

week 06



Human Centered Design

Designing for Human Experiences

Lecture Outline

- Experience Prototyping [Buchenau & Fulton Suri, 2000]
- Designing for Experiencing [Sanders, 2002]
- Method Cards [IDEO]
- Thoughtless Acts [Fulton Suri & IDEO, 2000]

Experience Prototyping

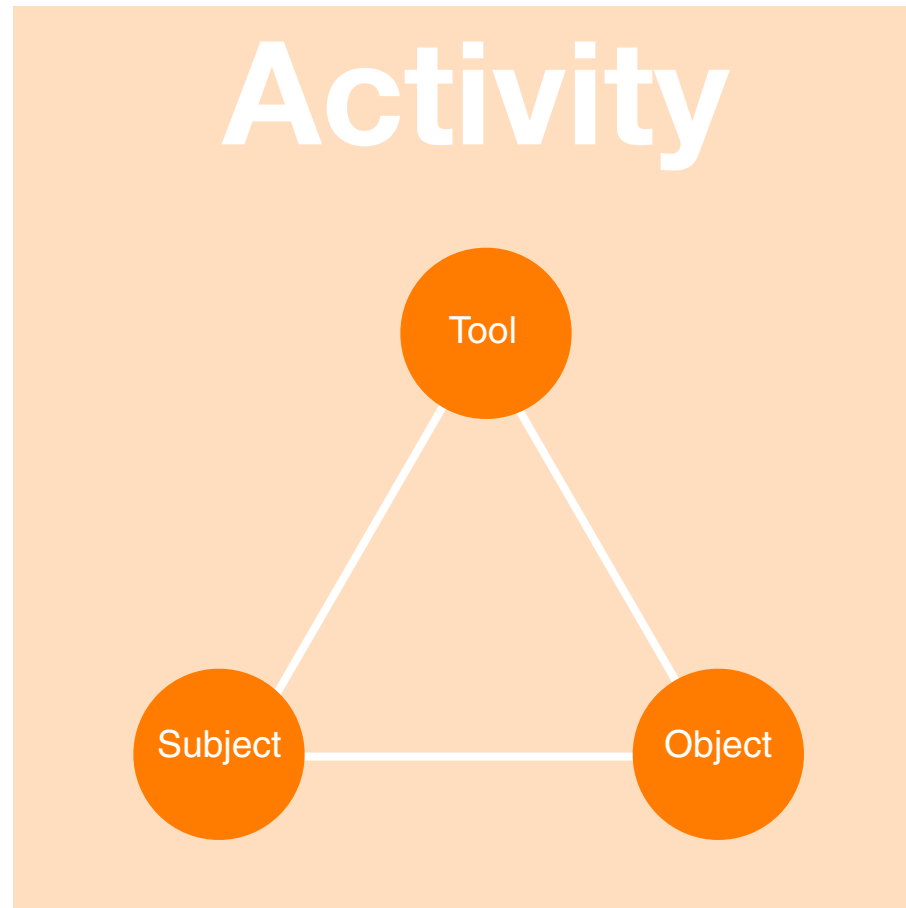
Buchenuau & Fulton Suri (2000)

Experience is a dynamic, complex, and subjective phenomenon. It depends upon the perception of multiple sensory qualities of a design, interpreted through filters relating to contextual factors.

Experience Prototyping

The experience of even simple artifacts does not exist in a vacuum but, rather, in dynamic relationship with other **people, places** and **objects**. The quality of people's experience changes **over time** as it is influenced by variations in these multiple contextual factors.

Activity Theory



Experience Prototyping

Experiential Aspect

Emphasis on the **experiential** aspect of representations, which is needed to successfully (re)live or convey an experience with a product, space or system.

Any kind of representation, in any medium, designed to understand, explore, or communicate what it might be like to engage with the product, space or system we are designing.

Experience Prototyping

Understanding User Experiences

What are the contextual, physical, temporal, sensory, social, and cognitive factors we must consider as we embark on design?

