# Cooperation and Collaboration


**TorCHI**
November 9th, 2023

**Presenters**
Ryan Kealey, Gary Fernandes
TD Invent | HCD Practice - Research

# Agenda

| | |
|---|---|
| 01 | **Introductions** |
| 02 | **Context of Collaboration** |
| 03 | **Collaboration Solutions** |
| 04 | **Takeaways & Tips** |

# Who we are and what we do

# Hello! 👋

**Ryan Kealey**

Sr Mgr Research Science
HBSc, MSc Psychology & PhD Human Factors

**Gary Fernandes**

head of HCD Research + Content Design
BSc, MA (psychology/HCI)

# TD INVENT

# HCD Practice

## Thank you – for helping shape our thoughts on these topics

### TorCHI community

Ilona, Paul, Harumi – all the folks who have kept the Toronto HCI community going for decades.

### TD's Design community

Executives, managers, mentors, partners, designers, researchers.

## Gary Fernandes

# Positionality Statement

- Studied **psychology** and **human-computer interaction** in the late **90s** and early **00s**
- Interaction **Designer**, User **Researcher**
- Now responsible for **HCD Research** and **Content Design** within TD's **HCD Practice**

## Ryan Kealey

# Positionality Statement

- Studied **psychology**, **human factors**, and **knowledge translation** – early 00s to 10s
- **Scientist**, Pretend-gineer, **chaos muppet**
- Responsible for **Research Science** under **HCD Research**

## Our team and work at TD

# HCD Research

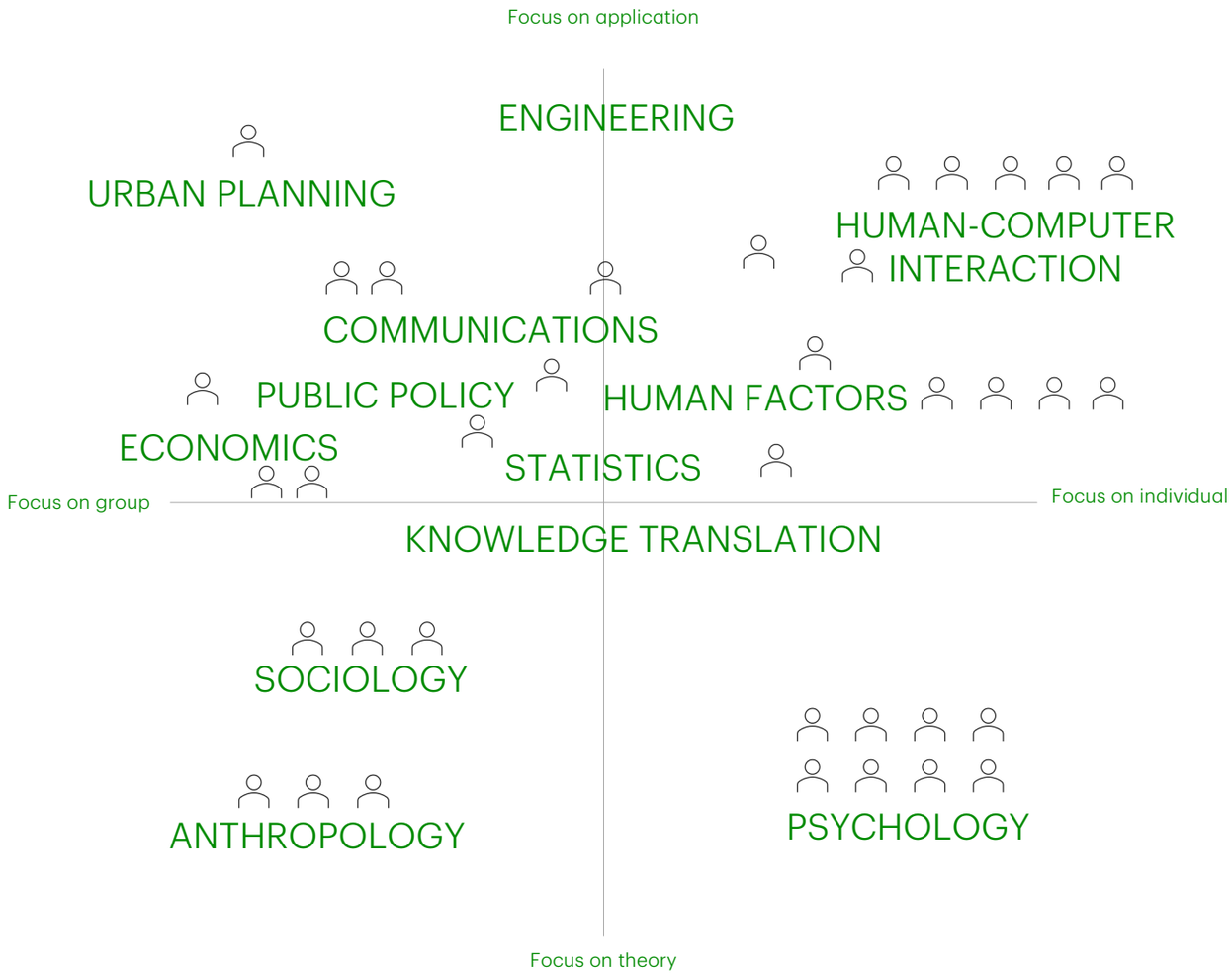
Established in **2010** as the Design Research Team

HCD Research now comprised of **3 teams**: Design Research, Research Science, and Digital Insights

40+ researchers in USA and Canada

Part of **TD's HCD Practice** which includes designers (visual, interaction, content), strategists/SDs, ops, etc.

Our team's 'superpower' - **diverse** backgrounds allow us to continuously learn from each other and our **varied perspectives** when tackling a research project or question.

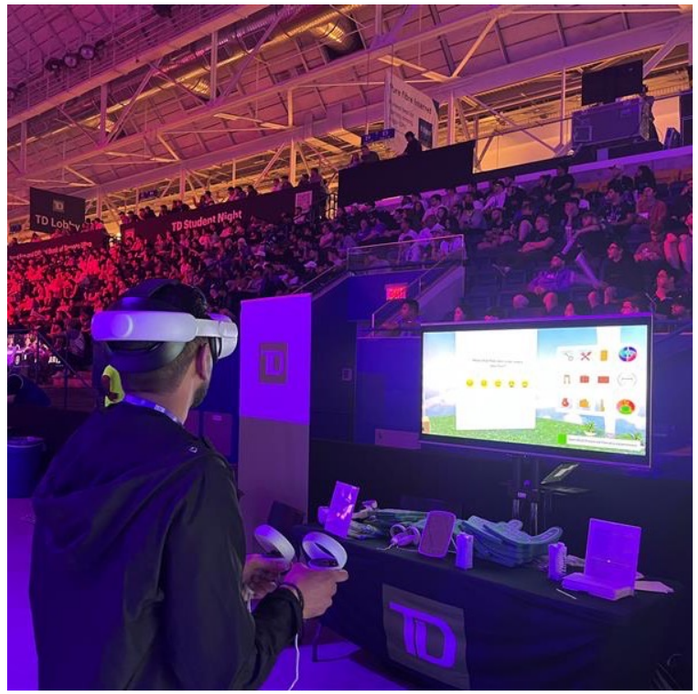


## Our team and work at TD

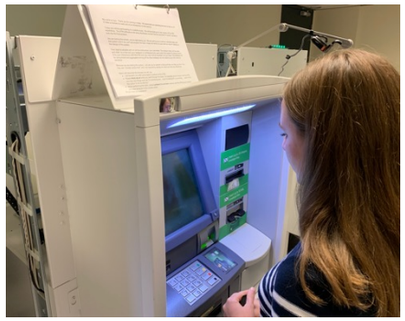
# What do you do as researchers at a bank?


enroute to branch observations

in-context interviews at home, participatory design sessions




VR field observation at gaming convention



usability testing at our labs

## Our conversation this evening...

World Usability Day
Making life easy!

Cooperation and Collaboration

A word on “usability”

# If it’s **not usable**, it’s **useless**.

Elizabeth Rosenzweig (CHI ’22)

## Our conversation this evening...

# Who are we talking to?

- Members of the HCI community
- Designers and Researchers
- Academics and Professionals
- Peers & colleagues
- ...Friends? ☺

# The Context
## of Cooperation and Collaboration

“ **Research.** Are we talking about the *same* thing?

# Ways of knowing

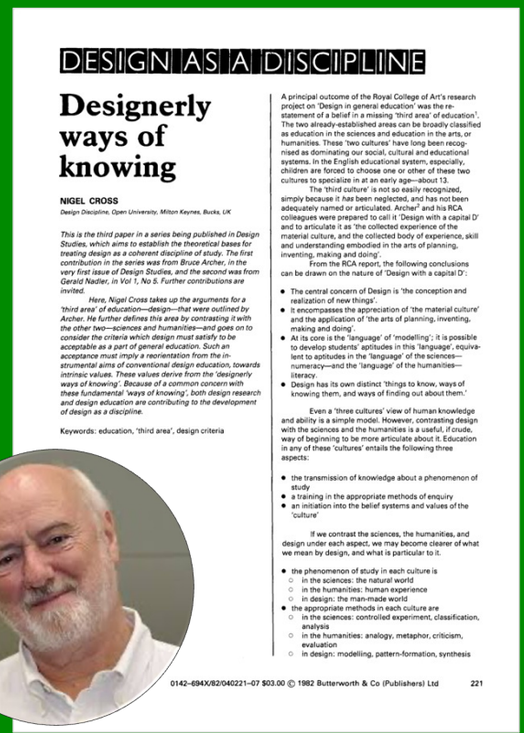
## Science, Humanities

Research ”**generates new knowledge** to investigate… questions in a systematic and rigorous way.”

