

# Human-Computer Interaction

CPSC 481 - Spring 2019

ASK

Adapted from Tony Tang

# When LOOKing is not enough...

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- LOOKing gives you great insight into the state of the world
- But it doesn't tell you **why** people are acting the way they do, or what their goals, needs, or feelings are

# IDEO Method Cards



# ASK users for help



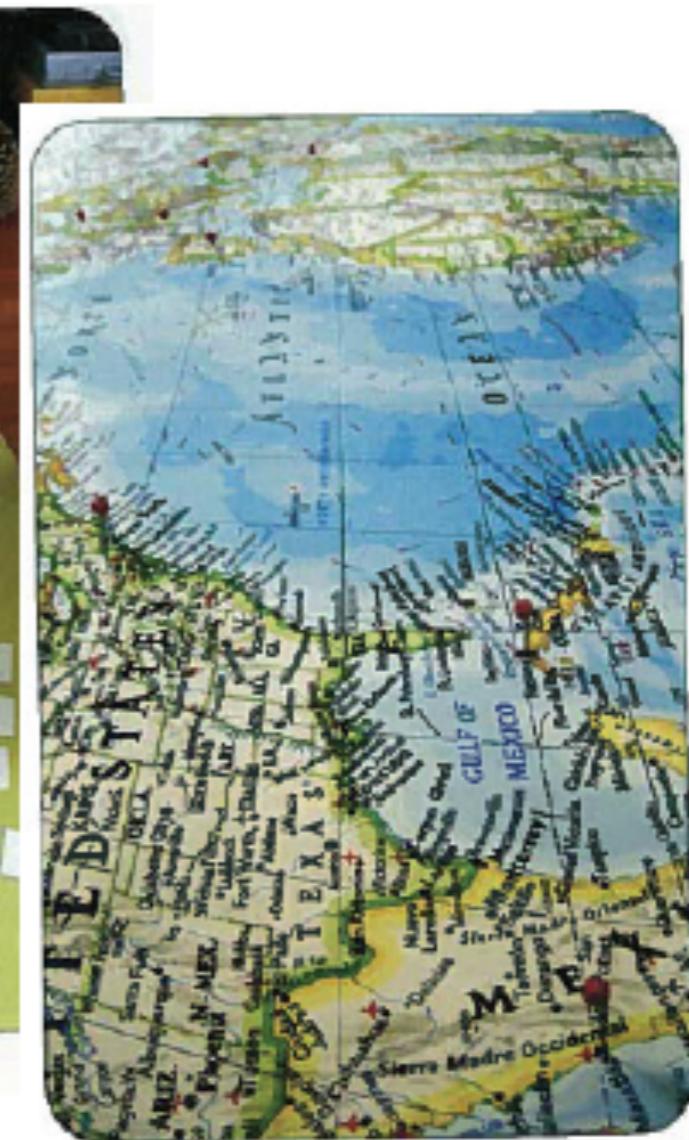
## COLLAGE



CONCEPTUAL LANDSCAPE



### CARD SORT



## FOREIGN CORRESPONDENTS





Learn

Look

Ask

Try

## Surveys & Questionnaires

**HOW:** Ask a series of targeted questions in order to ascertain particular characteristics and perceptions of users.

**WHY:** This is a quick way to elicit answers from a large number of people.

Developing a new gift-wrap packaging concept the IDEO team conducted web-based surveys to collect consumer perspectives from many people around the world.

# Questionnaires

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    - I think X is a good idea
      - 1 Strongly disagree to 5 Strongly agree

# Questionnaires

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  - Which of the following are things you might use?
    - a, b, c, d, e
  - Rating scales
    - I think X is a good idea
    - 1 Strongly disagree to 5 Strongly agree
- **Be sure to pilot your questionnaire**



