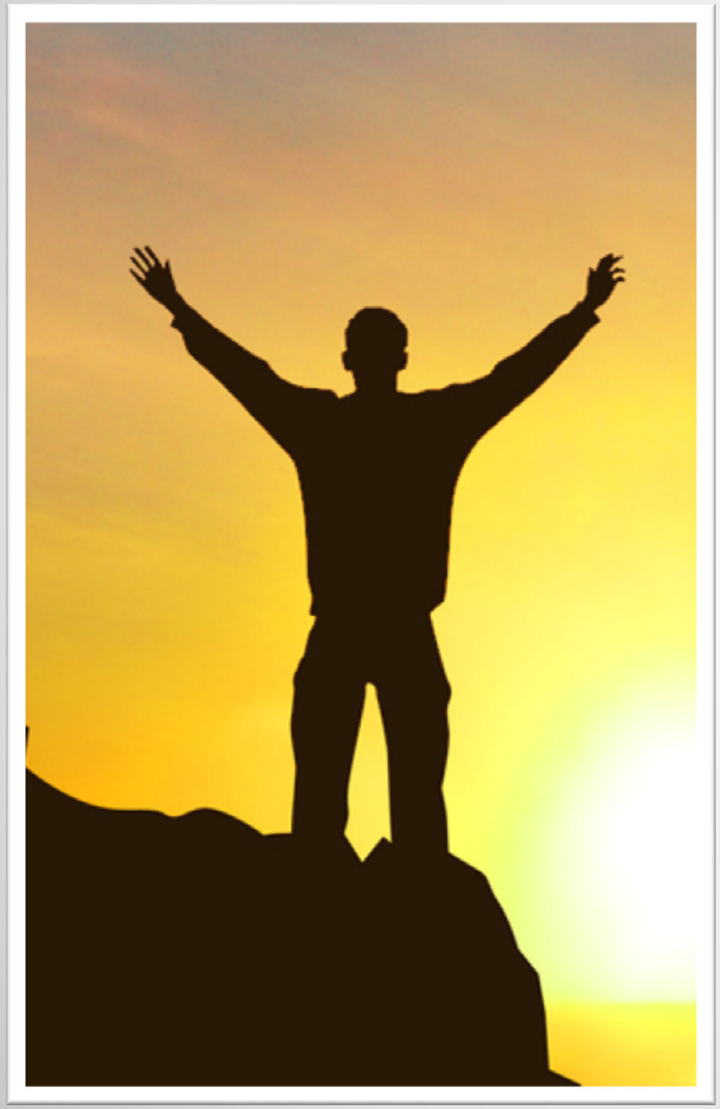
Loved CS-570

Wants to go to grad school to do more advanced work

Masters vs. Ph.D.

What's the difference?

Careers you can choose



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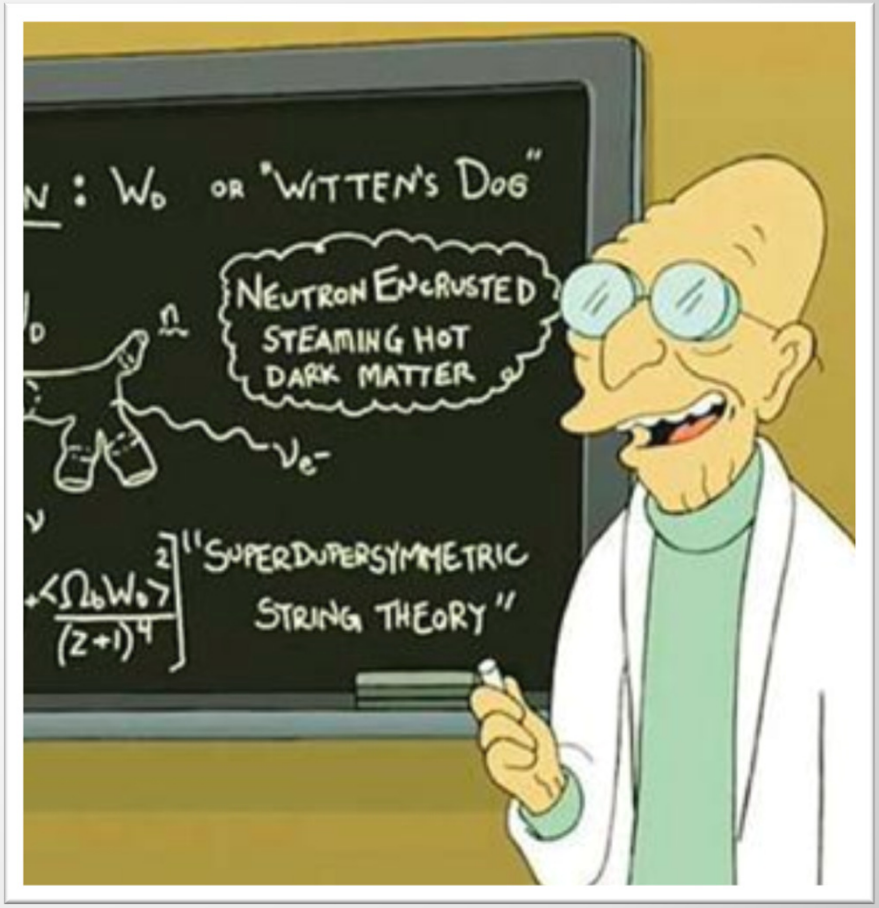
STAND BACK