Primary research with user participants

Stichler, J. F. (2016). Research, research-informed design, evidence-based design: What is the difference and does it matter? *Health Environments Research & Design Journal, 10*(1), 7-12.

## Designerly ways



DESIGN AS A DISCIPLINE

**Designerly ways of knowing**

NIGEL CROSS

*Design Discipline, Open University, Milton Keynes, Bucks, UK*

*This is the third paper in a series being published in Design Studies, which aims to establish the theoretical bases for treating design as a coherent discipline of study. The first contribution in the series was from Bruce Archer, in the very first issue of Design Studies, and the second was from Gerald Nadler, in Vol 1, No 5. Further contributions are invited.*

*Here, Nigel Cross takes up the arguments for a 'third area' of education—design—that were outlined by Archer. He further defines this area by contrasting it with the other two—sciences and humanities—and goes on to consider the criteria which design must satisfy to be acceptable as a part of general education. Such an acceptance must imply a reorientation from the instrumental aims of conventional design education, towards intrinsic values. These values derive from the 'designerly ways of knowing'. Because of a common concern with these fundamental 'ways of knowing', both design research and design education are contributing to the development of design as a discipline.*

Keywords: education, 'third area', design criteria

A principal outcome of the Royal College of Art's research project on 'Design in general education' was the re-statement of a belief in a missing 'third area' of education[1]. The two already-established areas can be broadly classified as education in the sciences and education in the arts, or humanities. These 'two cultures' have long been recognised as dominating our social, cultural and educational systems. In the English educational system, especially, children are forced to choose one or other of these two cultures to specialize in at an early age—about 13.

The 'third culture' is not so easily recognized, simply because it has been neglected, and has not been adequately named or articulated. Archer[2] and his RCA colleagues were prepared to call it 'Design with a capital D' and to articulate it as 'the collected experience of the material culture, and the collected body of experience, skill and understanding embodied in the arts of planning, inventing, making and doing'.

From the RCA report, the following conclusions can be drawn on the nature of 'Design with a capital D':

- The central concern of Design is 'the conception and realization of new things'.
- It encompasses the appreciation of 'the material culture' and the application of 'the arts of planning, inventing, making and doing'.
- At its core is the 'language' of 'modelling'; it is possible to develop students' aptitudes in this 'language', equivalent to aptitudes in the 'language' of the sciences—numeracy—and the 'language' of the humanities—literacy.
- Design has its own distinct 'things to know, ways of knowing them, and ways of finding out about them.'

Even a 'three cultures' view of human knowledge and ability is a simple model. However, contrasting design with the sciences and the humanities is a useful, if crude, way of beginning to be more articulate about it. Education in any of these 'cultures' entails the following three aspects:

- the transmission of knowledge about a phenomenon of study
- a training in the appropriate methods of enquiry
- an initiation into the belief systems and values of the 'culture'

If we contrast the sciences, the humanities, and design under each aspect, we may become clearer of what we mean by design, and what is particular to it.

- the phenomenon of study in each culture is
  - in the sciences: the natural world
  - in the humanities: human experience
  - in design: the man-made world
- the appropriate methods in each culture are
  - in the sciences: controlled experiment, classification, analysis
  - in the humanities: analogy, metaphor, criticism, evaluation
  - in design: modelling, pattern-formation, synthesis

0142-694X/82/040221-07 $03.00 © 1982 Butterworth & Co (Publishers) Ltd 

Differentiated from scientific and humanities ways of knowing

Sometimes referred to as ”scrappy”

Helps researchers understand how *trained* designers think/work – and helps designers understand how researchers think/work

Cross, N. (1982). Designerly ways of knowing. *Design studies*, *3*(4), 221-227

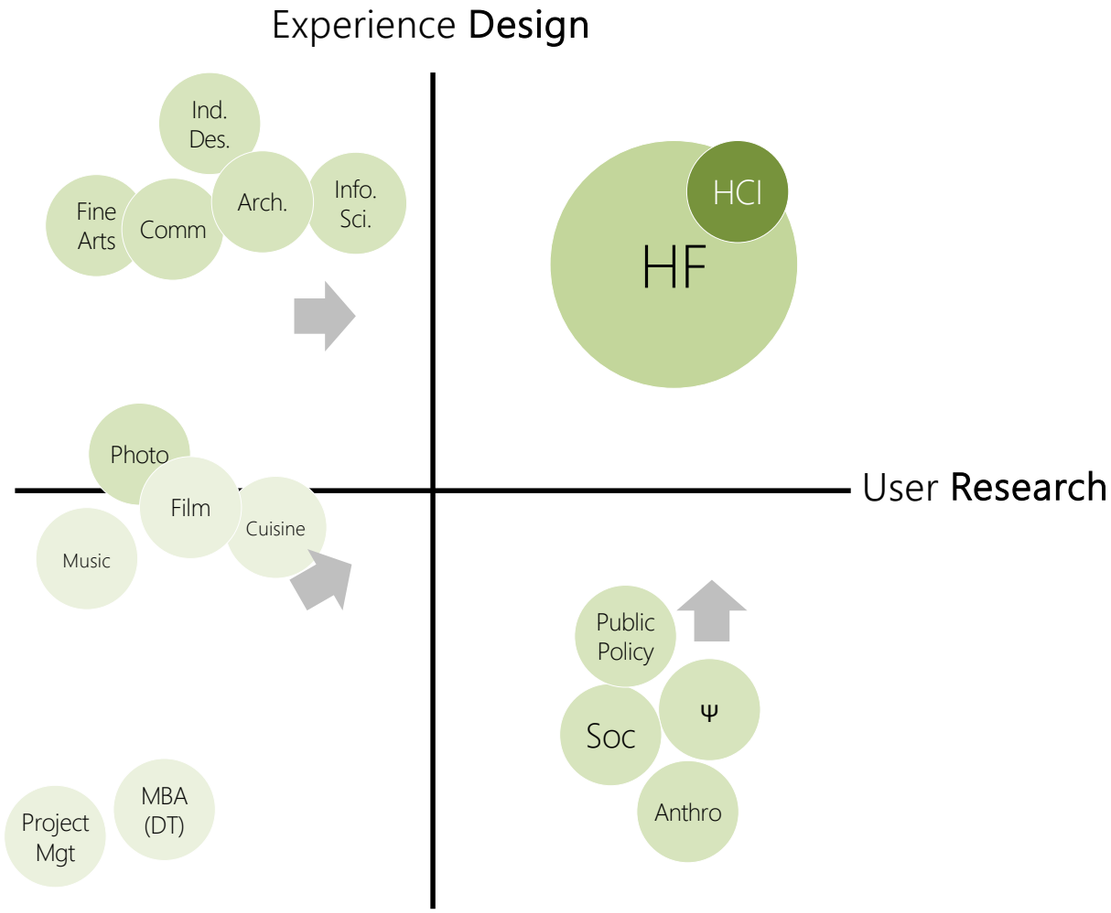
## UX workplace

# Diversity

UX practitioners come from varied backgrounds, different training

Mental models of **Experience Design** and **User Research** will differ

Have the **right resources** and use the **resources right**!



## Templatization of Expertise

# Expert Beware!

Downloading a service design blueprint **doesn't make** you a service designer

There is a difference between the application of a research task [**method**] and knowing the right way to approach the Research [**methodology**].

"*Since all strategies are flawed but flawed in different ways, to gain knowledge with confidence requires more than one strategy – carefully selected so as to complement each other…"* McGrath (1981)

# Know the history

If you don't know the background, how can you effectively use the tool itself?

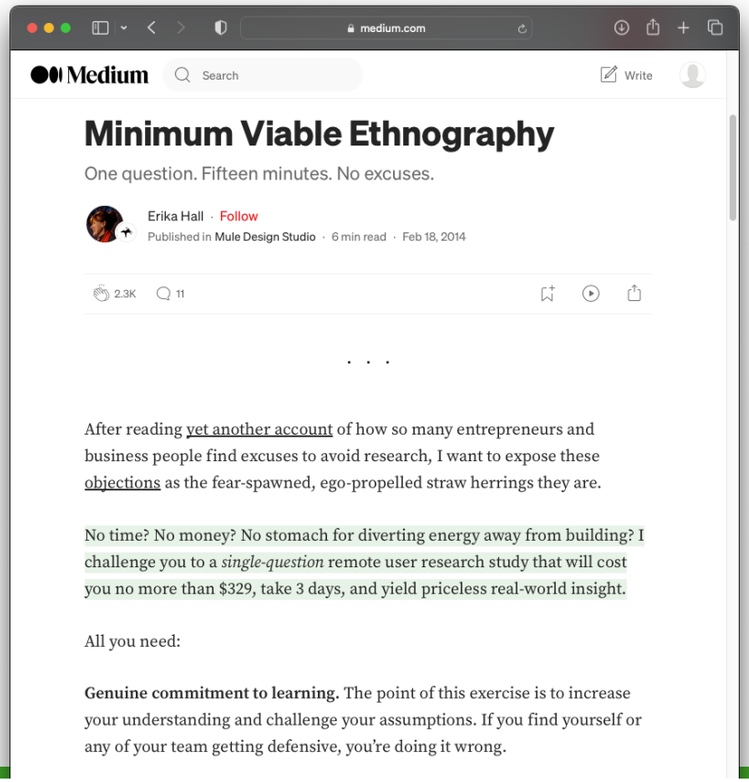
The methods we use: where did they originate? What was the context?