What is the essence of the existing user experience?

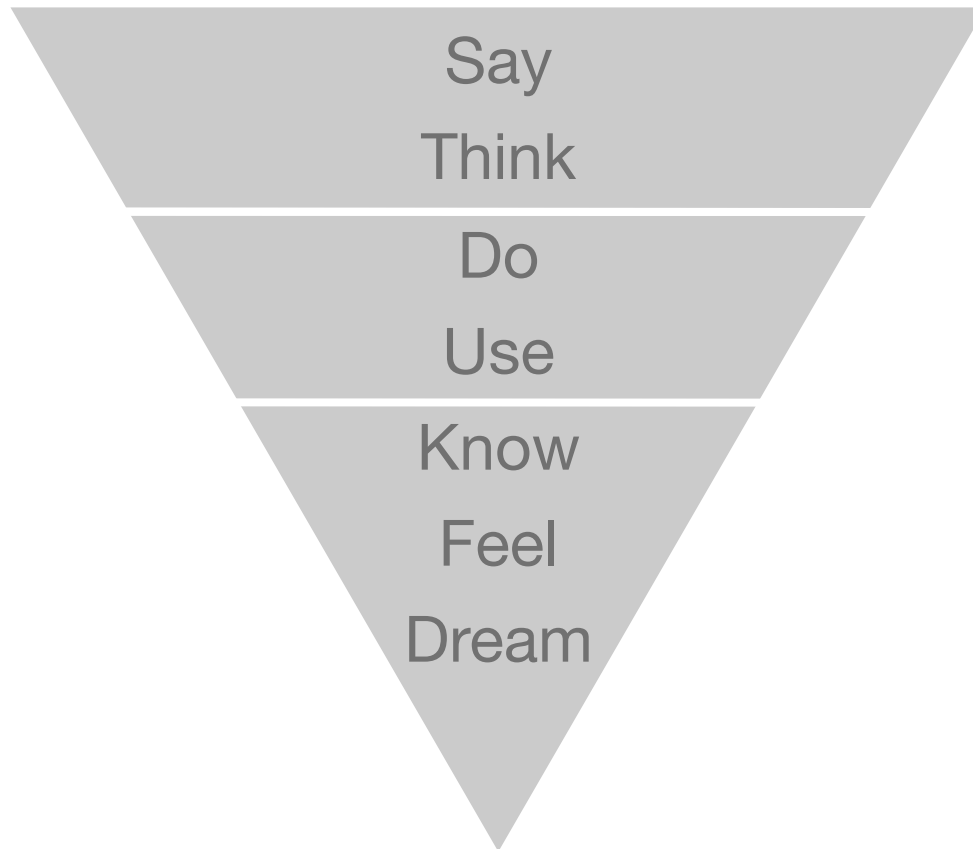
What are essential factors that our design should embrace?

