



Enterprise UX 2023 by Rosenfeld

OPENING KEYNOTE

I am part of this community; our work in large organizations REALLY MATTERS. ^{and have been} **WE ARE the POSSIBILITARIANS.**



GREG PETROFF

VP, Chief Design Officer, Cisco Secure, Cisco

Software as Material - Redux ↴

of a talk given in 2016
at Enterprise UX

Where were we, as a community... and where we might be moving in the future

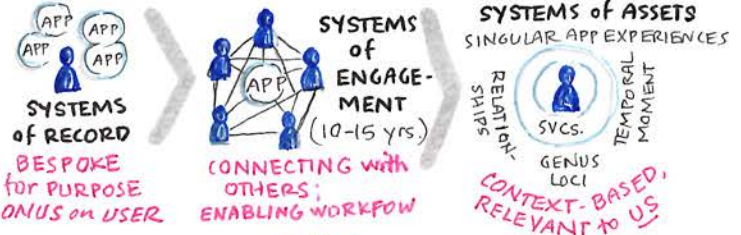
TODAY
Some of the things that matter are less about the technology, more about:

HOW WE, AS BUSINESSES, BUILD EXPERIENCES THAT SUPPORT MAKING A BETTER WORLD... BEING CONSCIOUS AND INTENTIONAL ABOUT THE BIG CHALLENGES IN FRONT OF US

AT THE SAME TIME, WE HAD

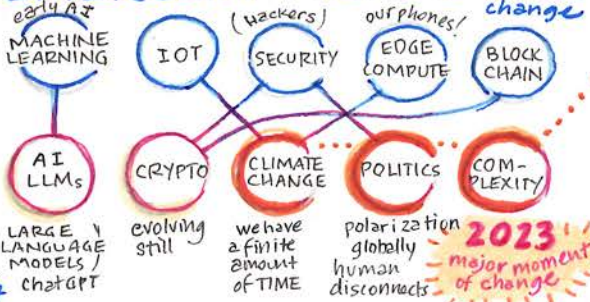
SYSTEMS INVERSION

A TRANSITION IN HOW WE OPERATE WITH SOFTWARE



June 6, 2023 #EUX2023

EMERGENT THEMES



IN 2016, WE SAW THE RISE of a NEW TECH STACK: All about CLOUD SERVICES

SUBSCRIPTIONS "AS A SERVICE"

NOW WHAT? (IN 2016)

PREDICTION FRAMEWORK (ability to use past experience for decision-making) DOES NOT WORK ANY MORE

HOW TO BUILD IS SOLVED... BUT: WHAT TO BUILD and WHY?

WHERE TO...? 2016 2023

STAGE 1 TODAY
Current enterprise
UX STRUCTURES SYSTEMS
Craftsperson
STAGE 1 · 2016
legacy enterprise

STAGE 2 TOMORROW
Contextual enterprise
UX PATTERNS DOMINATE
Business Partner
STAGE 2 · TODAY
contextual enterprise

STAGE 3 FUTURE
A.I. enterprise
UX TEACHES SYSTEMS + A.I.
Innovator?
STAGE 3 · TOMORROW
A.I. enterprise
UX PARTNERS with A.I.

In our shift to new tooling

DISCIPLINES MOVING TOWARD EACH OTHER

The new language of coding is "ENGLISH" (A.I.)

and the BUSINESS/CUSTOMER PROBLEM



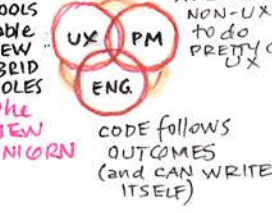
We need each other more than ever

MATERIALITY and SERVICE-BASED ARCHITECTURE

AI/LLMs WILL BE MEANINGFUL IF WE CAN TRAIN THEM on the DATA and the PEOPLE THEY SUPPORT

SKILLS CONVERGE with TOOLS that let us operate in each other's arenas

AS TOOLS GET EASIER, OUR PREDICTION FRAMEWORK GETS WORSE. We need to become:



NEED CONVERSATIONS ABOUT HOW to NEWLY ORCHESTRATE THIS TOGETHER including HOW EMERGENT TOOLING will AFFECT US ALL.

OUTCOME MAGICIANS

Domain knowledge will be key [Cisco Security example] Get smart about user business outcomes Be a great problem-solving partner

CULTURAL CHANGE AGENTS

Be bold in creating growth mindset partnership

EXPERTS IN A.I.

Enables ENG. to focus on bigger foundational work Generative creative tools make us faster



THEME ONE: SYSTEMS THINKING

June 6, 2023 #EUX2023

UDAY GAJENDAR Theme Leader
Design Manager, Aurora Solar



Welcome everyone! It is my pleasure and honor to talk about our first theme...

What does it mean to bring a "systems" lens to a complex problem within the enterprise?

How can designerly tools and methods help turn "systems thinking" into a natural way of thinking for all?

Theme One explores the relationship among systems, services, and experiences that senior designers, researchers, and writers should tap into toward achieving their goals.

SHERYL: Connecting DESIGN THINKING to SYSTEMS THINKING
foundational concepts re: DESIGNERS' POWER and POSITIONALITY

PAUL: Going META to help parse out a DEEPER and HIGHER LEVEL of what it means to think of systems as SHAPING the CHARACTER of 21ST C. ORG. through CONVERSATIONS and LANGUAGE

BOON: Experiential CASE STUDY revealing the METHODS a "super senior individual contributor principal" can use to make sense of complexities through a kind of INTERVENTION with stakeholders (sensibly)

COMPLEXITY
WICKEDNESS!
INTERCONNECTED NATURE
CONVERSATION, WEAVING the THREADS together...