Think Aloud Protocol, System Usability Scale, Heuristic Evaluation, etc.

McGrath, J. E. (1981). Dilemmatics: The Study of Research Choices and Dilemmas. *American Behavioural Scientist, 25(2)*, 179-210.

# Appropriating Appropriately

Would this really qualify as ethnography?



medium.com

Medium Search Write

## Minimum Viable Ethnography

One question. Fifteen minutes. No excuses.

Erika Hall · Follow

Published in Mule Design Studio · 6 min read · Feb 18, 2014

2.3K 11

. . .

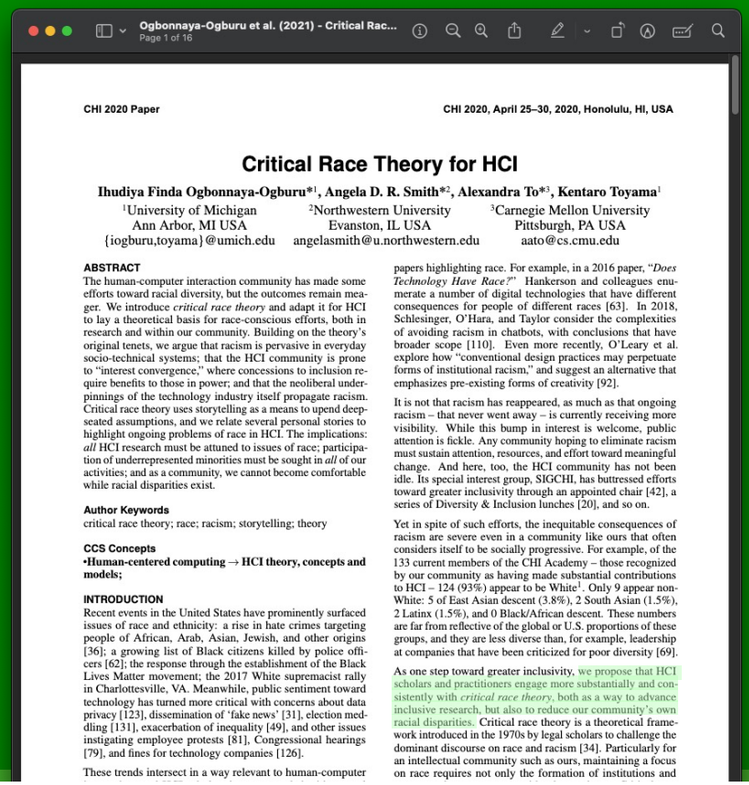
After reading yet another account of how so many entrepreneurs and business people find excuses to avoid research, I want to expose these objections as the fear-spawned, ego-propelled straw herrings they are.

No time? No money? No stomach for diverting energy away from building? I challenge you to a *single-question* remote user research study that will cost you no more than $329, take 3 days, and yield priceless real-world insight.

All you need:

**Genuine commitment to learning.** The point of this exercise is to increase your understanding and challenge your assumptions. If you find yourself or any of your team getting defensive, you're doing it wrong.

HCI is interdisciplinary and has a long history of appropriating (appropriately) from other fields



Ogbonnaya-Ogburu et al. (2021) - Critical Rac... Page 1 of 16

CHI 2020 Paper CHI 2020, April 25–30, 2020, Honolulu, HI, USA

## Critical Race Theory for HCI

**Ihudiya Finda Ogbonnaya-Ogburu*[1], Angela D. R. Smith*[2], Alexandra To*[3], Kentaro Toyama[1]**

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[2]Northwestern University Evanston, IL USA angelasmith@u.northwestern.edu

[3]Carnegie Mellon University Pittsburgh, PA USA aato@cs.cmu.edu

**ABSTRACT**

The human-computer interaction community has made some efforts toward racial diversity, but the outcomes remain meager. We introduce *critical race theory* and adapt it for HCI to lay a theoretical basis for race-conscious efforts, both in research and within our community. Building on the theory's original tenets, we argue that racism is pervasive in everyday socio-technical systems; that the HCI community is prone to "interest convergence," where concessions to inclusion require benefits to those in power; and that the neoliberal underpinnings of the technology industry itself propagate racism. Critical race theory uses storytelling as a means to upend deep-seated assumptions, and we relate several personal stories to highlight ongoing problems of race in HCI. The implications: *all* HCI research must be attuned to issues of race; participation of underrepresented minorities must be sought in *all* of our activities; and as a community, we cannot become comfortable while racial disparities exist.

**Author Keywords**

critical race theory; race; racism; storytelling; theory

**CCS Concepts**

•**Human-centered computing** → **HCI theory, concepts and models;**

**INTRODUCTION**

Recent events in the United States have prominently surfaced issues of race and ethnicity: a rise in hate crimes targeting people of African, Arab, Asian, Jewish, and other origins [36]; a growing list of Black citizens killed by police officers [62]; the response through the establishment of the Black Lives Matter movement; the 2017 White supremacist rally in Charlottesville, VA. Meanwhile, public sentiment toward technology has turned more critical with concerns about data privacy [123], dissemination of 'fake news' [31], election meddling [131], exacerbation of inequality [49], and other issues instigating employee protests [81], Congressional hearings [79], and fines for technology companies [126].

These trends intersect in a way relevant to human-computer

papers highlighting race. For example, in a 2016 paper, "*Does Technology Have Race?*" Hankerson and colleagues enumerate a number of digital technologies that have different consequences for people of different races [63]. In 2018, Schlesinger, O'Hara, and Taylor consider the complexities of avoiding racism in chatbots, with conclusions that have broader scope [110]. Even more recently, O'Leary et al. explore how "conventional design practices may perpetuate forms of institutional racism," and suggest an alternative that emphasizes pre-existing forms of creativity [92].

It is not that racism has reappeared, as much as that ongoing racism – that never went away – is currently receiving more visibility. While this bump in interest is welcome, public attention is fickle. Any community hoping to eliminate racism must sustain attention, resources, and effort toward meaningful change. And here, too, the HCI community has not been idle. Its special interest group, SIGCHI, has buttressed efforts toward greater inclusivity through an appointed chair [42], a series of Diversity & Inclusion lunches [20], and so on.

Yet in spite of such efforts, the inequitable consequences of racism are severe even in a community like ours that often considers itself to be socially progressive. For example, of the 133 current members of the CHI Academy – those recognized by our community as having made substantial contributions to HCI – 124 (93%) appear to be White[1]. Only 9 appear non-White: 5 of East Asian descent (3.8%), 2 South Asian (1.5%), 2 Latinx (1.5%), and 0 Black/African descent. These numbers are far from reflective of the global or U.S. proportions of these groups, and they are less diverse than, for example, leadership at companies that have been criticized for poor diversity [69].

As one step toward greater inclusivity, we propose that HCI scholars and practitioners engage more substantially and consistently with *critical race theory*, both as a way to advance inclusive research, but also to reduce our community's own racial disparities. Critical race theory is a theoretical framework introduced in the 1970s by legal scholars to challenge the dominant discourse on race and racism [34]. Particularly for an intellectual community such as ours, maintaining a focus on race requires not only the formation of institutions and

# UX workplace: Collaborators knowledge can't be assumed

## Practical Knowledge

The number of times Gary has heard  usability heuristics invoked when providing design rationale can be counted on...

## Historical Foundations

The **history** of service design: from **product marketing** to **service marketing** to **service design**.

Breaking Free From Product Marketing / 73

G. Lynn Shostack

**Breaking Free from Product Marketing**

*Service marketing, to be effective and successful, requires a mirror-opposite view of conventional "product" practices.*

NEW CONCEPTS are necessary if service marketing is to succeed. Service marketing is an uncharted frontier. Despite the increasing dominance of services in the U.S. economy, basic texts still disagree on how services should be treated in a marketing context.[1]

The heart of this dispute is the issue of applicability. The classic marketing "mix," the seminal literature, and the language of marketing all derive from the manufacture of physical goods. Practicing marketers tend to think in terms of products, particularly mass-market consumer goods. Some service companies even call their output "products" and have "product" management functions modeled after those of experts such as Procter and Gamble.

Marketing seems to be overwhelmingly product-oriented. However, many service-based companies are confused about the applicability of product marketing, and more than one attempt to adopt product marketing has failed.