Design for Experiencing

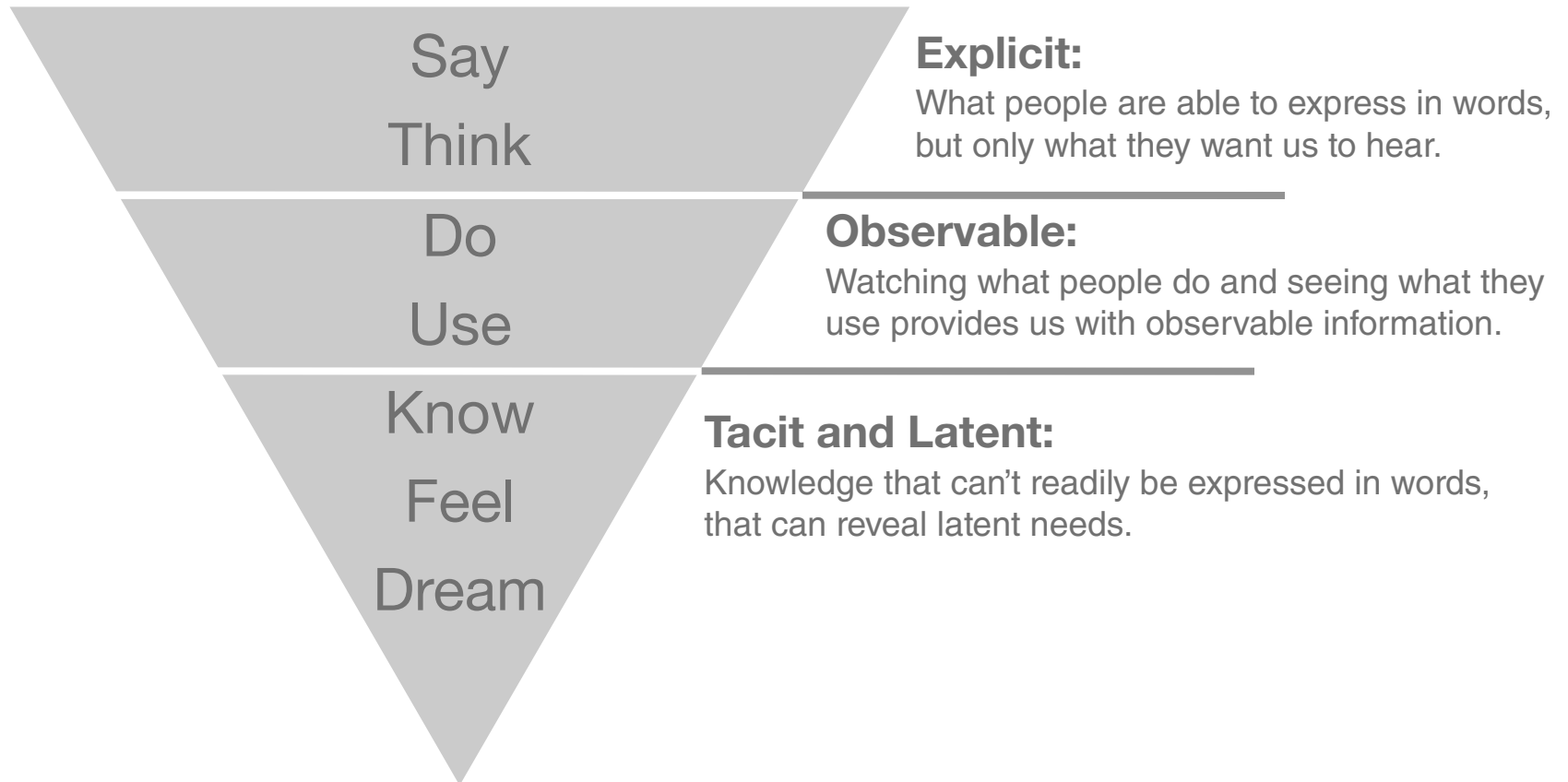
Sanders (2002)

Design people's experiences of things, actions, and places. Experiencing is a constructive activity. Need to access people's experiences (past, current, and potential) as the source of inspiration and ideation for design.

Learn from What People...



Learn from What People...



Learn, Look, Ask, & Try

IDEO Method Cards

Tools for keeping people at the center of the design process.

IDEO Method Cards

Learn:

Analyze the information you've collected to identify patterns and insights.

Look:

Observe people to discover what they do rather than what they say they do.

Ask:

Enlist people's participation to elicit information relevant to your project.

Try:

Create simulations to help empathize with people and to evaluate proposed designs.

Learn: Affinity Diagrams

Learn Look Ask Try

Affinity Diagrams

HOW: Cluster design elements according to intuitive relationships such as similarity, dependence, proximity, etc.

WHY: This method is a useful way to identify connections between issues and reveal innovation opportunities.

Clustering the elements related to transporting the family helped the IDEO team to discover some significant opportunities for stroller design.

IDEO www.ideo.com



Learn: Character Profiles

Learn

Look

Ask

Try

Character Profiles

HOW: Based on observations of real people, develop character profiles to represent archetypes and the details of their behavior or lifestyles.