I'M GOING TO TRY

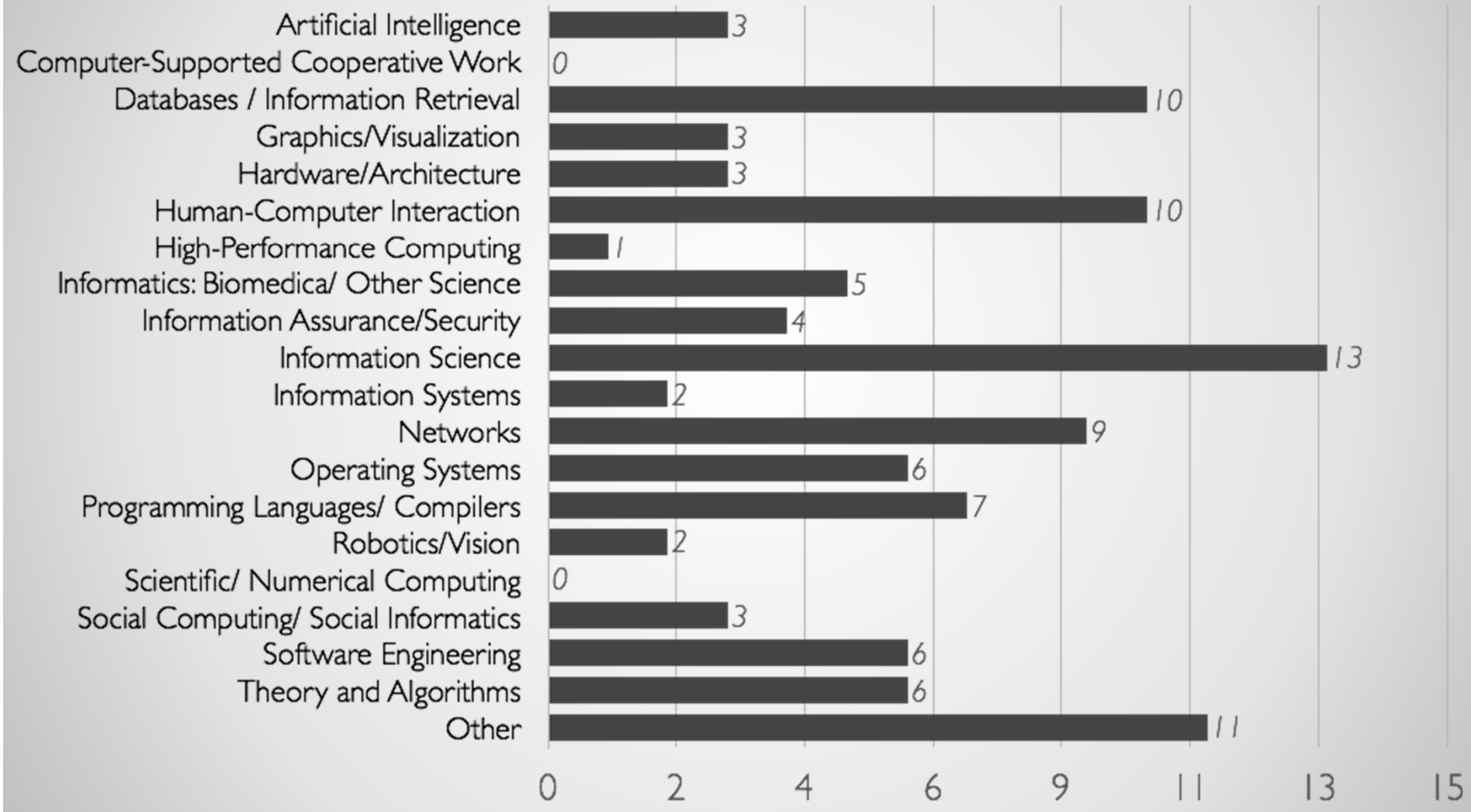
SCIENCE

Faculty

- Teaching
  - Smaller schools
  - More interaction with students
- Research
  - Less teaching
  - More guiding graduate students and publishing research