Merely adopting product marketing's labels does not resolve the question of whether product marketing can be overlaid on service businesses. Can corporate banking services really be marketed according to the same basic blueprint that made *Tide* a success? Given marketing's historic tenets, there is simply no alternative.

Could marketing itself be "myopic" in having failed to create relevant paradigms for the service sector? Many marketing professionals who transfer to the services arena find their work fundamentally "different," but have a difficult time articulating how and why their priorities and concepts have changed. Often, they also find to their frustration and bewilderment that "marketing" is treated as a peripheral function or is confused with one of its components, such as research or advertising, and kept within a very narrow scope of influence and authority.[2]

This situation is frequently rationalized as being due to the "ignorance" of senior management in service businesses. "Education" is usually recommended as the solution. However, an equally feasible, though less comforting, explanation is that service industries have been slow to integrate marketing into the mainstream of decision-making and control because marketing offers no guidance, terminology, or practical rules that are clearly relevant to services.

**Making Room for Intangibility**

The American Marketing Association cites both goods *and* services as foci for marketing activities. Squeezing services into the Procrustean phrase, "intangible products,"[3] is not only a distortion of the AMA's definition but also a complete contradiction in terms.

It is wrong to imply that services are just like products "except" for intangibility. By such logic, apples are just like oranges, except for their "appleness." Intangibility is not a modifier; it is a state. Intangibles may come with tangible trappings, but no amount of money can buy physical ownership of such intangibles as "experience" (movies), "time" (consultants), or "process" (dry cleaning). A service is rendered. A service is experienced. A service cannot be stored on a shelf, touched, tasted or tried on for size. "Tangible" means "palpable," and "material." "Intangible" is an antonym, meaning "impalpable," and "not corporeal."[4] This distinc-

**About the Author**

G. LYNN SHOSTACK is Vice President, Citibank, N.A., New York; she is Marketing Director for the Investment Management Group.

Shostack, G. L. (1977). Breaking free from product marketing. *Journal of Marketing*, *41*(2), 73-80.

| 49

**How to Design a Service**

by G. Lynn Shostack

*The difference between products and services is more than semantic. Products are tangible objects that exist in both time and space; services consist solely of acts or process(es), and exist in time only. The basic distinction between "things" and "processes" is the starting point for a focused investigation of services. Services are rendered; products are possessed. Services cannot be possessed; they can only be experienced, created or participated in.*

*Though they are different, services and products are intimately and symbiotically linked. A box of cereal, for example, may appear to be a simple product. But it is the culmination of a very long series of marketed services and products, beginning with the service of farming. Or, services and products can act simultaneously to form a larger entity. A department store is a place in which the service of retailing is rendered. Yet retailing is not a complete entity without inclusion of products. A department store's image and clientele are a function of both retailing and merchandise, and these cannot be separated without sacrificing the unique definition of a department store.*

*Today, while "that which is marketed" may still be a simple product or an unadorned service, it is often a more complex combination of products and services. And the first step towards rational service design is a system for visualising this phenomenon, so that services can be given proper position and weight in the context of any market entity.*

**The Molecular Modelling Approach**

Product/service combinations that form larger market entities can be quite complex. Since they are dynamic and have highly interrelated elements, it is useful to view them in an organic way, rather than as static bits and pieces. In fact, product/service combinations can be viewed very much like "atoms" connected in unique "molecular" configurations.

The molecular analogy has considerable merit. First, it allows full consideration of service elements as well as product elements. Second, it offers a framework for identifying and visualising all the parts of any complex market entity. Finally, it suggests the behavioural hypothesis that rearrangement or alteration of any element, whether by design or accident, will change the overall entity, just as changing the

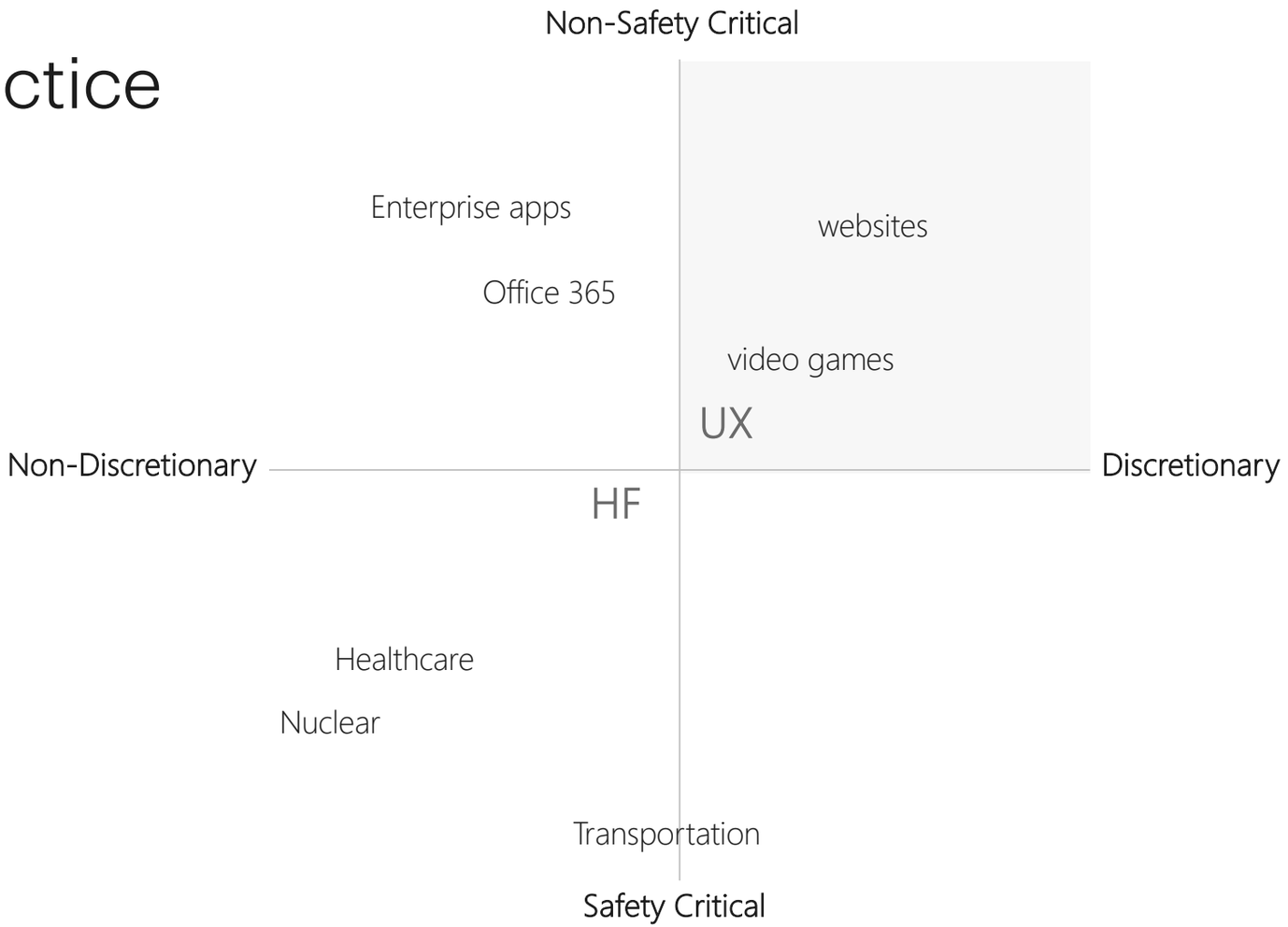




Shostack, G. L. (1982). How to design a service. *European Journal of Marketing*, *16*(1), 49-63.