There are certain "hushed reverberations" ringing through systems thinking

Living in the Clouds: Adopting a Systems-Thinking Mindset

SHERYL CABABA THINKING in a FUNDAMENTALLY MORE EXPANSIVE WAY
Chief Strategy Officer, Substantial
Author of Closing the Loop: Systems Thinking for Designers
I teach at University of Washington

SHORTCOMINGS of Narrow Focus on Users

- DOES NOT ACKNOWLEDGE NOR ADDRESS POTENTIAL HARM (infinite scroll)
- LIMITS the POTENTIAL IMPACT of DESIGN
- DOES NOT INHERENTLY TAKE INTO ACCOUNT SYSTEMIC FORCES

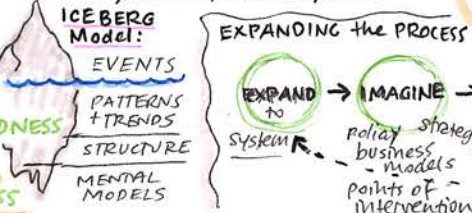
CLOCK PROBLEMS
clear elements that work together; can be reduced to components; SYSTEMS ENGINEERING

CLOUD PROBLEMS
nebulous and dynamics; they adapt and change; MANY ASPECTS IMPACT EACH OTHER

DESIGNERS WORK in THIS CULTURE BUT WE NEED TO LIVE in THIS MINDSET

MAKE the INVISIBLE VISIBLE

STEEP Framework: Socio-Cultural, Technological, Environmental, Economic, Political
Analyze the problem space



REMEMBER that TODAY'S PROBLEMS COME from YESTERDAY'S SOLUTIONS
Outcomes can be intended and unintended EX: RAT PROBLEM

DIVERSIFY - and EMPOWER YOUR STAKEHOLDERS
You have positionality as a designer (NOT AGNOSTIC)
THE PARTICIPATORY PRINCIPLE (Mike Jackson)
work in community with those most impacted

MULTI-FINALITY
more than one way problems can be solved

understand SYSTEMS THEORY in context of our work, we need to be more expansive:
INTERCONNECTEDNESS
CAUSALITY
WHOLENESS



Thinking about SYSTEMS forces us to consider beyond the direct benefits of use.

SKETCHNOTES by @mj broadbent

Making Sense of Systems, and Using Systems to Make Sense of the Enterprise

BOON YEW CHEW
Senior Principal UX Designer, Elsevier



Mine is a story from the trenches... my own experience. I'll be a bit vulnerable because obviously the work is messy in enterprise. THESE ARE MY OWN ATTEMPTS to MAKE SENSE of IT

2019 Ambitious redesign
UCD FOCUS: co-design
How do I work toward better product and service experiences?
How can my org deliver the value it aspires to achieve?

ENTERPRISE UX is HARD
Designing for screens & services
+ NAVIGATING and FACILITATING INTERNAL CHANGE
SYSTEMS THINKING for EUX IS...
... like doing research & design on ourselves, USING SYSTEMS THINKING to NAVIGATE COMPLEXITY with OTHERS

PUBLISHING COMPANY SPECIALIZING IN TECHNICAL & SCIENTIFIC CONTENT

My team responsible for de facto digital submission workflow system
COMPLEXITY especially in my role working across many teams and departments to affect END-TO-END experience

2+ million submissions/yr. ~ 2700 journals

Complicated workflows that balance standardization with ease of use

POLARITY MAPPING
BALANCE through CONNECTION
analyze what we don't want

UNDERSTANDING different views
EMPATHY for each other
ITERATE experiments together
STORIES for sense-making and futures
CHANGE happens here
ACTUAL WORK + BEHAVIORS



We assume teams will find a way to navigate change but we can/should apply design techniques to understand ourselves and our stakeholders

PETER CHECKLAND'S SOFT SYSTEMS METHODOLOGY
DEEPEN & REFRAME SHARED UNDERSTANDING

COME UP WITH INTERVENTIONS + EXPERIMENTS
TOOLS to UNDERSTAND and ENGAGE with STAKEHOLDERS
SOCIOGRAM
INFLUENCE VS. INTEREST
DISTANCE TO USER TYPES
DISTANCE to A TEAM

ACROSS USER JOURNEY
Goal: teams think differently

PATTERNS of RELATIONSHIPS
How do we relate to one another?
"Backcasting" futures
Systems-wide view of users HELP SYSTEMS-WIDE PRODUCT/SERVICE EFFORTS
Systems spotting: FIXES THAT FAIL

Systems Disciplines: Table Stakes for 21st Century Organizations

PAUL PANGARO, Ph.D.
President, American Society for Cybernetics
Visiting Scholar, School of Architecture and School of Design, Carnegie Mellon University



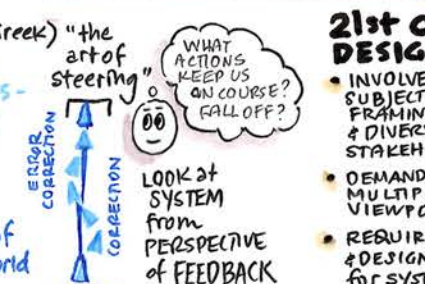
system (n.)
syn "together" + sta "to stand, make, or be firm"
systema (Latin) "an arrangement" →
systema (Greek) "organized whole, compounded of parts"
→ **systems: COMPLEX ARRANGEMENTS and the THEORY BEHIND WHY THEY OPERATE**

- 1928 System Theory LUDWIG VON BERATAN
- 1972 The Limits to Growth DONELLA MEADOWS et al (DATA & THE WORLD - SYSTEMS DYNAMICS)
- 2001 Thinking in Systems: A Primer DONELLA MEADOWS
- 2020 The Hidden Power of Systems Thinking Governance in a Climate Emergency RAY ISON and ED STRAW

basis in CYBERNETICS
Cybernetics NORBERT WEINER
Macy Conferences to promote communication across disciplines (ORAL and WRITTEN)
Embodiments of Mind WARREN S. McCULLOCH

what is my purpose?
I am looking.
I say what I am seeing.
I am actively making choices about what I see and say
I create the FRAME

FRAMING
metaphor from design
way of seeing subjectively
core aspect of Cybernetics
see Bernard Scott's FIVE PRINCIPLES of OBSERVATION



- THERE IS ALWAYS a BIGGER IDEA. Sometimes you need to zoom out to see the full picture. (POWERS of TEN by the Eames)
- THERE IS ALWAYS ANOTHER LEVEL OF DETAIL. Zooming in can help.
- THERE IS ALWAYS ANOTHER PERSPECTIVE. Work with stakeholders
- THERE IS ALWAYS ERROR. Expect mistakes - develop further insights that expand your frame
- THERE IS ALWAYS the UNEXPECTED. can be outside of the frame.