WHY: This is a useful way to bring a typical customer to life and to communicate the value of different concepts to various target groups.

In order to understand different types of customers and how to target them, IDEO developed four characters for a pharmacy wanting to reach the male beauty-product market.

[Chris]



"I wouldn't be caught dead using moisturiser"

"I never buy after shave...I get it for Christmas"

"I read men's magazines sometimes, but I'd never buy one"

"I only really take vitamin C when I've got a cold"

"keeping fit isn't that important to me"

Learn: Error Analysis

Learn

Look

Ask

Try

Error Analysis

HOW: List all the things that can go wrong when using a product and determine the various possible causes.

WHY: This is a good way to understand how design features mitigate or contribute to inevitable human errors and other failures.

The IDEO team used error analysis on a remote-control concept in order to maximize the functionality of each button's size, shape, and texture.

IDEO

www.ideo.com



Learn: Cross-Cultural Comparisons

Learn

Look

Ask

Try

Cross-Cultural Comparisons

HOW: Use personal or published accounts to reveal differences in behaviors and artifacts between national or other cultural groups.

WHY: This helps teams to understand various cultural factors and the implications for their projects when designing for unfamiliar or global markets.

In designing a messaging device for an international market, IDEO compared communication methods across cultures.

IDEO

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Look: A Day in the Life

Learn

Look

Ask

Try

A Day in the Life

HOW: Catalog the activities and contexts that users experience throughout an entire day.

WHY: This is a useful way to reveal unanticipated issues inherent in the routines and circumstances people experience daily.

IDEO asked potential wearers of a drug-delivery patch to document their daily behaviors including those that might affect the function of the patch - getting wet, snagging on clothing, etc.

IDEO

www.ideo.com



Look: Personal Inventory

Learn

Look

Ask

Try

Personal Inventory

HOW: Document the things that people identify as important to them as a way of cataloging evidence of their lifestyles.

WHY: This method is useful for revealing people's activities, perceptions, and values as well as patterns among them.

For a project to design a handheld electronic device, the IDEO team asked people to show and describe the personal objects they handle and encounter every day.



Look: Behavioral Mapping

Learn

Look

Ask

Try

Behavioral Mapping

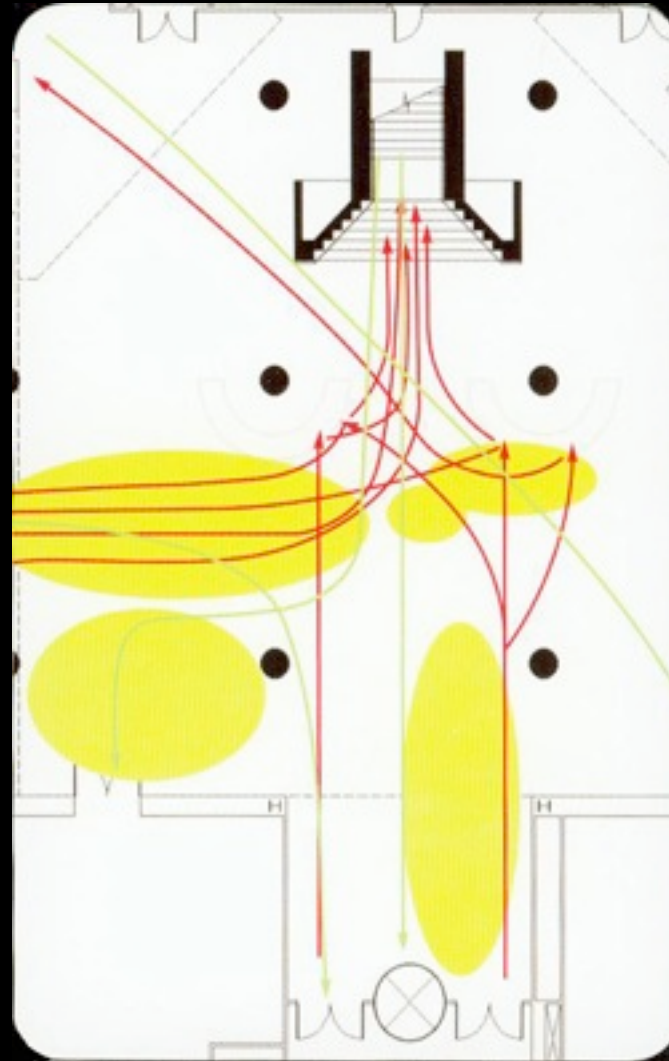
HOW: Track the positions and movements of people within a space over time.