# Increasing need for stronger foundations

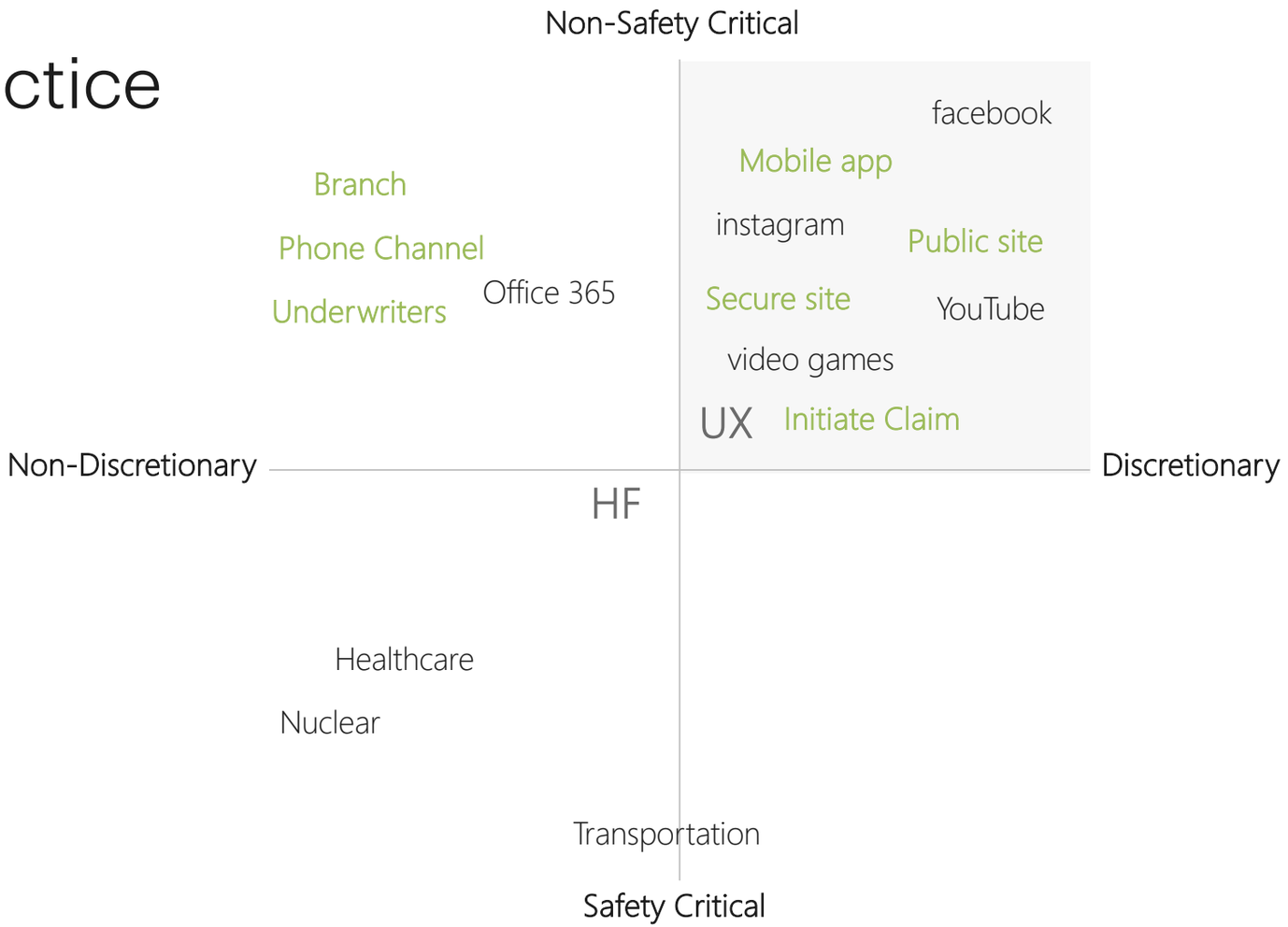
## HCI in Practice




Jonathan Grudin
Course Notes for CHI 2021 Course 01
Human-Computer Interaction History and Today's Opportunities:
What We Anticipated, What We Did Not

# Increasing need for stronger foundations

## HCI in Practice

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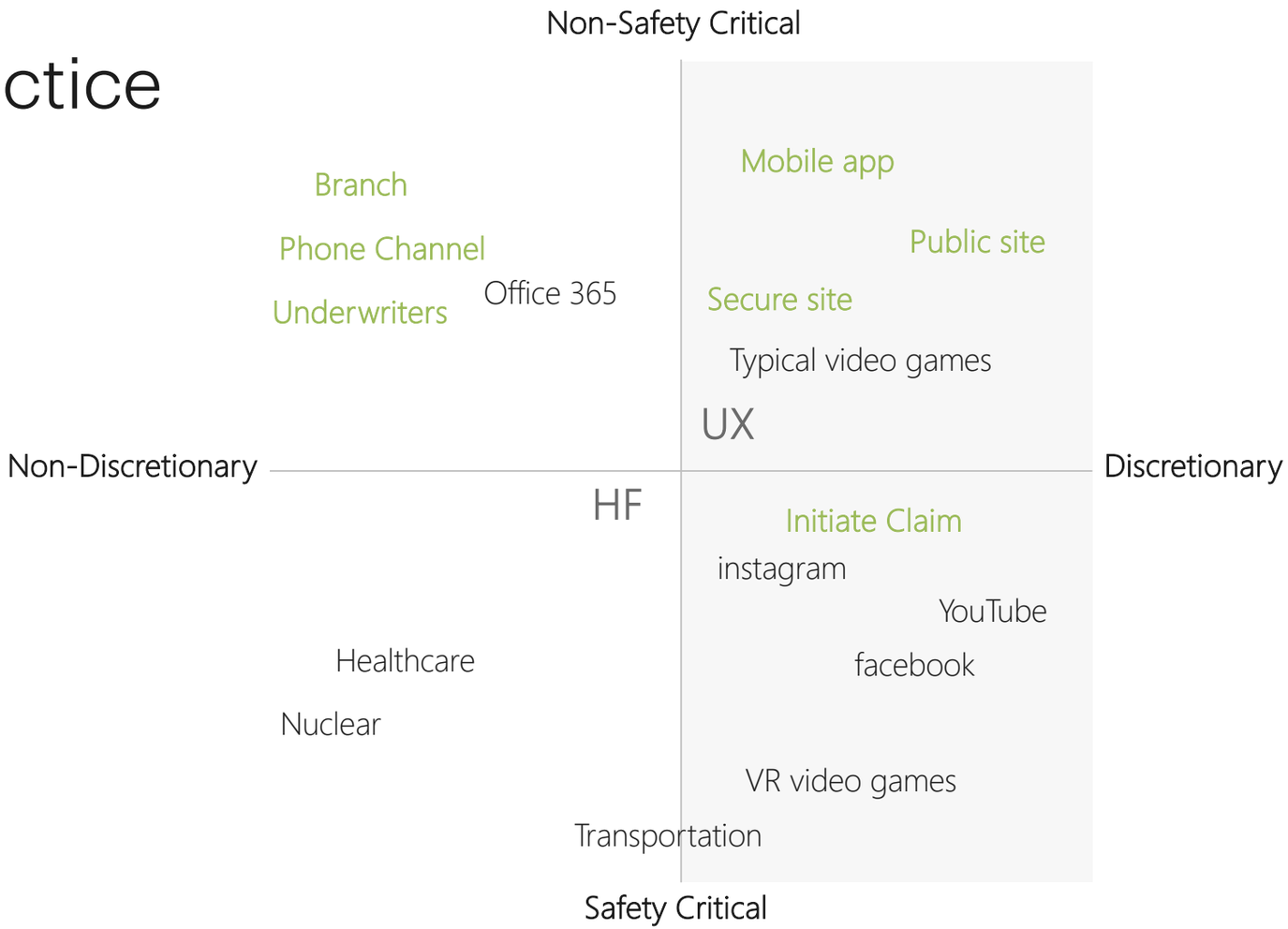
# Increasing need for stronger foundations

## HCI in Practice

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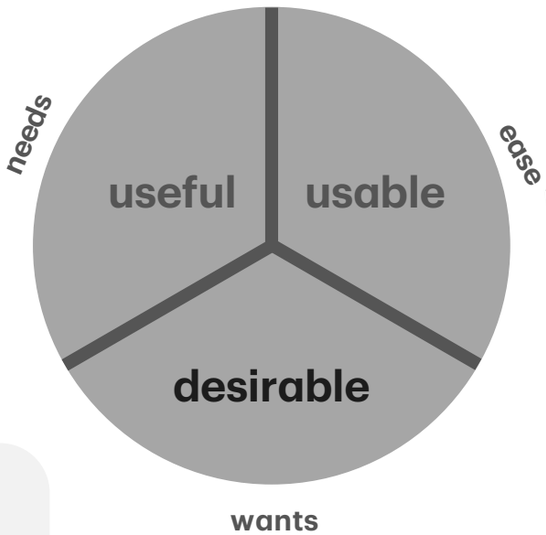
# Words, words, words...

The **same terms** are **used differently** in different **contexts** by different **people** from different **disciplines** across different **decades**.

**Bill Shake-a-spear, Hamnet**

# Words, words, words

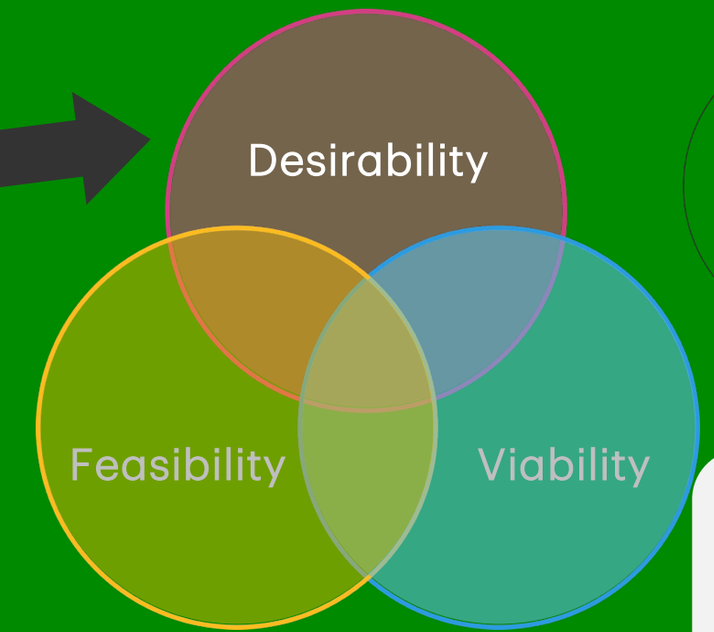
“desirable”




The addition of the third user-centered criterion, desirability (i.e., to be **something that people want or desire**), was a particular challenge to my cognitive training.