21ST C. DESIGN
INVOLVES SUBJECTIVE FRAMING & DIVERSE STAKEHOLDERS
DEMANDS MULTIPLE VIEWPOINTS
REQUIRES TEAMS & DESIGNING for SYSTEMS
therefore... **21ST C. DESIGN is CONVERSATION**
LANGUAGE = distinctions + relations shared meaning + concepts shared values + concerns evolving possibilities... toward coordinated action INCORPORATE PURPOSE.

POSIVO
"The purpose of a system is what it does."
- STAFFORD BEER cybernetician

HT PETER MERHOLZ



June 6, 2023 #EUX 2023

HUSANI OAKLEY Theme Leader
Creative Executive



Thank you to everyone participating today!
WE ARE ON A JOURNEY THAT HAS NO END.
Let's help each other along the way.

THE SLACK CONVERSATION HAS BEEN JUST TREMENDOUS...
There is such **POWER** in an active community.

An enterprise's information is vast, messy, and frustratingly distributed across silos, geographies, and other contexts.

How can practices like Information Architecture (IA) and Knowledge Management (KM) help users find, make sense of, and learn from the content they need?

THE ART AND SCIENCE OF ORGANIZING AND STRUCTURING INFORMATION TO MAKE IT USABLE, ACCESSIBLE, and MEANINGFUL

And how can they help UX people and information managers develop and maintain enterprise information environments in a sustainable fashion?



CREATING a SHARED **CONTEXT** IS SUCH A GOOD WAY TO BEGIN CONVERSATION WITH OTHERS

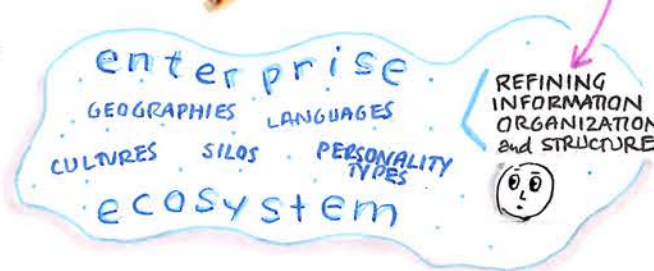
Thank you, Paul Pangaro, (THEME 1) for setting this up REALLY WELL in talking about LANGUAGE.

CONTEXT > CONVERSATION > COMMUNICATION > COLLABORATION

• HOW IS INFORMATION... STORED? FOUND? USED?

• WHAT IS THE DIFFERENCE BETWEEN DATA, INFORMATION, and KNOWLEDGE?

• WHAT SYSTEMS DO WE USE...?



A Shared Language for Co-Creating Ambitious Endeavours

MILAN GUENTHER
Enterprise Designer, Intersection Group

HOW DO YOU KNOW if an ENTERPRISE IS WELL-DESIGNED?

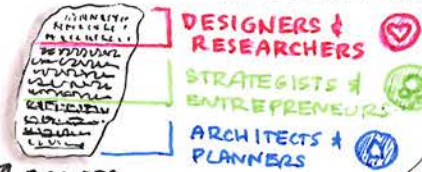
YOU CAN MEASURE ANY SYSTEM by the **OUTCOMES** it produces

(OUR TERM for the ENTERPRISE)

Yes, building on Paul's talk, OUR GOAL IS TO INFLUENCE SYSTEMS AROUND US, SO WE NEED TO LOOK AT LANGUAGE

☹️ All Indo-European languages come from the same root.

THE LANGUAGE WE SPEAK IN BUSINESS - UX, PRODUCT, DEVELOPERS - HAVE SAME ROOT.



ROSETTA STONE as a METAPHOR

enterprise design OPEN SOURCE

SKETCH NOTES by @mjbrodbent

EDGY a visual language for collaborative enterprise design ORGANIZATION. How do we work together as a team?

IDENTITY
• Why do we exist?
• Who are we?
• What matters to us?

BRAND
• How are we being perceived?

EXPERIENCE
• What is our role in people's lives?

ONE ENTERPRISE

ENTERPRISE ELEMENTS
• PROCESSES
• CAPABILITIES
• ASSETS
• TASKS
• CHANNELS

BETTER = ORGS that:
→ Serve a clear purpose
→ Are useful to people
→ Add value to lives
→ Deliver on their promises

If outcomes are bad or undesirable, **REDESIGN**

ROOT CAUSES:
• Poor product quality
• Context of use is poor
• Logistics problems
• Purpose not right, pursuit of wrong goal

ARCHITECTURE
• How are we operating and what are we capable of?

PRODUCT
• What are we making and offering?

"WHITE PRISM"
• Questions to be asked

PEOPLE
• OUTCOME
• ACTIVITY
• OBJECT

Diagram these in the EDGY framework to map the org. [SEE VIDEO & SLIDES] for EXAMPLE

We need to create the conditions to make the enterprise appear, work together in coherent ways

GROW LIKE a GARDEN

MATCH TASK(S) IN CUSTOMER JOURNEY TO PRODUCTS and EVALUATE CAPABILITIES

TASK MAP stack all OUTCOMES together to see what people really want from us

ABLE TO DO ORCHESTRATING PEOPLE and ASSETS

(SEE VIDEO/SLIDES for CREATING EDGY STATEMENT) and OTHER EDGY



The User Experience of Knowledge Systems

REN POPE
Principal, Info-Do

Keep striving... our practice increases w/ scale of tech.