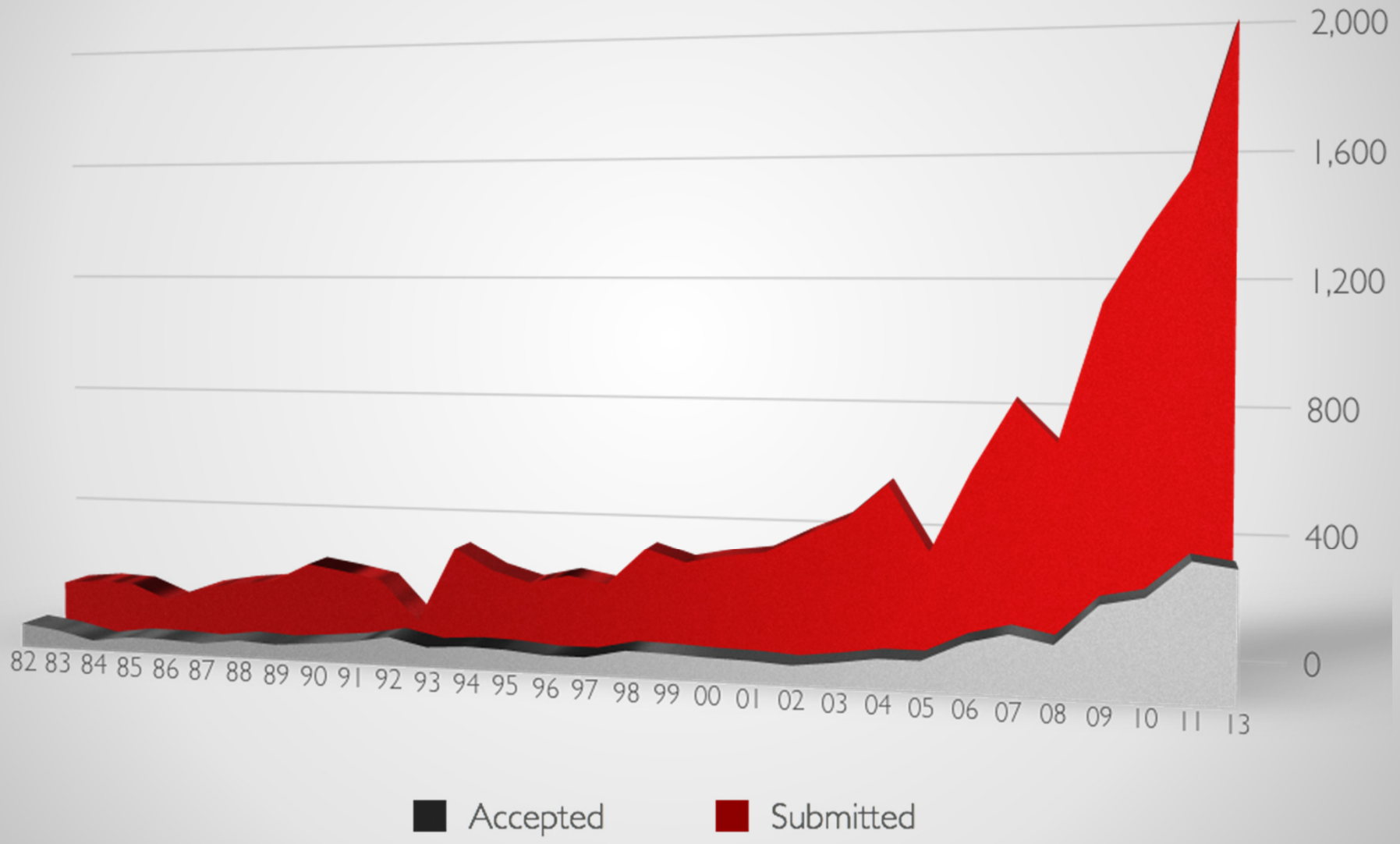


Faculty Placement

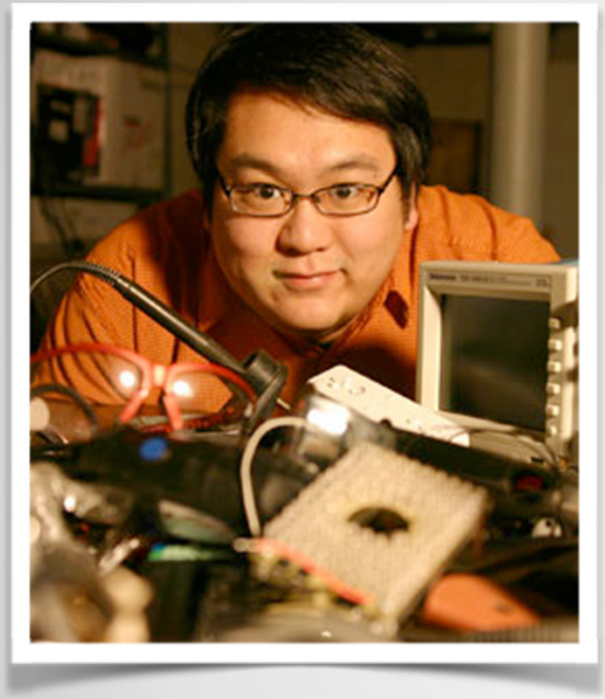


2012 CRA Taulbee Survey

CHI Conference

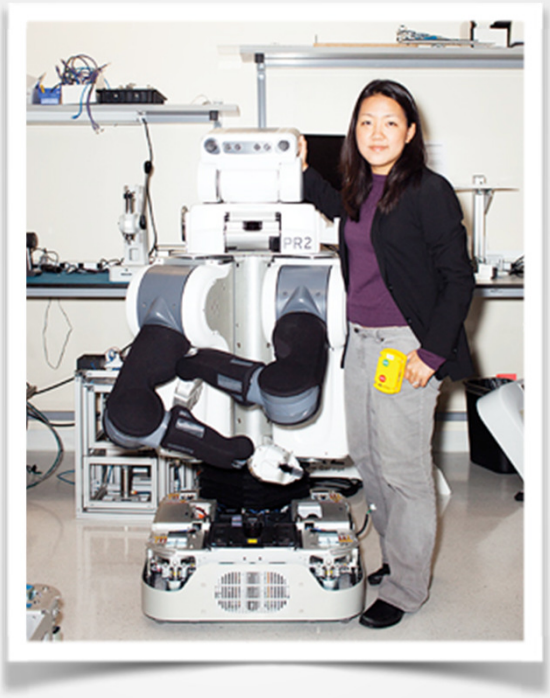


Industry Research



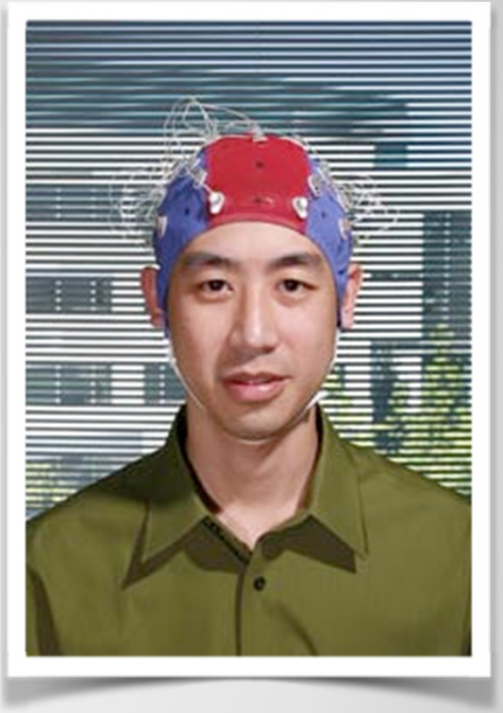
Johnny Lee

Microsoft, Google X



Leila Takayama

Nokia Research, Willow Garage, Inc.
Google X



Desney Tan

Microsoft Research

Further training

- Wisconsin
  - CS-770 Human-computer Interaction
  - Related courses in ISyE, ILS, Communcation Arts
- U.S.
  - Master's, certificate programs at major universities
  - CMU, Stanford, Georgia Tech, Michigan, Maryland
  - One-off continuing education courses

Scenario 3: Like it, ready to work!

Liked UX and software engineering

Wants a job to both design and develop

Companies with HCI jobs

Accenture
Adobe
Aduna
Agitar Software
Allstate Insurance
Amazon.Com
Apple
Autodesk
Boeing
Brulant
Carnegie Mellon
Citadel Investment
Citrix Systems
Colorado State University
Cook Vascular
Corel
Doubleclick
The Wall Street Journal Online
Duda Paine Architects
Electronic Arts
Endeca Technologies
Facebook
Friendfeed
Frog Design
General Dynamics
General Electric
Google