WHY: Recording the pathways and traffic patterns of occupants of a space helps to define zones of different spatial behaviors.

Tracking the paths of visitors helped designers to identify the traffic spots and the vacant, underused areas of a museum lobby.

IDEO

www.ideo.com



Look: Time-Lapse Video

Learn

Look

Ask

Try

Time-Lapse Video

HOW: Set up a time-lapse camera to record movements in a space over an extended period of time.

WHY: Useful for providing an objective, longitudinal view of activity within a context.

The IDEO team recorded the activity of museum visitors over several days to learn how to improve space layout.

IDEO

www.ideo.com



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Ask: Collage

Learn

Look

Ask

Try

Collage

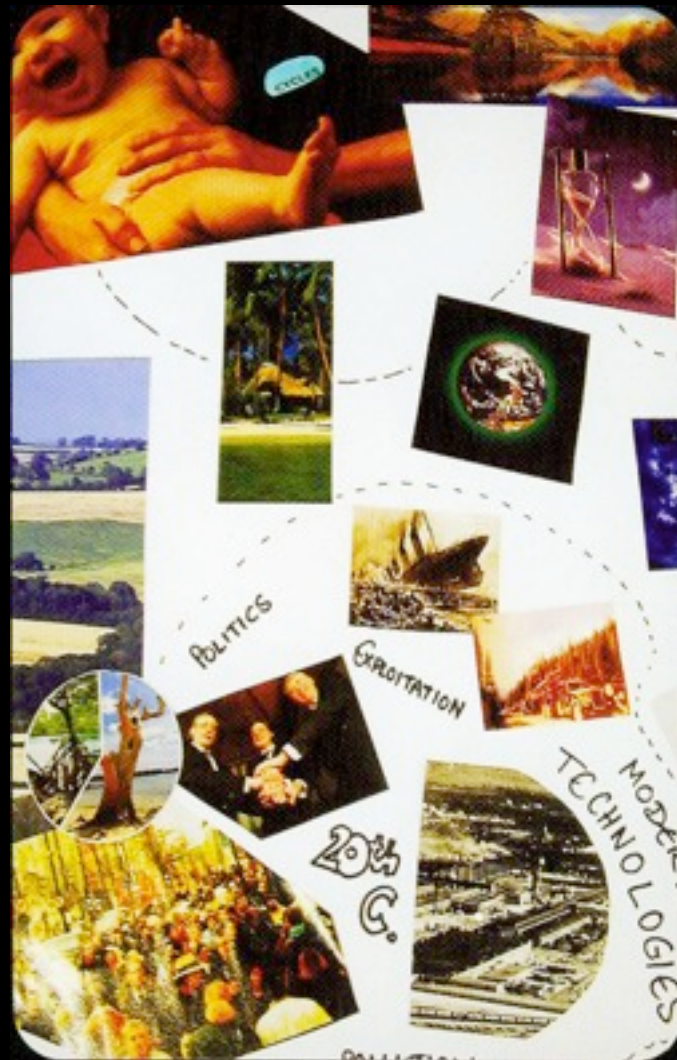
HOW: Ask participants to build a collage from a provided collection of images, and to explain the significance of the images and arrangements they choose.

WHY: This illustrates participants' understanding and perceptions of issues and helps them verbalize complex or unimagined themes.