Different expectations for different users

* DATA	* INFORMATION	* KNOWLEDGE
Raw content, primarily for storage and formatting PRIMARYLY FOR VISUALIZATION, COMPLEX NARRATIVES	Data with context, formatted for presentation and navigation e.g., Web pages PROVIDES IMMERSIVE EXPERIENCES for COMPREHENSION accessed on demand	Information made for human contexts of action FOCUS ON the APPLICATION OF INFORMATION to a GOAL

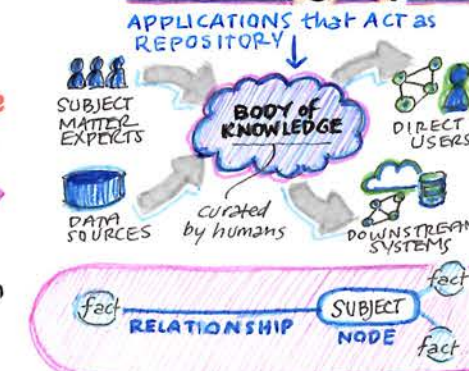
Applying one context to another = bad results
* The "lines" between content types can be blurry

INFORMATION SYSTEMS
• are based on TABLES
• have a standard UX that is well established
UNIVERSAL ELEMENTS OF DESIGN

1 Know the differing characteristics of data, information, and knowledge to create experiences

CALLS TO ACTION:

2 Get engaged. Advocate for good experience. Talk with leaders and vendors. UX shaped by use!



Knowledge systems store information about subjects and objects... **METADATA** is used to manage that

DIFFICULT TO DEVELOP UNIFIED EXPERIENCES

LIMITED SET OF UNIVERSAL DESIGN ELEMENTS FOR PRESENTATION
* REN discusses the shortcomings of current-day A.I. chatbots and elaborates on **TRANSFORMATION MAPS** - A BLEND of GRAPH PLUS INFO-BASED CONTENT including the SUPPORTING META DATA in ONE UI

A FEW Examples:

• **SYNAPTICA's "Graphite"**
USERS CREATE KNOWLEDGE CONTENT and ORGANIZE KNOWLEDGE found in LARGE DOCUMENT COLLECTIONS and LONG-FORM CONTENT

• **NEO4J** A GRAPH DATABASE USING NODES and RELATIONSHIPS to DISPLAY KNOWLEDGE GRAPH DATABASES CAN BE REPOSITORIES for OTHER SYSTEMS

• **OPEN A.I.** like CHAT GPT CONVERSATIONAL INTERFACE *

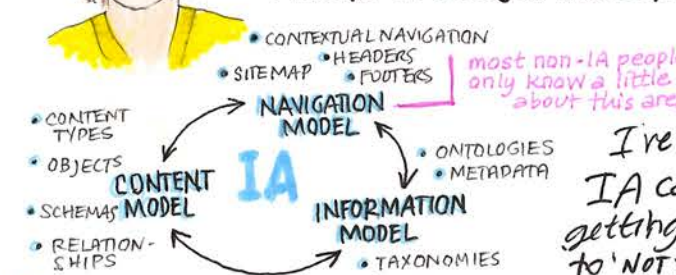
USER GROUPS
• CREATOR / ADMINISTRATOR
• CONSUMERS
Both important!



The "How" of Enterprise Information Architecture

SARAH BARRETT
Principal IA Manager, Microsoft

Getting stuff done when nobody cares about I.A.



Imagine YOU HAVE 15 MINUTES with YOUR CEO. What do you ask for?

(START SOMEWHERE) THINK STRATEGICALLY

THINK of the END STATE at the BEGINNING

WHAT NEEDS TO BE DEFINED? DOCUMENTED? WRITTEN? WHAT GETS APPROVED? GET CONCRETE for PEOPLE [SARAH shares an example CASE STUDY: Microsoft Learn]

HOW TO GET IT DONE
WE THINK OUR JOB IS TO ASK MORE IMPACTFUL UX QUESTIONS however QUESTIONS ABOUT HOW TO DO OUR JOB ARE MORE PREVALENT

WE ARE DOING A BAD JOB AT THE BASICS in COMPLEX ORGS.

Almost ANYTHING can improve a site's I.A.

When execution is harder than ideas, execution becomes the job.

THINK STRATEGICALLY
• HAVE a CONCRETE GOAL (END STATE)
• MAP OUT the STEPS/RESOURCES NEEDED to GET THERE
• BECOME an EXPERT in HOW CHANGE HAPPENS in YOUR ORGANIZATION

PROBLEMS SOLUTIONS BEWARE of SOLUTIONS in SEARCH of PROBLEMS
POLITICS WIND UP of OPPORTUNITY CRISIS CAN create ALIGNMENT! NEWTON MINOW FCC chair ORIGINAL FINDER of Sesame Street

CRUCIAL for any kind of CONTENT MANAGEMENT and PUBLISHING

OFTEN REQUIRES NEW APPROACHES and FUNDAMENTAL REDESIGNS

How does RESEARCH get a seat at the table?

How do I get anyone to INCLUDE IA in conversations?

How can I make anyone PRIORITIZE S.E.O.?

"I can think of easier ways to make a living. But I cannot think of more satisfying ways."



June 7, 2023 #EUX2023

HUSANI OAKLEY Theme Leader
Creative Executive



With great power comes great responsibility.
RATE OF CHANGE OF THESE CAPABILITIES + WIDE ACCESS TO THE TECH. = EARTH-SHATTERING IMPLICATIONS!
POWER + **SCALE** =

What are AI and ML actually good for in enterprise settings?

Can they help UX practitioners make better design decisions — or divert their time and attention to the tough design challenges best left to humans?

Can AI/ML help identify and satisfy latent customer needs and stakeholder priorities?

What kind of "relationships" should we have with AI in our work as enterprise UX people?

We've all heard the phrase "X will change EVERYTHING."
SOMETIMES TRUE... POSSIBLY CLEAR TO EVERYONE THAT THINGS WILL CHANGE BUT NOT NECESSARILY HOW.
SOMETIMES IT'S B.S... Segue, NFTs
SOMETIMES IT'S TRUE BUT SPECIALIZED KNOWLEDGE OF CONTEXT NEEDED.
Consumer Web Cloud Computing

Sometimes IT'S CRYSTAL CLEAR TO EVERYONE
WE ARE HAVING ONE OF THESE RARE MOMENTS

WE ARE (perfect place, perfect time) UNIQUELY POSITIONED to have a real IMPACT ON HOW AI & ML ARE USED IN INTERNAL SYSTEMS and CONSUMER PRODUCTS
WE KNOW JUST ENOUGH ABOUT AI & ML — and JUST ENOUGH ABOUT OUR ORGS — to be THOUGHTFUL and CAREFUL
WE HAVE OPPORTUNITY RIGHT NOW
Not just a society BUT AS PRACTITIONERS



UX Futures: The Role of Artificial Intelligence in Design

CLARA KLIMAN-SILVER
Staff UX Researcher, Google

I work on the Material Design team and will share OPEN SOURCE: material.io research we've done and takeaways.