Guidewire Software
Hewlett-Packard
Hillcrest Labs
Hindustan Times, New Delhi
Honeywell Labs
Humancentric
IBM
Intel
Johnson Controls
Keane Federal Systems, Inc.
Linden Lab
Linkedin
Logical Design Solutions
Microsoft
Motorola
NASA
Oracle Corp
Pitney Bowes
Pixar
Qualcomm
Ricoh Americas
Sapient
Scholastic
Soar Technology
SRI International
T-Mobile
Tellme Networks
The Pittsburgh Cultural Trust
The University Of Pittsburgh
University Of Michigan
UPMC
Verizon
Walmart Labs
Wellspring Worldwide, A Company I Co-Founded Before Hcii
Yahoo!
Zeta Associates
Zühlke Engineering

For example!

Nathalie Cheng

- Took CS-570 in Spring 2010
- Completed an *L&S Individual Major in HCI*
- Interned at Chomp Inc., which was acquired by Apple in 2012
- Now works at *Lab 126*

Natalie's Curriculum

Computer Science

- CS 302 - Intro to Java
- CS 304 - Intro to Java WES-CS Group Study
- CS 368 - Intro to HCI
- CS 838 - HCI Research Methods

Psychology

- PSYCH 202 - Intro to Psych
- PSYCH 210 - Basic Stats for Psych
- PSYCH 225 - Experimental Psychology
- PSYCH 414 - Cognitive Psychology

Art

- Art 102 - 2D Design
- Art 112 - Drawing I
- Art 346 - Typography and Communication Design