Participants were asked to create a collage around the theme of sustainability to help the IDEO team understand how new technologies might be applied to better support people's perceptions.



www.ideo.com



Ask: Camera Journal

Learn

Look

Ask

Try

Camera Journal

HOW: Ask potential users to keep a written and visual diary of their impressions, circumstances, and activities related to the product.

WHY: This rich, self-conducted notation technique is useful for prompting users to reveal points of view and patterns of behavior.

The IDEO team designing a travel information system distributed camera journals to families taking car trips to capture map reading and other car travel behavior.

IDEO

www.ideo.com



Ask: Unfocus Group

Learn

Look

Ask

Try

Unfocus Group

HOW: Assemble a diverse group of individuals in a workshop to use a stimulating range of materials and create things that are relevant to your project.

WHY: Encourages rich, creative, and divergent contributions from potential users, releases inhibitions, and opens up new thinking.

An IDEO team invited a foot-fetishist, an artist, a body-worker, a podiatrist and others to work together to explore and build concepts for a new range of fashion sandals.

IDEO

www.ideo.com



Ask: Extreme User Interviews

Learn

Look

Ask

Try

Extreme User Interviews

HOW: Identify individuals who are extremely familiar or completely unfamiliar with the product and ask them to evaluate their experience using it.

WHY: These individuals are often able to highlight key issues of the design problem and provide insights for design improvements.

By understanding the role and mindset of the youngest family member, the IDEO team uncovered new product design opportunities for household cleaning.

IDEO

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Try: Empathy Tools

Learn

Look

Ask

Try

Empathy Tools

HOW: Use tools like clouded glasses and weighted gloves to experience processes as though you yourself have the abilities of different users.

WHY: This is an easy way to prompt an empathic understanding for users with disabilities or special conditions.

IDEO designers wore gloves to help them evaluate the suitability of cords and buttons for a home-health monitor designed for people with reduced dexterity and tactile sensation.

IDEO

www.ideo.com



Try: Bodystorming

Learn

Look

Ask

Try

Bodystorming

HOW: Set up a scenario and act out roles, with or without props, focusing on the intuitive responses prompted by the physical enactment.

WHY: This method helps to quickly generate and test many context- and behavior-based concepts.

Bodystorming various ways of sleeping in airplanes helped the IDEO design team to generate a wide variety of concepts for an airplane interior.



www.ideo.com



Try: Behavior Sampling

Learn

Look

Ask

Try

Behavior Sampling

HOW: Give people a pager or phone and ask them to record and evaluate the situation they are in when it rings.

WHY: This is a useful way to discover how products and services get integrated into people's routines in unanticipated ways.

Developing an implantable defibrillator system, the IDEO team distributed pagers to the client team to signal a defibrillating shock. This evoked deep empathy for the patient's everyday experience.

IDEO

www.ideo.com



Try: Role-Playing

Learn

Look

Ask

Try

Role-Playing

HOW: Identify the stakeholders involved in the design problem and assign those roles to members of the team.

WHY: By enacting the activities within a real or imagined context, the team can trigger empathy for actual users and raise other relevant issues.

Designing a medical device, the IDEO team role-played a situation involving a doctor, a nurse, a patient, and an anesthesiologist to simulate the interdependent tasks demanded of the operating room staff.

IDEO

www.ideo.com



Experience Prototyping

Why Experience Prototyping?

More and more we find ourselves designing complex and dynamic interactions with hardware and software, spaces, and services.

The designer needs to focus on "exploring by doing" and actively experiencing the subtle differences between various design solutions.

Experience Prototyping

Multidisciplinary Team

Multiple disciplines are needed to solve the design problems of today — e.g. interaction design, industrial design, designers of environments, human factors specialists, mechanical and electrical engineers.

A powerful asset to have tools and techniques which create a shared experience, providing a foundation for a common point of view.

Thoughtless Acts

Fulton Suri & IDEO (2000)

All those intuitive ways we adapt, exploit, and react to things in our environment; things we do without really thinking.