SPECIFICALLY: GENERATIVE A.I. & WHERE WE ARE NOW
How will it transform our work? AI TOOLS FOR UX HAVE MANY VARIABLES

PRODUCTIVITY TOOLS with smart features
CREATIVITY TOOLS
Gmail Chatbots DALL-E Midjourney
Android Studio Figma (AUTO LAYOUT)
RISE of GENERATIVE A.I. HAS BEGUN TO PERMEATE THE DESIGN PROCESS

ULTIMATELY, THIS IS EMERGENT 2023 AI IS EVERYWHERE
SO IT'S A CONTINUING CONVERSATION
ID LOVE TO HEAR WHAT YOU'RE THINKING!
for this talk, AI context is AI-powered, perceived a A.I.

ENTERPRISE has long history of AUTOMATION

Met with ENTHUSIASM and CONCERN

EXAMPLE Film Editing SPECIALIZED MANUAL PROCESS

iMovie (anyone can use it)

WHEN WORKING with NOVEL TECHNOLOGY, bring in end users for design and ideation

PARTICIPATORY DESIGN to understand ATTITUDES

ENVISION BENEFITS & DRAWBACKS

SKETCH NOTES by @mjrbroadbent

WE USED 'Wizard of Oz' testing with story boards NOT WORKING ML

It's actually hard to know what is A.I. and what's not IF YOU'RE NOT AN AI/ML PROF

Exciting! CONCERNING... a LOT OF SPECULATION, SOME TREPIDATION & SKEPTICISM

AI is valuable when it extrapolates mundane work

MAJOR TENSIONS

EFFICIENCY → Best Practices vs. AGENCY → Innovation

AI applied in specific ways not generally across DESIGN PROCESSES

TRUST → Loss of control Quality of result vs. CONTROL → Partnership preferred

WRITTEN SCENARIOS from CONCEPTS → Solution space NOT SPECIFIC SOLUTIONS PERCEIVED VALUE IS KEY

ARE YOU SOLVING THE RIGHT PROBLEM? ANY PROBLEM?

IS THE TOOL ENVISIONED USABLE and USEFUL? WHY/WHY NOT?

IS AI USED in an INTERESTING WAY? ACTIONABLE for USERS?

YOU DELIVER A BABY AND ARE ONLY GIVEN AN OPTION FOR C-SECTION BECAUSE AN ALGORITHM PREDICTED YOUR LABOR WAS HIGH RISK.

THE LEVEL OF CARE YOU RECEIVE IS BASED ON AN ALGORITHMIC SCORE OF YOUR PAST HEALTHCARE SPENDING.

YOU GO TO THE HOSPITAL FOR EMERGENCY BUT YOUR SYMPTOMS DON'T MATCH THE SYSTEM RECOMMENDATIONS SO YOU ARE WITHOUT TREATMENT.

THESE SCENARIOS IMPACT BLACK and HISPANIC PEOPLE, and HAVE IMPLICATIONS for THOSE IN POVERTY OR WITHOUT ANY HEALTHCARE

RACIAL BIAS IN HEALTHCARE IS A RELATABLE CONNECTION POINT TO A.I.

We need to think about what it means to create models that reflect how the AI systems we rely on will work. FOR EXAMPLE: The use of A.I. hiring tools does not result in a reduction of bias or improvement in diversity. [E. DRAGE, K. MACKERETH]

THEME 1 The rise of DARK PATTERNS (deep fakes)

DARK PATTERNS GET YOU TO BEHAVE in a CERTAIN WAY with PURPOSELY UNINFORMED DECISION-MAKING

DEEP FAKES ARE MEDIA/IMAGES FABRICATED BY AI TO DECEIVE THROUGH IMPERSONATION

IMPLICATION BEING MISLED BREAKS TRUST LACK OF AWARENESS LEADS TO EXPLOITATION

OPPORTUNITY https://darkpatternstipline.org

THEME 2 Biases out of sight are also out of mind

WRONGFUL ARRESTS DUE TO POORLY CONSTRUCTED FACIAL RECOGNITION AT GENDERSHADES.ORG also DR. JOY BOULAMUNI

IMPLICATION SYSTEMIC BIASES ARE LIKE THE BASE OF AN ICEBERG AND INFORM EVERYTHING ABOVE

OPPORTUNITY DEMAND ACCOUNTABILITY AND TRANSPARENCY in SOLUTIONS; STRUCTURAL BIASES IMPACT EXPERIENCES

THEME 3 Ethics: The heart of research practice

TUSKEGEE INSTITUTE INFECTING BLACK MEN with SYPHILIS w/o TREATMENT - for MEDICAL "RESEARCH"

WE ARE TO "DO NO HARM" OUR WORK

IMPLICATION IT CAN BE EASY TO RELAX PROTECTION OF OUR RESEARCH SUBJECTS OR BE OBVIOUS TO CONFIRMATION BIAS TRAPS

COMMON RULE: hhs.gov/ohrp UNESCO's Women 4 Ethical AI



Operationalizing Responsible, Human-Centered AI

CAROL SMITH

Senior Research Scientist, Human-Machine Interaction, CMU Human-Computer Interaction Institute
Adjunct Professor, Software Engineering Institute, Carnegie Mellon University

SYSTEMS that KEEP HUMANS IN CONTROL; PROVIDE TRUSTWORTHY RESPONSIBILITIES EXPLICITLY DEFINED PEOPLE SYSTEMS INTERACTIONS...

WE MUST DESIGN AI SYSTEMS TO:

- Be accountable to humans
- Identify and explain risks
- Be respectful, honest, usable

especially in complex situations

WE NEED TO ASK:

What are the benefits and risks?
How do we know the system is working?