Industrial & Systems Engineering

- ISYE 349 - Intro to Human Factors
- ISYE 652 - Sociotechnical Systems
- ISYE 662 - Design & Human Disability & Aging

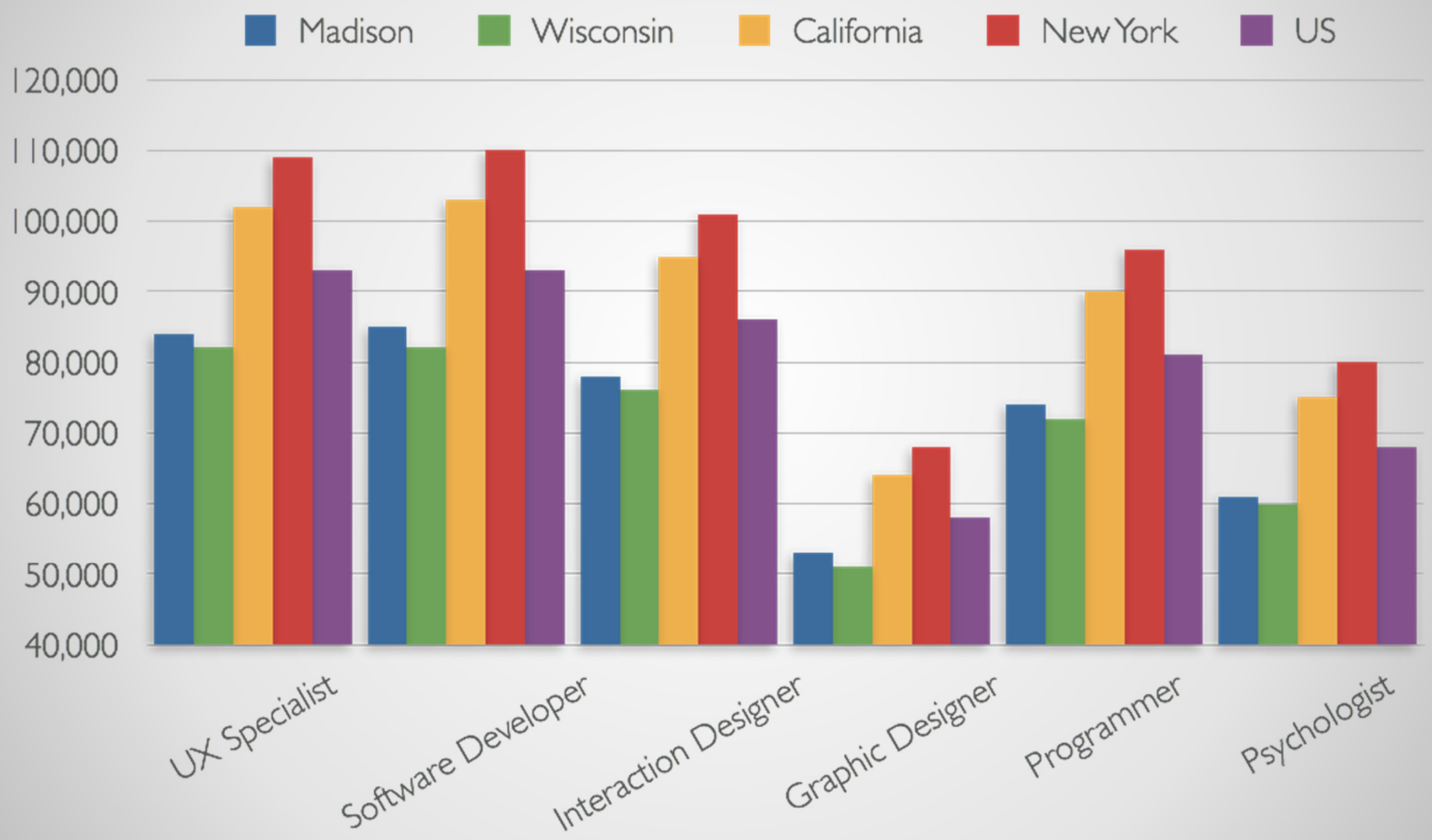
Communication Arts

- COM ARTS 970 - Seminar in Computer-Mediated Communication

Curriculum & Instruction

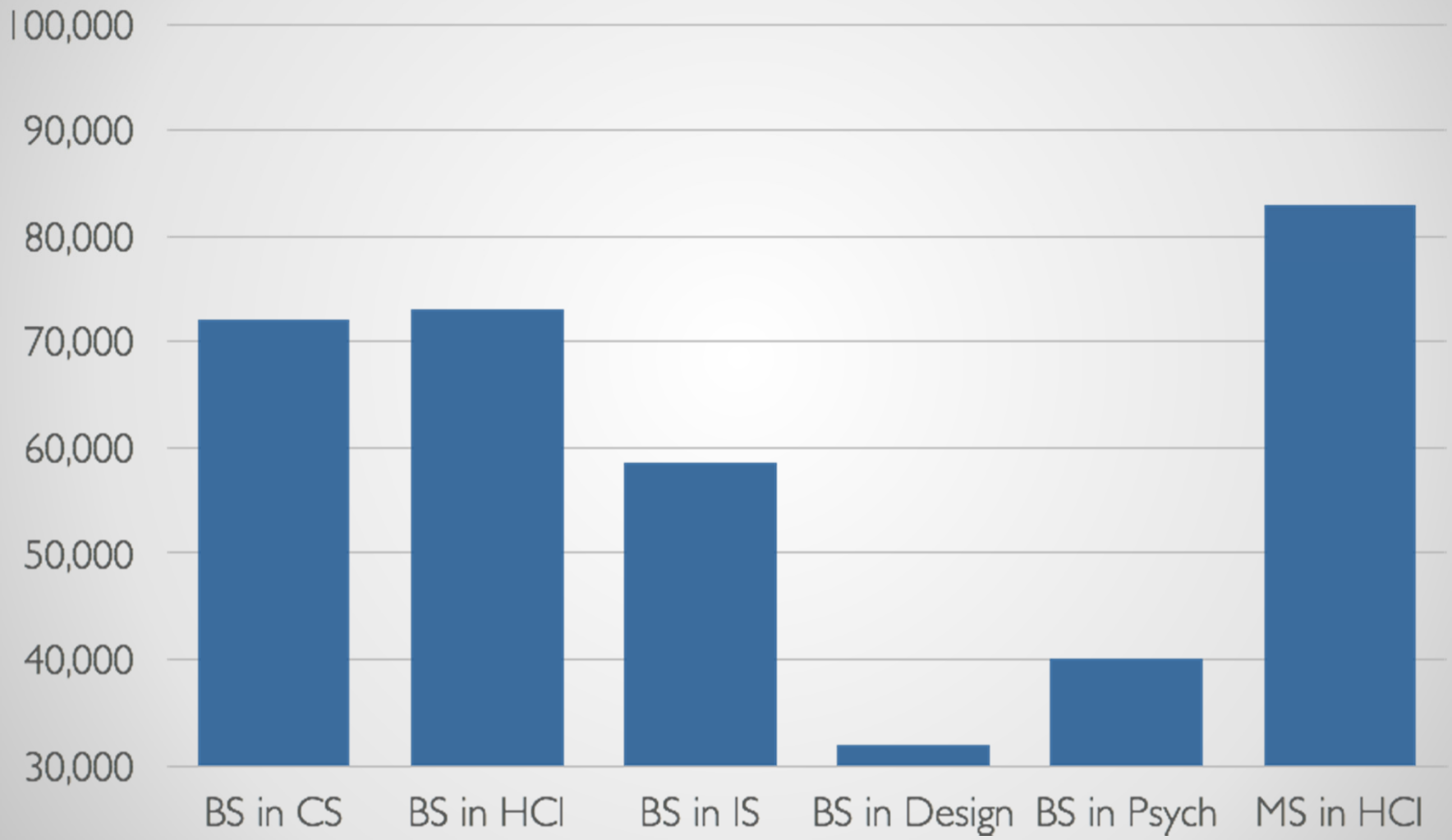
- C&I 375 - Videogames & Learning

Salaries

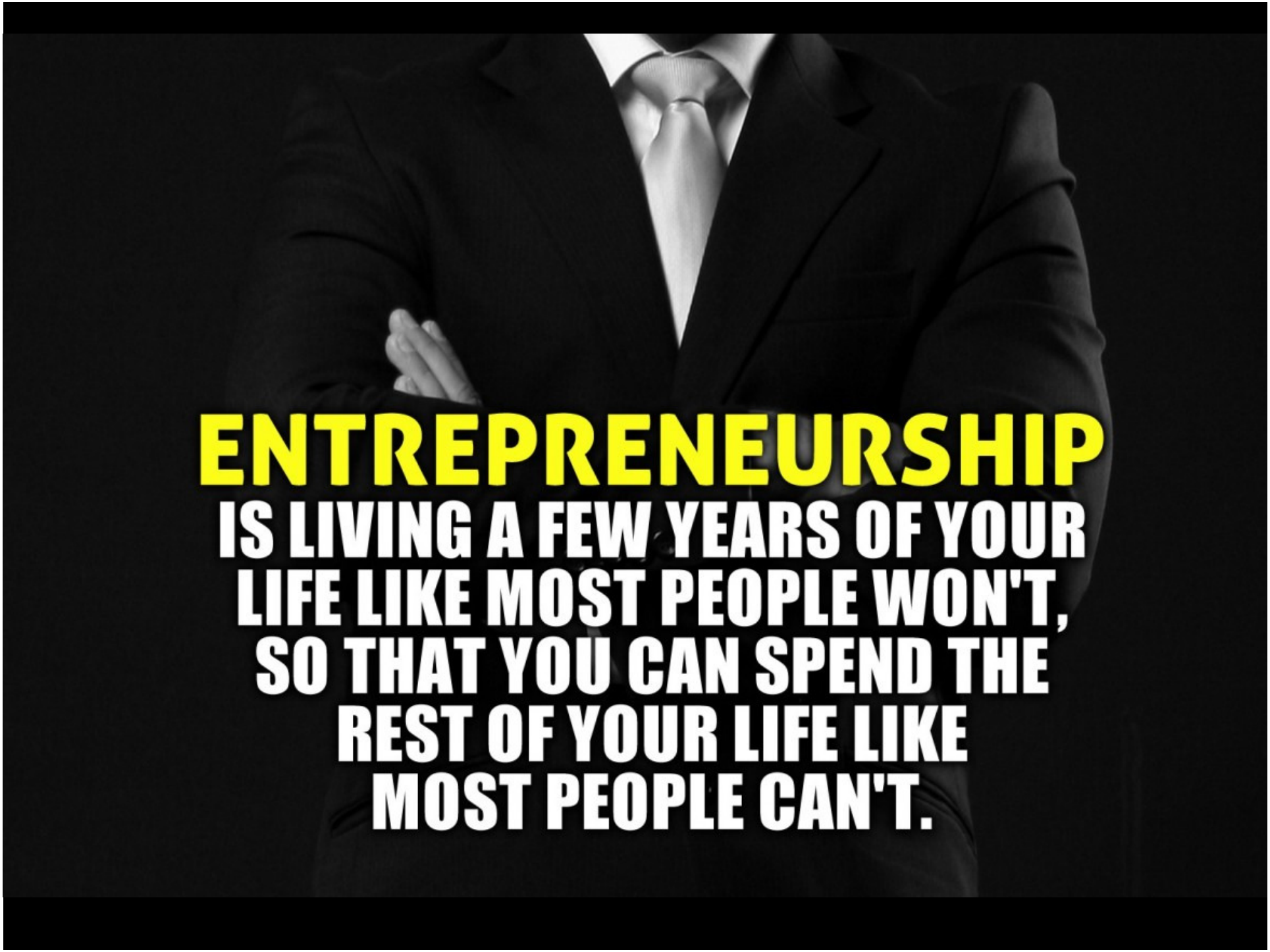


* Based on indeed.com

More Salaries



* Based on survey from CMU's HCII graduates


ENTREPRENEURSHIP
IS LIVING A FEW YEARS OF YOUR LIFE LIKE MOST PEOPLE WON'T, SO THAT YOU CAN SPEND THE REST OF YOUR LIFE LIKE MOST PEOPLE CAN'T.

Questions?

’sup HCl?

New interfaces

Making current interfaces work better

Figuring out specific contexts

Modeling humans using technology

Understanding users from big data

Humans in-the-loop

New Interfaces

Draco: Bringing Life to Illustrations with Kinetic Textures

SensaBubble:

A Chrono-Sensory Mid-Air Display of Sight and Smell

Making Current Stuff Work Better

TouchTools

Leveraging Familiarity and Skill with Physical Tools to Augment Touch Interaction

Chris Harrison, Robert Xiao, Julia Schwarz, Scott E. Hudson
Human-Computer Interaction Institute
Carnegie Mellon University

Carnegie Mellon University

Uncertain Text Entry on Mobile Devices

Daryl Weir[1], Henning Pohl[2], Simon Rogers[1],
Keith Vertanen[3], Per Ola Kristensson[4]