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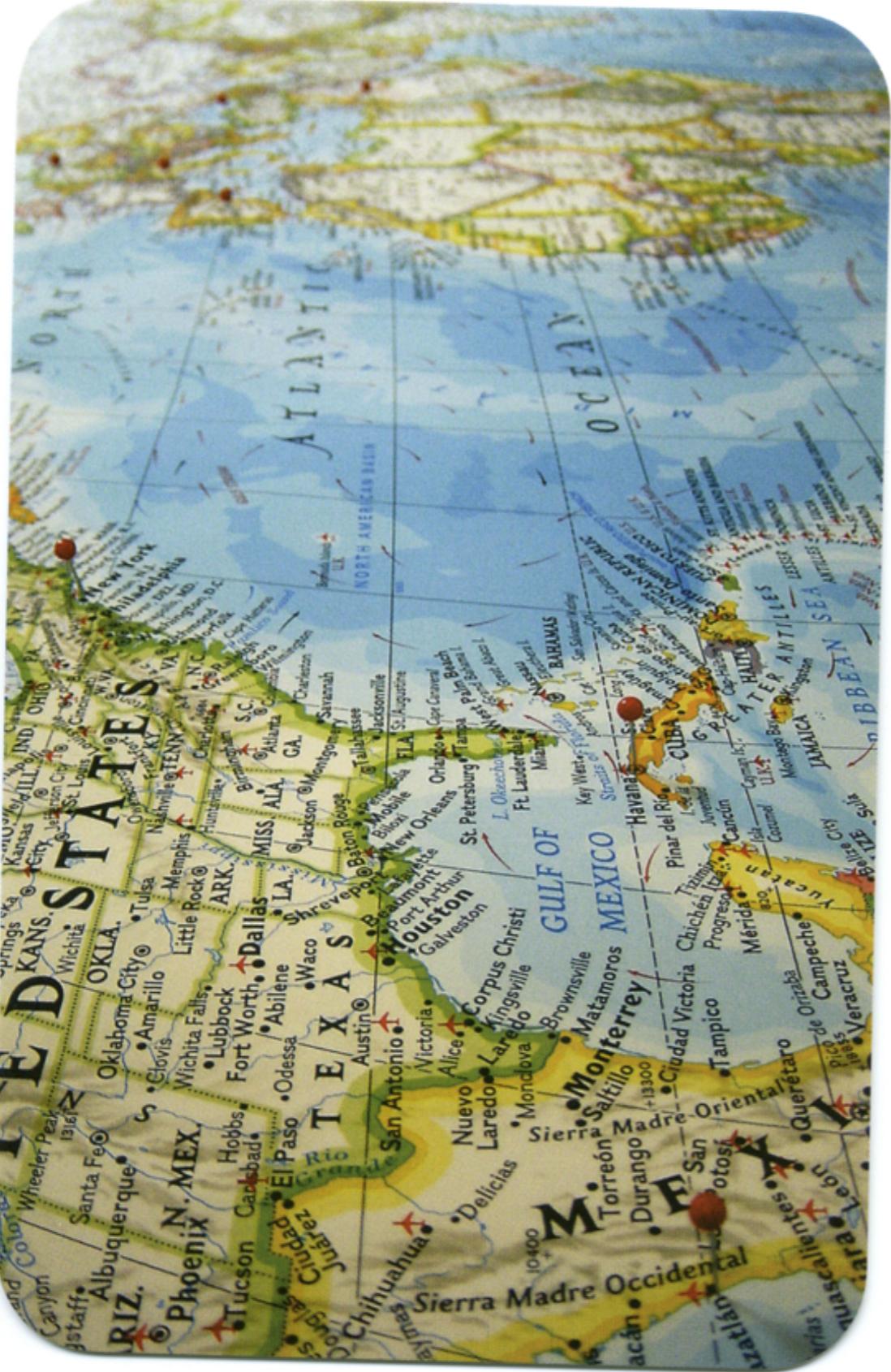
Try

## Narration

**HOW:** As they perform a process or execute a specific task, ask participants to describe aloud what they are thinking.

**WHY:** This is a useful way to reach users' motivations, concerns, perceptions, and reasoning.

In order to understand how food is incorporated into people's daily routines, the IDEO team asked people to describe what they were thinking while eating.