THE NEED for EXPLAINABILITY IS CRITICAL for PEOPLE USING COMPLEX SYSTEMS

WHEN WE MAKE SYSTEMS, WE MUST CONSIDER CONSEQUENCES

- Understand complexity of context
- Design for human-machine teaming
- Engage in continuous critical oversight

Reward team members for finding ethics bugs (AYANNA HOWARD)

Systems only know what they are taught...

IF THE TRAINING DATA SET IS UNREPRESENTATIVE OR INCOMPLETE, THE SYSTEM IS UNLIKELY TO RECOGNIZE OTHER DATA IT ENCOUNTERS. Also

ALL SYSTEMS have some form of BIAS because DATA IS COLLECTED/CURATED BY HUMANS (for a purpose)

GOAL: Reduce unintended and/or harmful bias

CODED BIAS DOCUMENTARY DR. JOY BOULAMUNI (Netflix)

DATA CAPTURES HISTORY

3Q DO NO HARM FRAMEWORK LISA D. DANCE

WE ARE RESEARCHING:

How humans and AI systems will share capabilities and SITUATIONAL AWARENESS

How that will be managed over time and change, as interactions change

PLAN for HOW CONTEXT will ADAPT and EVOLVE become DYNAMIC OVER TIME

Speculation

KEEPS PEOPLE SAFE

WE LOOK FOR HOW THE SYSTEM MIGHT FAIL so WE CAN PREVENT OR MITIGATE HARM

ADOPT TECHNOLOGY ETHICS

ABUSABILITY TESTING!

[SEE VIDEO/SLIDES for DETAILS]

capabilities (and limitations) are explained TRANSPARENCY

Humans gain calibrated levels of trust in A.I.

IDENTIFY COLLABORATIVE ACTIVITIES, ACTIONS Short/long interactions are important for DYNAMIC SYSTEMS

HOW WILL HUMANS and MACHINES EXCHANGE INFORMATION?

- COMMUNICATION
- NEGOTIATION
- COORDINATION

RECOGNIZE HUMAN STRENGTHS

- JUDGMENT
- NUANCE (and more)

DOWNLOAD the RESOURCE LIST for THIS TALK !!

AI is changing the game and our work is more important than ever before.

OPPORTUNITY TALKING UP LEGAL UNDERPINNING OF "DO NO HARM" ARTICULATE CONSEQUENCES; POLICY



Broad Strokes: Connecting Design, Research, and AI to the World Around Us

DR. JAMIKA D. BURGE

Head of Research & Insights Strategy for Design, Capital One

I'll walk you through a few experience scenarios and have you reflect on them... Consider how you might feel if you were, or someone you loved was at the center.

THESE SCENARIOS IMPACT BLACK and HISPANIC PEOPLE, and HAVE IMPLICATIONS for THOSE IN POVERTY OR WITHOUT ANY HEALTHCARE

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WRONGFUL ARRESTS DUE TO POORLY CONSTRUCTED FACIAL RECOGNITION AT GENDERSHADES.ORG also DR. JOY BOULAMUNI

IMPLICATION SYSTEMIC BIASES ARE LIKE THE BASE OF AN ICEBERG AND INFORM EVERYTHING ABOVE

OPPORTUNITY DEMAND ACCOUNTABILITY AND TRANSPARENCY in SOLUTIONS; STRUCTURAL BIASES IMPACT EXPERIENCES

THEME 3 Ethics: The heart of research practice

TUSKEGEE INSTITUTE INFECTING BLACK MEN with SYPHILIS w/o TREATMENT - for MEDICAL "RESEARCH"

WE ARE TO "DO NO HARM" OUR WORK

IMPLICATION IT CAN BE EASY TO RELAX PROTECTION OF OUR RESEARCH SUBJECTS OR BE OBVIOUS TO CONFIRMATION BIAS TRAPS

COMMON RULE: hhs.gov/ohrp UNESCO's Women 4 Ethical AI



THEME FOUR: DESIGNING WITH DATA

June 7, 2023 #EUX 2023

UDAY GAJENDAR Theme Leader
Design Manager, Aurora Solar



There's a lot going on...
IT CAN BE OVERWHELMING.

Recently I held an OPEN DIALOG with our own DESIGN TEAM on WHAT IT MEANS to DEAL WITH imperfect incomplete DATA AMID ALL the PRESSURES WE HAVE to DESIGN SOMETHING HIGH QUALITY with CONFIDENCE.

It's not easy. AS I AM SURE YOU ALL KNOW!

Quantitative
Qualitative
Generative
Evaluative
ALL TYPES & KINDS
RESULTS of MANY METHODS

How might UX people harness the power of Big Data to make design decisions with confidence?

Can Big Data compliment our storytelling powers and extend our impact - or will it replace us?

And what role and value does the data generated by qualitative research play in scaling UX in enterprises?

THROUGH OUR FINAL SET OF SPEAKERS
A PATH TEASED OUT A THREAD
WE HAVE WAY WE HOPE WILL INSPIRE YOU ALL

HELEN
WILL BRIDGE from THEME THREE toward ENGAGING WITH DATA SCIENTISTS

JENNY WILL
TAKE A FOUNDATIONAL LOOK at HOW WE CAN WIELD the POWER of DATA VIZ.