Sanders, E. B. (1999). Postdesign and participatory culture. proceedings of useful and critical: the position of research in design, 11

“desirability”




Marty Cagan

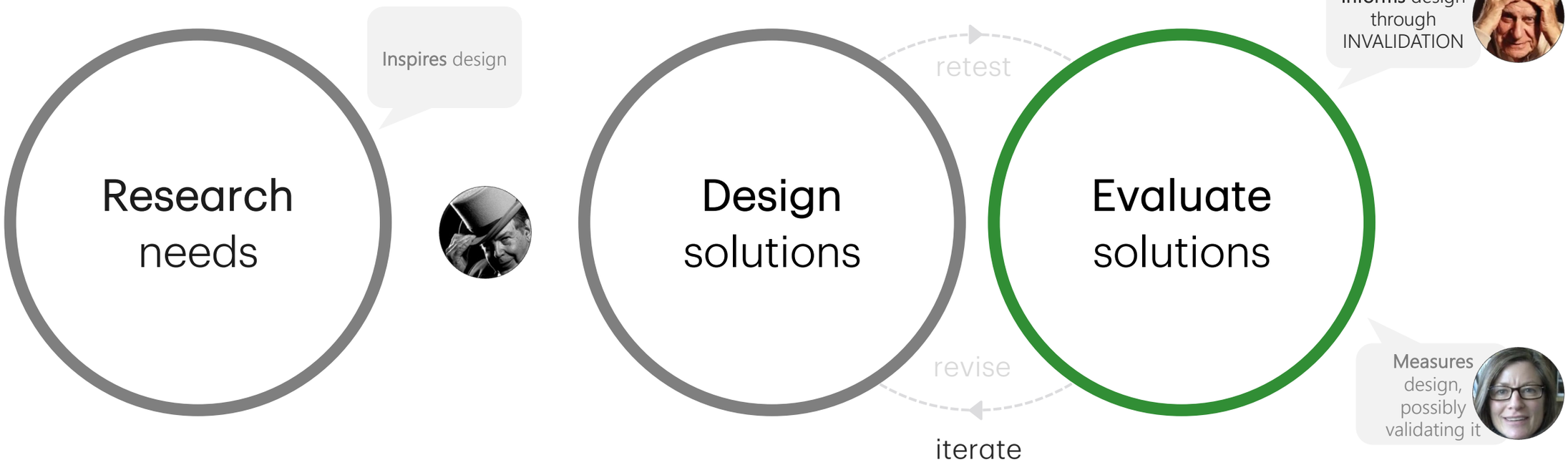
The extent to which a product or feature fulfills the **needs** and **wants** of the target customer

# Words, words, words

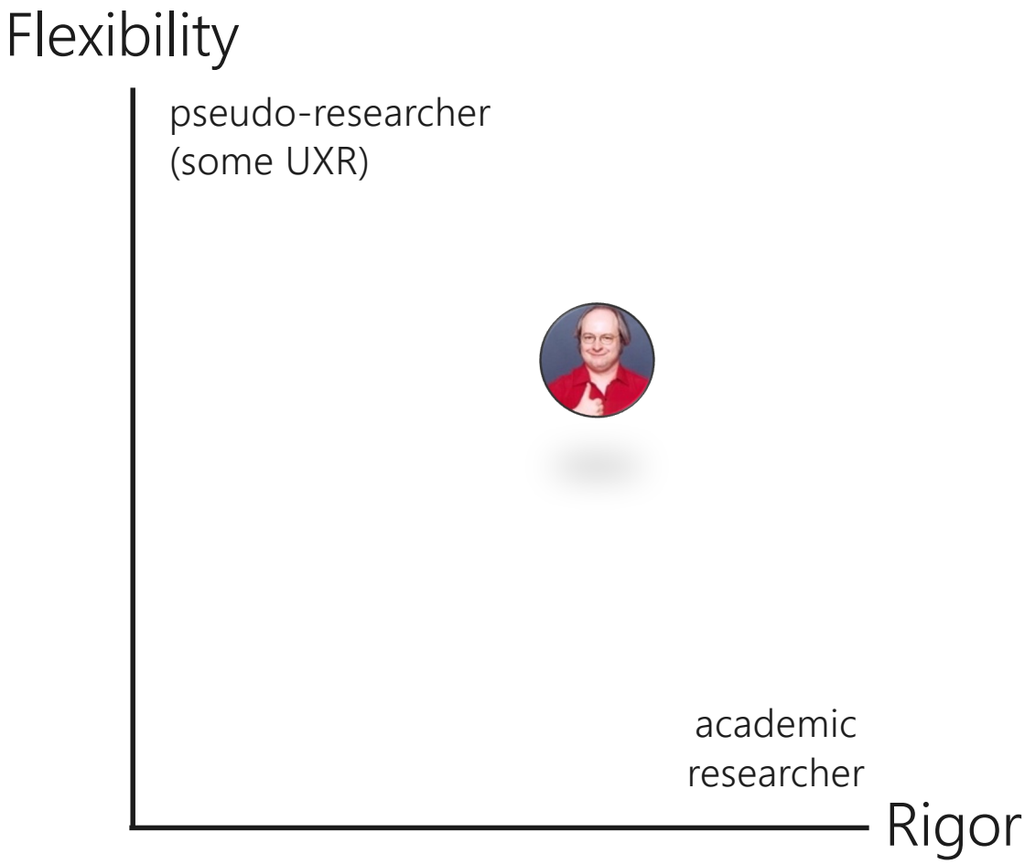
## “Validate”

Finding Problems

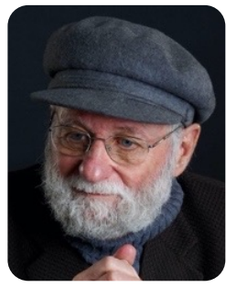
Solving Problems



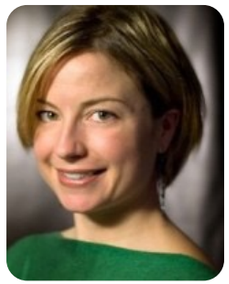
# You're Too Academic!




## Balancing **rigor** & **flexibility**



Design is about trade-offs



Patricia Trbovich

What? Are you trying to publish this in a peer-reviewed journal?

# In summary

Our collaborators – fellow Design practitioners, Stakeholders, and beyond – come from different **backgrounds**, user different **terminology**, and have **different ways of knowing**.

What are some potential **solutions**?

# Collaborative solutions

## Top-down

# Leadership

XD strategy

RESEARCH INSIGHT STRATEGIES FOR DESIGNERS AND DECISION-MAKERS

Strategies for Stakeholder Management of Research Insights

Christian P. Rohrer, PhD

I will make these slide available at the end of the talk.

- Fortunate to have someone with this level of training and experience leading Design at a bank
- Much coaching on collaboration and cooperation

## Bottom-up

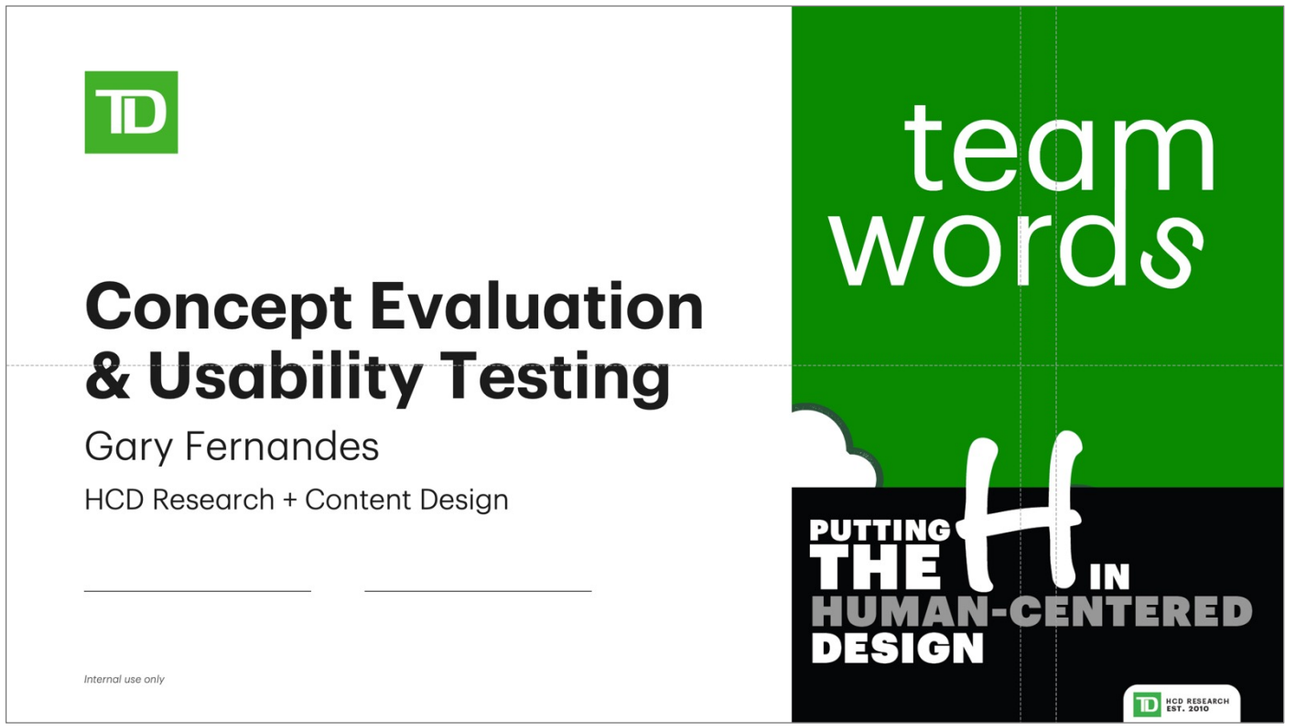
# Basic training for new practitioners

Basic training for new practitioners

- Key concepts including usability heuristics
- **Lexicon** of design vocabulary
- **Career development** workshops

## Lunch & Learns

# Bringing the entire Design practice together



## Spreading Research Insights

# Insight Propagation

Research insights should **spread like a virus**!