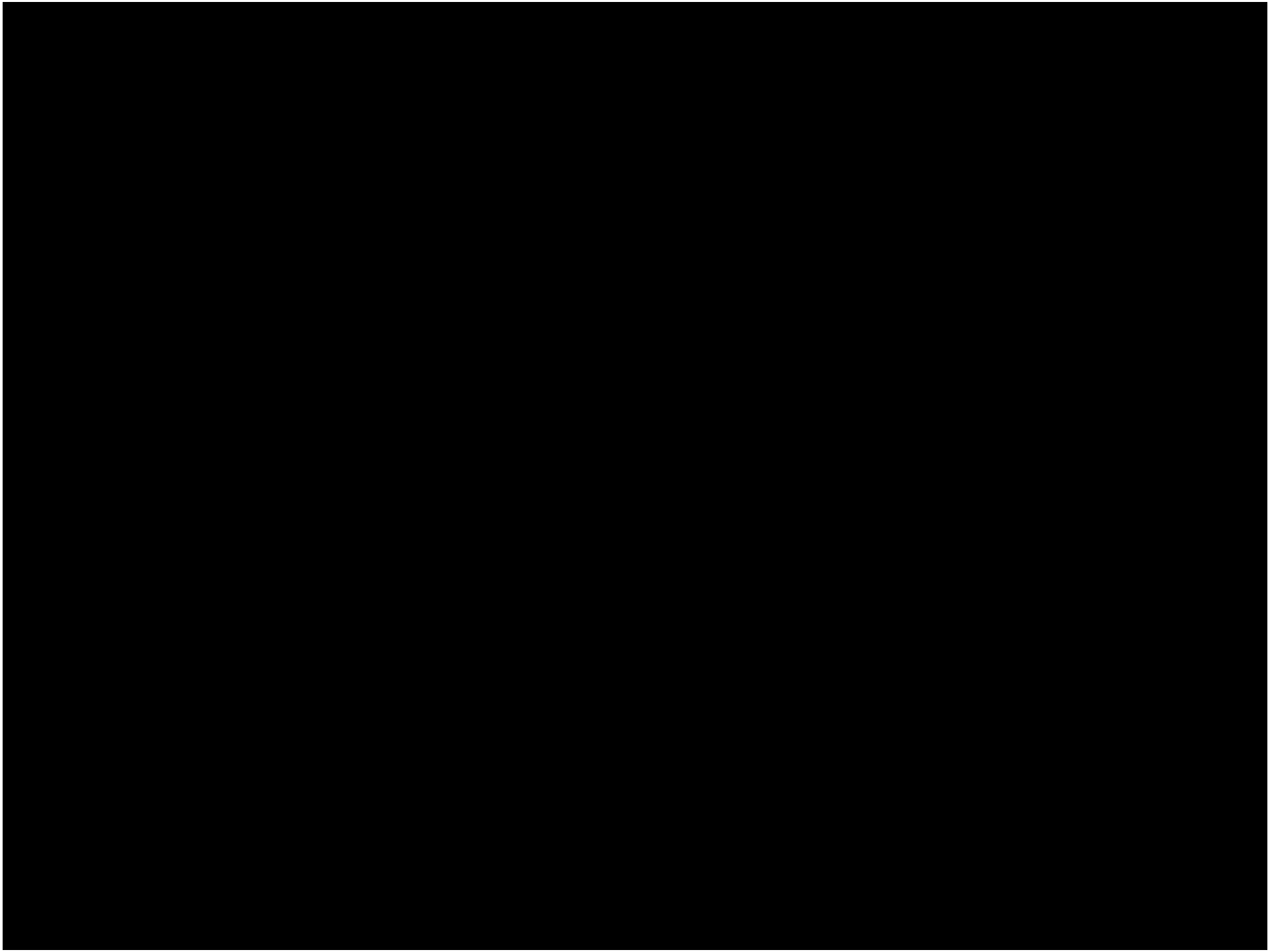
[1]University of Glasgow, UK
[2]University of Hannover, Germany
[3]Montana Tech, Montana, USA
[4]University of St. Andrews, UK

Contexts

Interface Design for Older Adults with Varying Cultural Attitudes toward Uncertainty

Shathel Haddad, Joanna McGrenere, Claudia Jacova

University of British Columbia



Understanding Users

Law of Unintended Consequences: The Case of External Subgoal Support

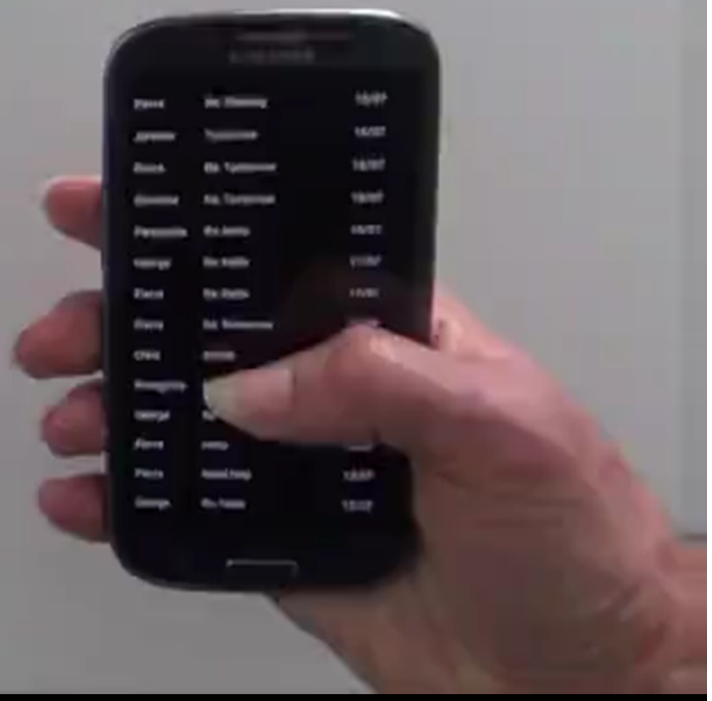
J. Gregory Trafton
US Naval Research Laboratory

Raj M. Ratwani
MedStar Institute for Innovation

CHI 2014

Animation by Anthony Harrison

Coordination of Tilt and Touch in One- and Two-Handed Use



From Big Data!

Unraveling Abstinence and Relapse:

Smoking Cessation Reflected in Social Media

In this study, we analyze

Microsoft Research

Elizabeth Murnane
elm236@cornell.edu

Scott Counts
counts@microsoft.com

Estimating County Health Statistics with Twitter

Aron Culotta
Department of Computer Science
Illinois Institute of Technology
Chicago, IL

Humans in the Loop

VizWiz

Questions?

Evaluations & Review Session