JESS TODD
EXPLORE HOW METRICS at an ORGANIZATIONAL LEVEL CAN BE MASTERED

issues of Influence and Ethics

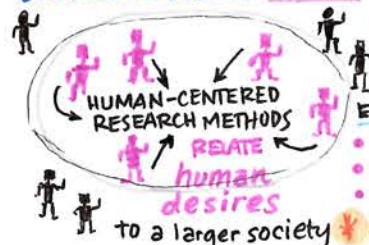
Augment the Human, Interrogate the System

HELEN ARMSTRONG
Director, Master of Graphic & Experience Design, North Carolina State University
Author of Big Data, Big Design: Why Designers Should Care About Artificial Intelligence

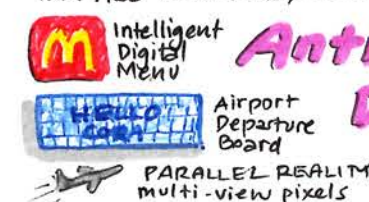
HUMANS TEAMING WITH A.I. SCAFFOLD UNDERSTANDING of COMPLEXITY
DATA enables BETTER PRODUCTS, A L & SO NEW WAYS of HUMAN-MACHINE TEAMING



Designers need DATA and data needs DESIGN



How to create INDIVIDUALIZED EXPERIENCES THAT ARE USEFUL, USABLE, DESIRABLE



SKETCHNOTES by @mjbroadbent

DESIGNERS
TRAINED to SEEK A DESIRED FUTURE OR A "RIGHT THING/ EXPERIENCE" to DESIGN
- JOEL VAN BODEGRAVEN
EXPERIENCE
• GUESTS
• PAST MENUS
• IMPACT

DATA SCIENTISTS
TRAINED to SEEK WHAT CAN BE ACCURATELY DETERMINED FROM THE DATA AT HAND
INGREDIENTS
• CONVENIENT, FRESH, EFFICIENT AFFORDABLE

We need to be knowledgeable with DATA
RESIST MANIPULATION and MARGINALIZATION by SYSTEMS
We need to prototype EXPERIENCES for the future we want to live in
"A.I. as more of a pedal assist." - ELIZABETH CHURCHILL
JANELLE SHANE
team to produce insight "wisdom" difficult to discover and/or verify alone
You Look Like a Thing & I Love You

COLLABORATION creates BEST OUTCOME

How do we design systems that encourage skepticism and provide recourse? Build intelligent interfaces that give users verification at time of use?

Anticipatory Design
predictive & suggestive actions
HUMANS tend to OVERTRUST (CEDE AUTHORITY)
RIGHT UP TO MOMENT DISAGREE w/ PREDICTION then TRUST or ODES
LLMs SUFFER FROM HALLUCINATIONS and CONFLATED CONTENT
Not just products
EXAMPLE: ATLAS for INTELLIGENCE ANALYSTS
purchase preferences
CONVENIENCE WHEN WE GET IT RIGHT
NO DIRECT USER INPUT
EXAMPLE: IBM Watson health re: chronic/multiple conditions

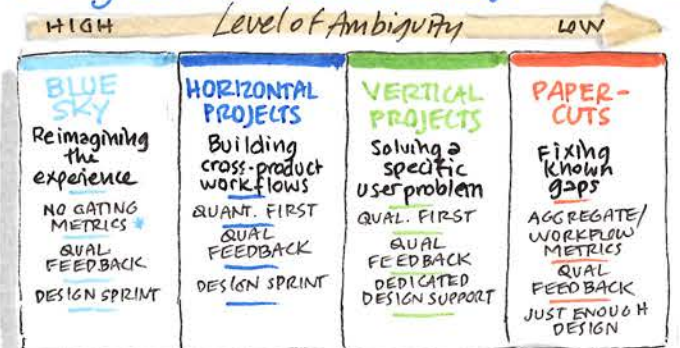


How Data-Driven Goes Wrong, and How to Make It Right

JENNY CHANG & WILLIAM NEWTON
Lead Product Designer Principal Product Designer
Amplitude Analytics
JOINED in 2017 JOINED in 2020
A self-service product analytics company

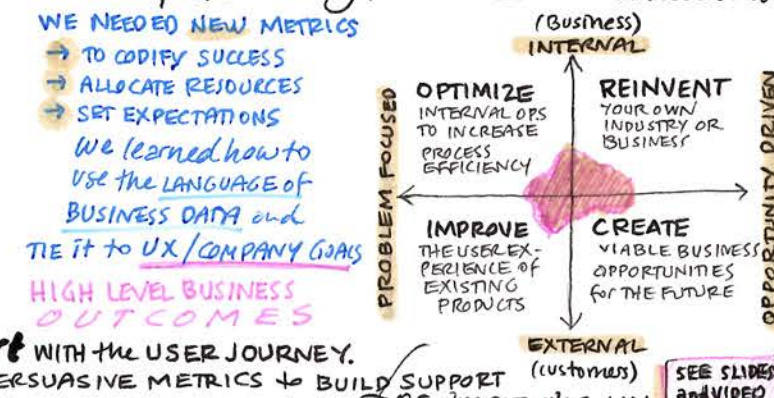
DATA is...
• A LANGUAGE
• A MINDSET
• EXPRESSIVE
• A TOOL

It's a great time to be a DESIGNER making data-driven product design decisions



WE BROKE EXISTING QUALITATIVE DATA INTO DIFFERENT DIMENSIONS to LEND CONFIDENCE for OUR APPROACH (SEE VIDEO/SLIDES)
USER BENEFITS
LONG-TERM METRICS BENEFITS
ORG BENEFITS
OPS BENEFITS
APPROVED!

PRIOR TO JOINING AMPLITUDE IT WAS TOUGH to ACCESS DATA. ONCE WE GOT STARTED (gleefully) WE SOON REALIZED WE HAD BECOME ADDICTED to the MAXIMIZE MINIMIZE Optimization LOOP
We needed to learn how to improve existing processes AND create new ones



Start with the USER JOURNEY. IDENTIFY PERSUASIVE METRICS to BUILD SUPPORT for improving UX
TACTICAL STRATEGIES
SEE SLIDES and VIDEO for FULL DETAILS



A Rising Tide Lifts All Boats: Driving Change with CX Metrics

JESS GRECO Director, Product Experience Design
TODD HEALY Vice President, Experience Strategy
Mastercard
BUSINESS FOCUS ON PARTNER-SHIPS, CREATING NEW EXPERIENCES (NOT A BANK) KEY INFRASTRUCTURE for PAYMENTS on GLOBAL SCALE (small releases are huge)
WE ARE ONE of MANY GROUPS in a COMPLEX VALUE CHAIN
CONTEXT: HISTORY as a SALES-DRIVEN ORG resulted in HISTORICAL ANTI-PATTERNS
GOAL IS TO ENCOURAGE MORE USEFUL HABITS

The biggest problems worth solving
1 HOW DESIRABLE IS THE INITIAL CONCEPT?
2 HOW IS VALUE EXCHANGED AND EXPRESSED?
3 HOW IS VALUE DELIVERED TO CUSTOMERS?