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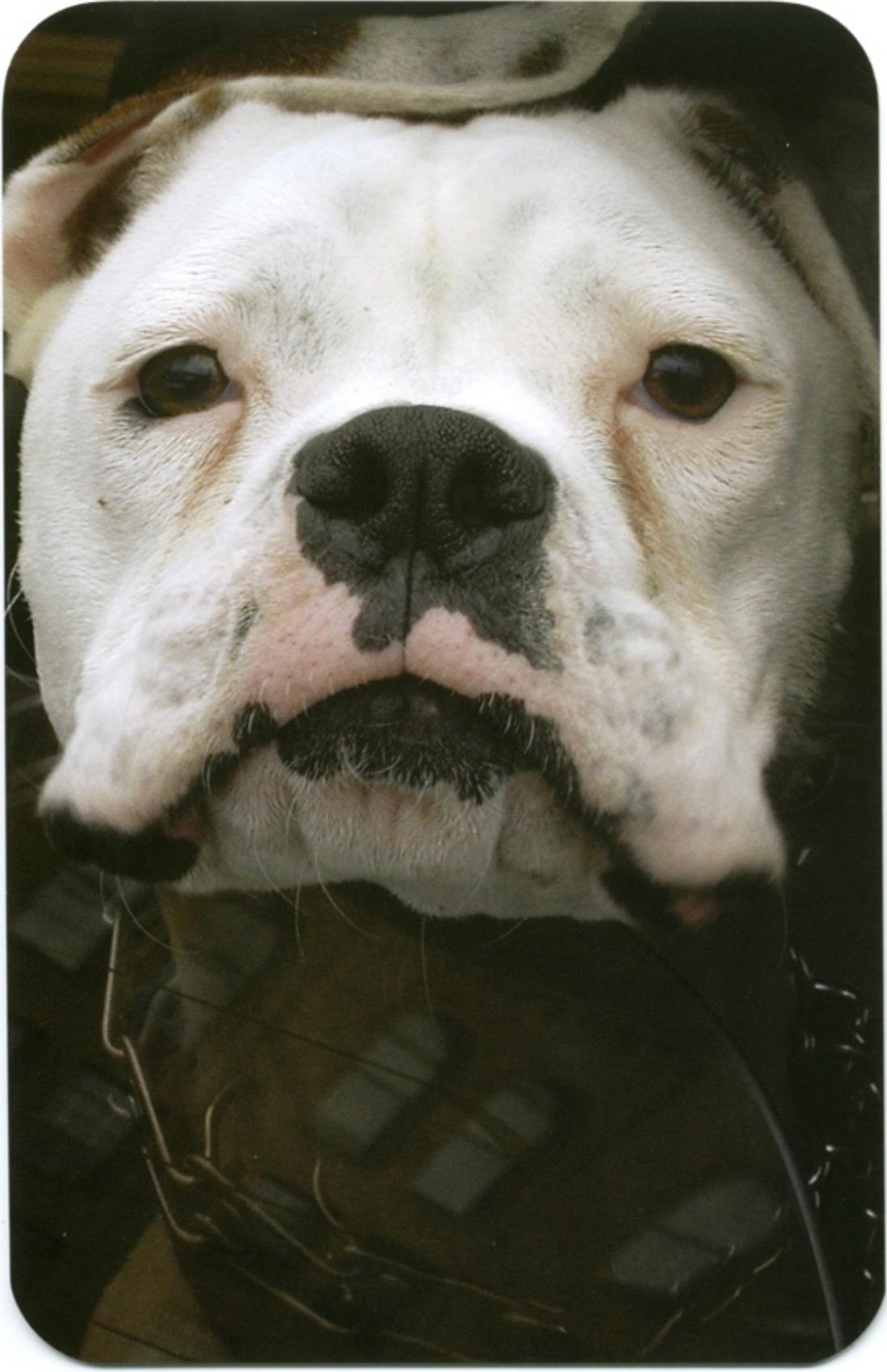
## Foreign Correspondents

**HOW:** Request input from coworkers and contacts in other countries and conduct a cross-cultural study to derive basic international design principles.

**WHY:** This is a good way to illustrate the varied cultural and environmental contexts in which products are used.

Compiling a global survey about personal privacy, IDEO correspondents from around the world contributed images and anecdotes from their own lives.





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## 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.