Thoughtless Acts

“In daily life we make interpretations about the stuff around us all the time – how it might work and what we can do with it. We develop an exquisite awareness of the possibilities and sensory qualities of different materials, forms, and textures. Understanding these intuitive interpretations might be a significant source of insight for designers.”

Thoughtless Acts

Reacting? Tactile and visual encouragement to stay on track?



Thoughtless Acts

Reacting? Avoiding surfaces. Barely conscious adjustments in paths chosen?



Thoughtless Acts

Reacting? How many ways to keep hands free on the go?



Thoughtless Acts

Reacting? For comfort and relief, our feet seek a variety of surfaces.



Thoughtless Acts

Reacting? Items are safe and remembered within our personal space.



Thoughtless Acts

Responding? Remembering or pointing to your place after interruptions.



Thoughtless Acts

Responding? Easy way to carry the elements or a reminder of an intentional pairing of tools?



Thoughtless Acts

Responding? Door rail swing, unconscious stretch, better balance?



Thoughtless Acts

Responding? Simple analog tools for a more direct indication.



Thoughtless Acts

Responding? Can spatial elevation enhance social, physical, and emotional experience?



Thoughtless Acts

Co-opting? Airport office and hands free journey.



Thoughtless Acts

Co-opting? An active storage mode.



Thoughtless Acts

Co-opting? Extending personal space.



Thoughtless Acts

Co-opting? Incidental benefits. Storage with the benefit of sun and fresh air.



Thoughtless Acts

Exploiting? Environmental features act as breaks for carts. Ideas for built-in functions?



Thoughtless Acts

Exploiting? Butter spatula and handle.



Thoughtless Acts

Exploiting? Eating pizza on the go. Cactus bulletin board.



exploiting? 100



101

Thoughtless Acts

Adapting? When do utilitarian tools become wearable? Personal and decorative?



Thoughtless Acts

Conforming? Common view point, stride, and rhythm.



conforming? 130

131

Thoughtless Acts

Conforming? Trash stash.



Thoughtless Acts

Signaling? Shared tools often need status/progress indicators to let others know.



Thoughtless Acts

Signaling? Status indicators can save disappointment. Evident from a distance.



signaling? 152

153

Thoughtless Acts

Inviting Curiosity

“The key is looking carefully at what people actually do in various situations and asking ourselves questions to explain what we see: Why has someone placed this object here? What are those people doing and why are they grouped like that? Why is it that people apparently avoid being here? Curiosity will reveal meaning behind these nonspectacular interactions that take place around us all the time.”

Thoughtless Acts

Inspiring and Informing Design

Examining these everyday interactions, we discover a lot about how we engage, adapt and make sense of our surroundings. We see directly how design plays into our lives, how we actively shape our environment, and how we in turn are shaped by it. Observing such interactions can inspire new design opportunities and guide better solutions in valuable ways.

Thoughtless Acts

Opportunities for Design

Everywhere we look there is evidence of people's creativity in reinterpreting and adapting things, improvising solutions to make up for something that's missing or poorly designed. We should look for patterns that point to a universal need. When we dig deep enough, behavior that might at first seem arbitrary, surprising, or idiosyncratic, usually has an insightful explanation.

IDEO's Thoughtless Acts

Discussion Pool Map 224 Members

View as slideshow (e)



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From [anab Jain](#)



From [med44](#)



From [rorvhamilton](#)



From [Lin Wilson](#)



From [Engin Erdogan](#)



From [Engin Erdogan](#)



From [The Shifted_](#)

Capture Thoughtless Acts

Capture Thoughtless Acts you see and post them on the course web.

Due **Monday March 14**. Discussion on Monday March 28.



Your Midterm Project

- In class presentation next Monday
 - **5 minutes presentation & 3 minutes Q&A**
- Feedback for your midterm project is up on the course website.
- Take a critical look at your interaction loop and discuss why tangibility matters.

Thanks!