CONCEPT DESIRABILITY SCORE: Potential end users react Does not replace traditional research [See VIDEO/SLIDES for EARLY REPORT and MORE]
DESIGN QUALITY SCORE: Gets into cognitive models of Interaction; Does not replace traditional research
POGS: PRODUCT ONBOARDING self-assess- GOLD STANDARDS ment a set of standards quantifying quality of customer-facing touchpoints needed and explains research-backed rubric
INCENTIVES & LEVERS: People will do what they are incentivized to do. Build out systems that encourage the right behaviors
ETHICAL RISKS & PREVENTING MISUSE also covered in talk
This doesn't happen overnight STARTED SEVERAL YEARS AGO BUILDING on GUARDRAILS helped scale

These are detailed with WHAT FOR WHOM WHY DOs and DON'Ts WHEN



June 7, 2023 #EUX2023



MAJOR CLIENT LIST
and SIGNIFICANT TEAM R.O.I.
LEADING TEAMS IN FIN-TECH, HEALTHCARE,
and ADOPTION OF NEW TECHNOLOGIES

Turning UX Passion into Real Product Influence

OVETTA SAMPSON

I ♥ END-TO-END DESIGN w/ FOCUS ON M.L. • RESPONSIBLE A.I. • INCLUSIVE DESIGN
• DESIGN EQUITY
• OPERATIONALIZING A.I.

Director, User Experience Core Machine Learning, Google

30+ YEARS in DESIGN, DATA, MACHINE LEARNING, and ARTIFICIAL INTELLIGENCE
B.A. COMMUNICATIONS / JOURNALISM • M.S. COMPUTER SCIENCE (HCI)

[OVETTA SHARES
HER ORIGIN STORY
CHECK IT OUT!]

IT CAN
BE DONE!

*My words today come from my experiences as
product designer and product leader creating
Human-Centered Design solutions.*

Someone once asked me,
"AS A DESIGN RESEARCHER
WHAT IS YOUR JOB?"

I said **MY JOB IS TO
SHIFT PARADIGMS**

Play the long game STEP BY STEP

CREATE MILESTONES

- Use timeboxing as a forcing function
- Break up annual plans into quarterly goals
- Create WHISPER CAMPAIGNS by sharing the vision piecemeal (digestible pieces)

DEVELOP ACHIEVABLE METRICS

- Measure progress to sustain the vision
- Celebrate milestones achieved
- Grow the working group as the vision matures

FAILURE is PART OF the SUCCESS JOURNEY

- Don't be the lone wolf
- Collaborate to learn and push forward
- Invite naysayers into your inner circle

CASE STUDY Chipotle | Microsoft

PROTOTYPING / AI P.O.C. ENGAGEMENT 8 WEEKS

What problem
keeps you
up at night?

We don't know how much
chicken to cook each day.

So we workshoped concepts
prototyped them (lightly) and worked with
users to give each approach a **CONFIDENCE SCORE**

PROOF OF CONCEPT: DIGITAL DASHBOARD in KITCHEN

This practice helped teams align on solving
a particular problem. **SUCCESS!**

CASE STUDY St. Jude's | IDEO

HOW MIGHT WE redesign the clinical experience
for patients (CHILDREN), families, and providers
with the new Outpatient Clinical Building as a
beacon of the hospital's patient-centered culture?

PROBLEM: WAITING TIME UP TO FIVE HOURS for
CHEMOTHERAPY TREATMENTS; C.M.O. resistant to fix

SOLUTION: **EXPLORATORY EXPLANATION**

SKETCH NOTES by @mjbroadbent

one way to make
the abstract concrete

IT'S A MARATHON... NOT A SPRINT

- YOU TYPICALLY START with **BIG CAREER / TEAM GOALS**,
and A DESIRE to CHANGE the WAY YOUR ORG LOOKS at H.C.D.
- IT'S VERY HARD to "CONVINCE" PEOPLE to ADOPT H.C.D.
There is no magical answer
- OUR JOB is TO TRANSFORM CHAOS INTO ORDER and TO DO
THAT WE NEED to ENGAGE STAKEHOLDERS w/ DIFFERENT MENTAL MODELS

ADOPT their LANGUAGE
Deconstruct what's in your brain so people can learn / understand,
not feel frustrated by your explanation.

[OVETTA SHARES HER EXPERIENCE BUILDING ENTERPRISE ML TEAM]
valuable lessons: SHE CRASHED & BURNED

MOVE FROM THOUGHTS to THINGS

- THE FASTER YOU CAN CREATE an ARTIFACT, THE
FASTER PEOPLE TALK ABOUT THAT THING RATHER THAN
DEBATE OPINIONS

Albert Einstein
drew an image
of a person
trying to out-
run light



The image became the foundation
of his SPECIAL RELATIVITY paper
HE USED THOUGHT EXPERIMENTS
AS A MEANS OF COMMUNICATING w/ OTHERS

- WRITE the VISION. VISUALIZE the SOLUTION.
SHARE. TEST. REPEAT.

WIN WITHOUT FIGHTING

GET PEOPLE TO
SEE Las Vegas

Understand the assignment

when there seems
to be only DESERT

EMPATHY BUILDING EXERCISES

- Treat stakeholders like research participants
- Exposure and immersion design
- Adopt the language and P.O.V. of stakeholders
in your narrative storytelling

Remove the chip
from your shoulder
It's not a battle

THINK MORE



JUSTICE LEAGUE
not Wolverine

ADOPT RISK MANAGEMENT MINDSET

- Focus on building confidence, not being right
- Think of UX risk mitigation, not zero sum
- Focus on high-value activity for max. impact

ACCELERATED ALIGNMENT

- Triad Alignment Workshop
- Lean Canvas UX
- Technical Governance Alliance

helps guide research / design

I hope this HELPS you
think about your
role in org and
implement lasting UX change
into products that ship!