It should be **easy to infect** someone [learnable] and **easy to transmit** to others [teachable].

Like any good virus, they **can mutate**, but that can be remedied with **repeated exposure** to the original source or host ☺

## Become a Trusted Partner

# Show your value & support their goals

Becoming a **trusted partner** by showing **relevant** value

Example: Banking in the Metaverse

- JP Morgan's ~~expensive~~ ***exploratory*** digital adventure
- A lot of discussion about **matching** enthusiasm
- Decisions needed to be made by our partner to determine TD's next steps - **limited time and budget**
- A series of quick jaunts to a few digital 'verses allowed for **building trust in our approach** and made sure our insights would be utilized in **subsequent recommendations**

## Disseminate with Purpose

# Tell me what YOU think?

- Remember, you are a **guide through uncertainty**
- Understand their **tasks**, **needs**, and **goals** to provide dissemination in a **purposeful** way.
  - Your value isn't just the output, it's in your expertise in **interpreting the relevance of the output**.
  - Build a dissemination **strategy** to allow you to support **different needs**.
    - Sometimes, it's a full report – other times it's a walkthrough or simply a **'hot take'**

The guide leading the partners through uncertainty

## Alignment among stakeholders

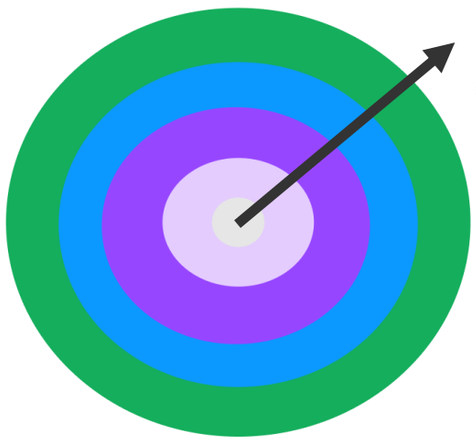
# Aren’t we building an app?

- Sometimes stakeholders **just don’t talk to each other**, even when on the same project.
- Sometimes they have **completely different goals** for the project and don’t realize until the end.
    - Lack of upfront **Discovery or Exploration**.
    - Directive from **‘on high’**
- ~~Lock them in a room until they agree~~ Facilitate workshops to show the discrepancy and guide them to come together – understand the **shared goal and align to frameworks**

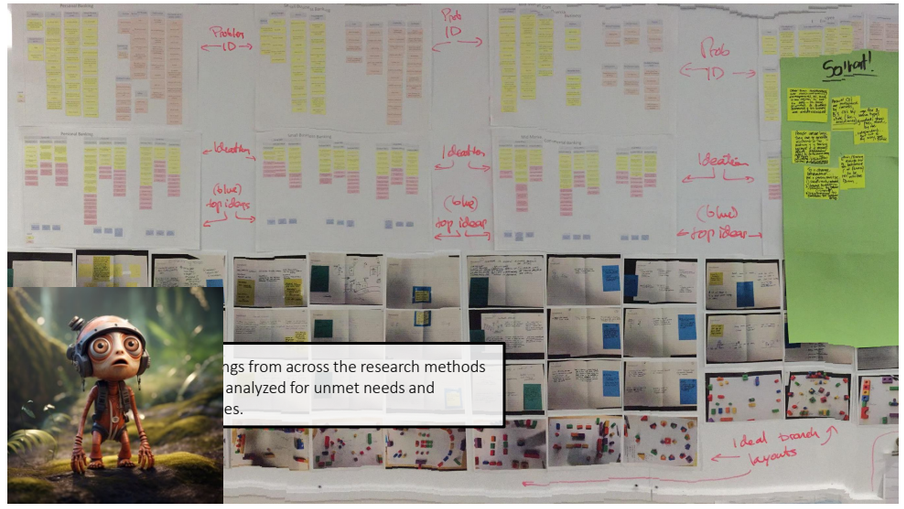
# Bring them along: deal with preconceptions

"I talked to my buddy, and they said…"

- Many partners will not understand **Research vs research**
- Find **teachable moments** (for those who are motivated) and **show and tell** examples (for those who are not)
- Example:
  - Research Strategy: walkthrough an 'onion model' to help situate the work required to get to credible insights.
  - Data analysis: "*that's a lot of words; how do you figure this out?*"



From surface level findings to deep core insights



# Book Clubs - current

## Working with others

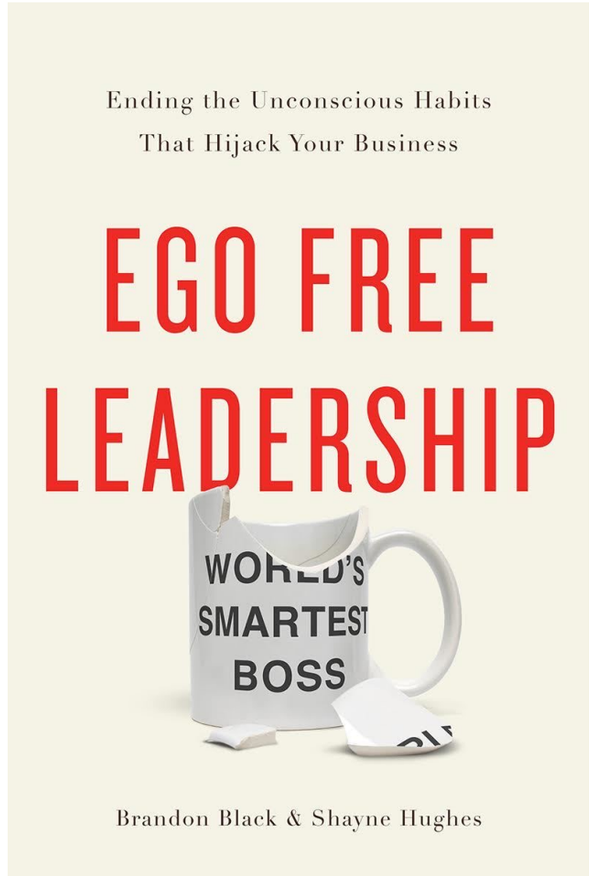
Gary's unauthorized summary:

Being human, I have certain capabilities and limitations that cause me to insert my **self-worth** into places where it doesn't belong: conversations, tasks, work, family.

This results in counter-productive thoughts and **counter-productive behaviors** that prevent me from achieving my goals and having healthy relationships with colleagues, friends, family, parents.

I'm learning how to tame my **conflict avoidance** and not run away from **painful conversations**. Though I'm still working on **procrastination**.

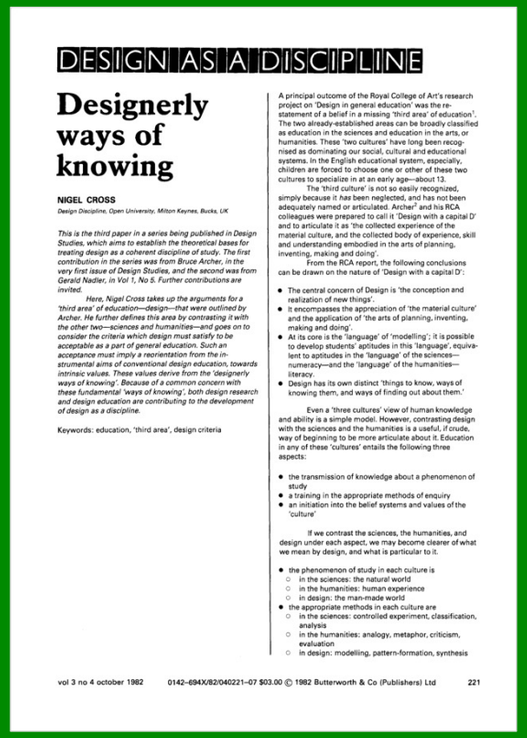
Tip: **reframe it** so it understandable and actionable to you; **NOT** a replacement for therapy




Black, B., & Hughes, S. (2017). *Ego free leadership: Ending the unconscious habits that hijack your business*. Greenleaf Book Group

# Book Clubs – future

## Old Papers



DESIGN AS A DISCIPLINE

**Designerly ways of knowing**

**NIGEL CROSS**
*Design Discipline, Open University, Milton Keynes, Bucks, UK*

*This is the third paper in a series being published in Design Studies, which aims to establish the theoretical bases for treating design as a coherent discipline of study. The first contribution in the series was from Bruce Archer, in the very first issue of Design Studies, and the second was from Gerald Nadler, in Vol 1, No 5. Further contributions are invited.*

*Here, Nigel Cross takes up the arguments for a 'third area' of education—design—that were outlined by Archer. He further defines this area by contrasting it with the other two—sciences and humanities—and goes on to consider the criteria which design must satisfy to be acceptable as a part of general education. Such an acceptance must imply a reorientation from the instrumental aims of conventional design education, towards intrinsic values. These values derive from the 'designerly ways of knowing'. Because of a common concern with these fundamental 'ways of knowing', both design research and design education are contributing to the development of design as a discipline.*

Keywords: education, 'third area', design criteria

A principal outcome of the Royal College of Art's research project on 'Design in general education' was the restatement of a belief in a missing 'third area' of education[1]. The two already-established areas can be broadly classified as education in the sciences and education in the arts, or humanities. These 'two cultures' have long been recognised as dominating our social, cultural and educational systems. In the English educational system, especially, children are forced to choose one or other of these two cultures to specialize in at an early age—about 13.

The 'third culture' is not so easily recognized, simply because it has been neglected, and has not been adequately named or articulated. Archer[2] and his RCA colleagues were prepared to call it 'Design with a capital D' and to articulate it as 'the collected experience of the material culture, and the collected body of experience, skill and understanding embodied in the arts of planning, inventing, making and doing'.

From the RCA report, the following conclusions can be drawn on the nature of 'Design with a capital D':

- The central concern of Design is 'the conception and realization of new things'.
- It encompasses the appreciation of 'the material culture' and the application of 'the arts of planning, inventing, making and doing'.
- At its core is the 'language' of 'modelling'; it is possible to develop students' aptitudes in this 'language', equivalent to aptitudes in the 'language' of the sciences—numeracy—and the 'language' of the humanities—literacy.
- Design has its own distinct 'things to know, ways of knowing them, and ways of finding out about them.'

Even a 'three cultures' view of human knowledge and ability is a simple model. However, contrasting design with the sciences and the humanities is a useful, if crude, way of beginning to be more articulate about it. Education in any of these 'cultures' entails the following three aspects:

- the transmission of knowledge about a phenomenon of study
- a training in the appropriate methods of enquiry
- an initiation into the belief systems and values of the 'culture'

If we contrast the sciences, the humanities, and design under each aspect, we may become clearer of what we mean by design, and what is particular to it.

- the phenomenon of study in each culture is
  - in the sciences: the natural world
  - in the humanities: human experience
  - in design: the man-made world
- the appropriate methods in each culture are
  - in the sciences: controlled experiment, classification, analysis
  - in the humanities: analogy, metaphor, criticism, evaluation
  - in design: modelling, pattern-formation, synthesis

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Cross, N. (1982). Designerly ways of knowing. *Design studies*, *3*(4), 221-227

## New Papers

*Viewpoint*

*Design thinking: What just happened?*

*Nigel Cross*, School of Engineering and Innovation, The Open University, Milton Keynes, UK

Something extraordinary happened with design thinking in recent times. The past decade saw an immense growth in publications on design thinking. Figure 1 shows the recent steep rise in the occurrence of the phrase 'design thinking' within English language print media since 1950 – almost none at all until 2005 when a rise began and then accelerated away from 2010. A search for the publication of books with 'design thinking' in their title also shows a big increase in the past decade (Figure 2). It has become the topic of books from 'Business Design Thinking' to 'Health Design Thinking' and even 'Design Thinking for Dummies'. Most of the recent growth has been within the business/management field, but there has also been notable growth in other fields, such as education. In addition to books that have 'design thinking' in their titles there are quite a few more that are about design thinking but don't use the phrase in their titles.

Within academic journals, growth in use of the phrase 'design thinking' also appears to have increased dramatically in the last decade. For example, just within *Design Studies*, Figure 3 shows the number of research articles that included the phrase 'design thinking', from the inception of the journal in 1979 (one occurrence) to 2022 (eleven), with more than twenty per year published in 2016 and 2018. Of the total of 285 articles using the phrase 'design thinking' in the 43 years since 1979, more than half of them have been published in the twelve years since 2010. And, as with books, there are many academic articles that are about design thinking but do not use that phrase, referring instead to design ability, design expertise, design cognition, or designerly ways of knowing.

However, across the board, not only the use but also the meaning of 'design thinking' has notably changed in the past decade. Some traditional uses of 'design thinking' were implying or referring to design intentions, goals or styles, such as 'using contemporary design thinking' or 'our design thinking on this was to keep it minimal'. A different usage and meaning then began to appear within academic studies of how designers think and work – i.e., referring to design cognition and design processes. More recently, though, design thinking has come predominantly to mean the use of design or design-oriented approaches in business, management, and even social innovation. There has been some cross-over between these two different discourses, with some business/management-oriented books being called toolkits, handbooks, workbooks or playbooks, offering how-to-do-it advice and lessons in design thinking.

### 1 *Origins and early usage of 'design thinking'*

The contemporary uses of the term 'design thinking' can be traced back to the 1950s, when some of the very earliest uses were referring to it in business and management contexts. For example, in 1954 the USA Government Office

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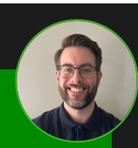
Cross, N. (2023). Design thinking: What just happened? *Design Studies, 86*.

Design Thinking is a popular term.

Where does it come from? How has it been used in the past?

What are the implications for the future?



# Key takeaways and tips

# Choose curiosity...

Avoiding judgements in how we deal with others will help us be better researchers and build better partnerships

## Choose curiosity; avoid judgement

# ”If he mentions ‘doctorate’ one more time…"

- What is the **underlying issue**?
  - What is their need here? – threatened? Fearful?
- "Be a **Researcher in everything**" - *Gary Fernandes*
- Uncomfortable conversations can **strengthen and mend** broken bridges
- Case study: “*…it sounds like you don’t value any other experience/expertise…”*
  - **Defending** my team but **devaluing** theirs

# Align on **shared goals**

We all have common goals, let’s find them!

## Aligning on shared goals

# Find common ground to build upon

We are all a **bunch of monkeys**, desperately holding onto a massive rock hurtling through space trying not to fade into oblivion.

Just as there are shared ancestors in our history, **there are certainly shared goals for us to find**!

Example:

- Getting buy-in for Research: may be **difficult**
- Getting alignment on shared commitments: **still difficult but a bit easier!**

# **Build Champions,** not contempt

Bring people along for the ride and create opportunities to engage and support them

## Build Champions, not Contempt

# Take them on a UXR joyride

- **Bring them along** for the journey!
- Help them **understand the value** you bring
  - **Find teachable moments** to show the **complexity** and the need for **expertise**
- Make them **feel and look smarter** by working with you
  - Insight propagation: Make it easy to **understand the insights** and to **spread them** around

“

# Design is lighter, **when Research is heavier**

It’s easier to build a house on solid foundations...

## Design is lighter when Research is heavier

# Strategic Research to guide Innovation

- Helps you **understand** the problem space to solve for the **right problems.**
- Hard to fight passion and ‘gut confirmation’ but can at least inform it to **avoid assumption-led** work.
- Without a foundation, you build with **assumption.**
- When you build with assumption you increase the **risk of failure** including failing good ideas **for the wrong reasons.**

# Don’t value the Dialogue **over the Data**

Finding the right balance between enabling your partners but not indulging them...

## Don’t value the Dialogue over the Data

# Enable partners, but not bad research

- Help our partners achieve their goals:
    - **Stories are important** and personal anecdotes can be powerful, but we must balance being charismatic with being **credible**.
- It’s **all about trade-offs**, so help make the **right ones**
- You are the expert on the evidence, deeply understand it, and **create a foundation** upon which they can build.
    - If nothing else, provide some caveats to their tale

> Let’s **end** with an example of **what NOT to do...**

# WHAT WE DO

Can be described in many ways…

design thinking

user experience

usability

co-design

co-creation

universal design

cognitive ergonomics

behavioral economics

service design

design research

jobs to be done

human-centered design

aspirations-based design

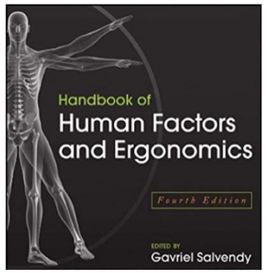
inclusive design

applied anthropological thinking

user-centered design

# WHAT WE DO

## User-Centered Design




### Scientific approach

Human Factors has 70+ years of literature starting with aviation psychology and has been broadly applied, from the design of products and experiences to the design of work and places.

### Human-centered

Accounts for people's needs, wants, capabilities, and limitations.

### Systems-oriented

Beyond design thinking, think about the system; considers the user, customer and business value, cost constraints, and most importantly the human factor.

# Thank you.