# Diary studies

- Are Kindles/Nooks good for work-related reading?
- Paper logs – fit in a pocket
  - Log reading activity
  - What else is going on

Day of Week	S	M	T	W	T	F	S
Time of Day	12am - 6pm	6am -	9am -	11am 1pm	- 1pm 6pm	6pm - 9pm	9pm - 12pm
Location	Meeting room						
What are you reading?	<ul style="list-style-type: none"><li>- financial reports</li><li>- quarterly earnings</li></ul>						
What are you doing?	<ul style="list-style-type: none"><li>- reporting on what's going on</li><li>- circling next things</li></ul>						
What are you working with?	<ul style="list-style-type: none"><li>- notebook</li></ul>						
Reading for how long?	<5 min	5min - 15min	15min - 30min	30min - 1hr	1hr>		
Have you read this before?	<ul style="list-style-type: none"><li>Yes</li><li>KIND</li><li>No</li></ul>						

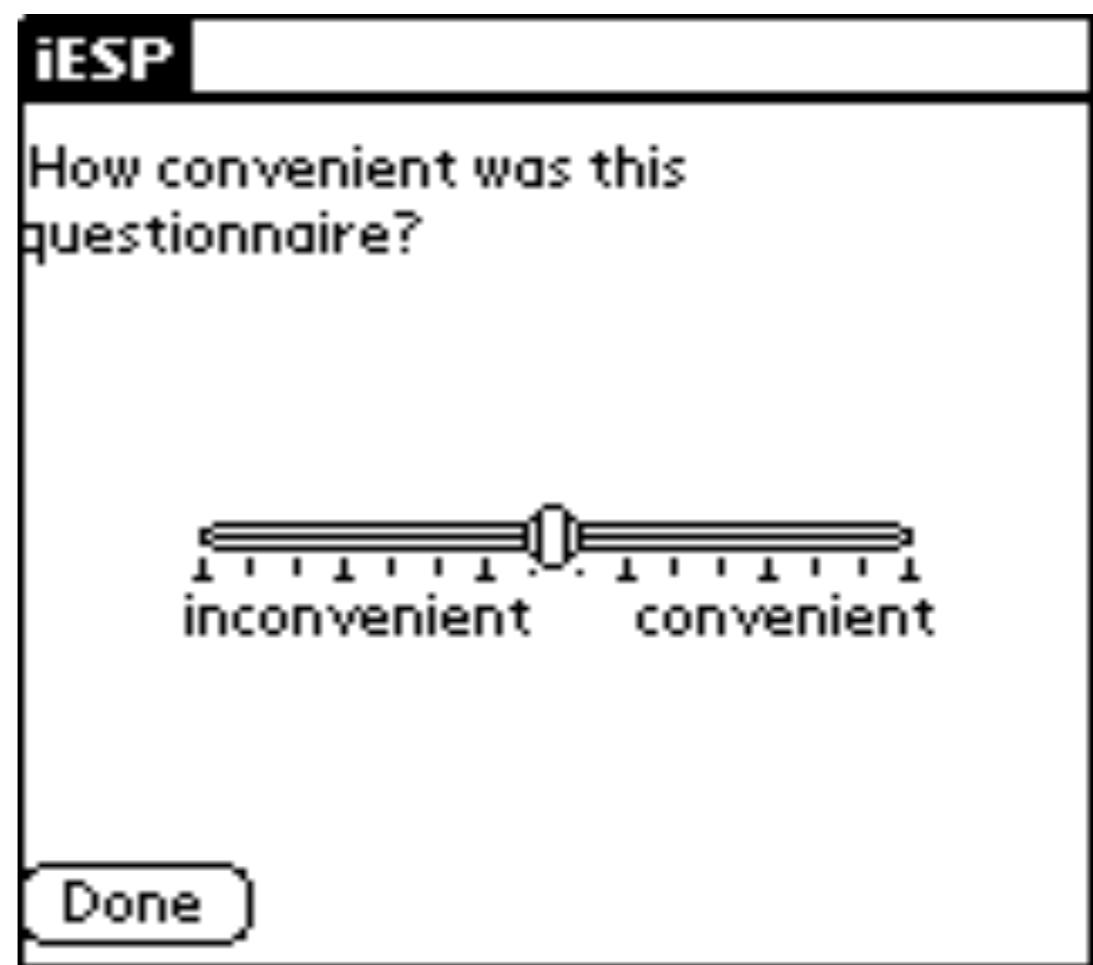
# Diary studies

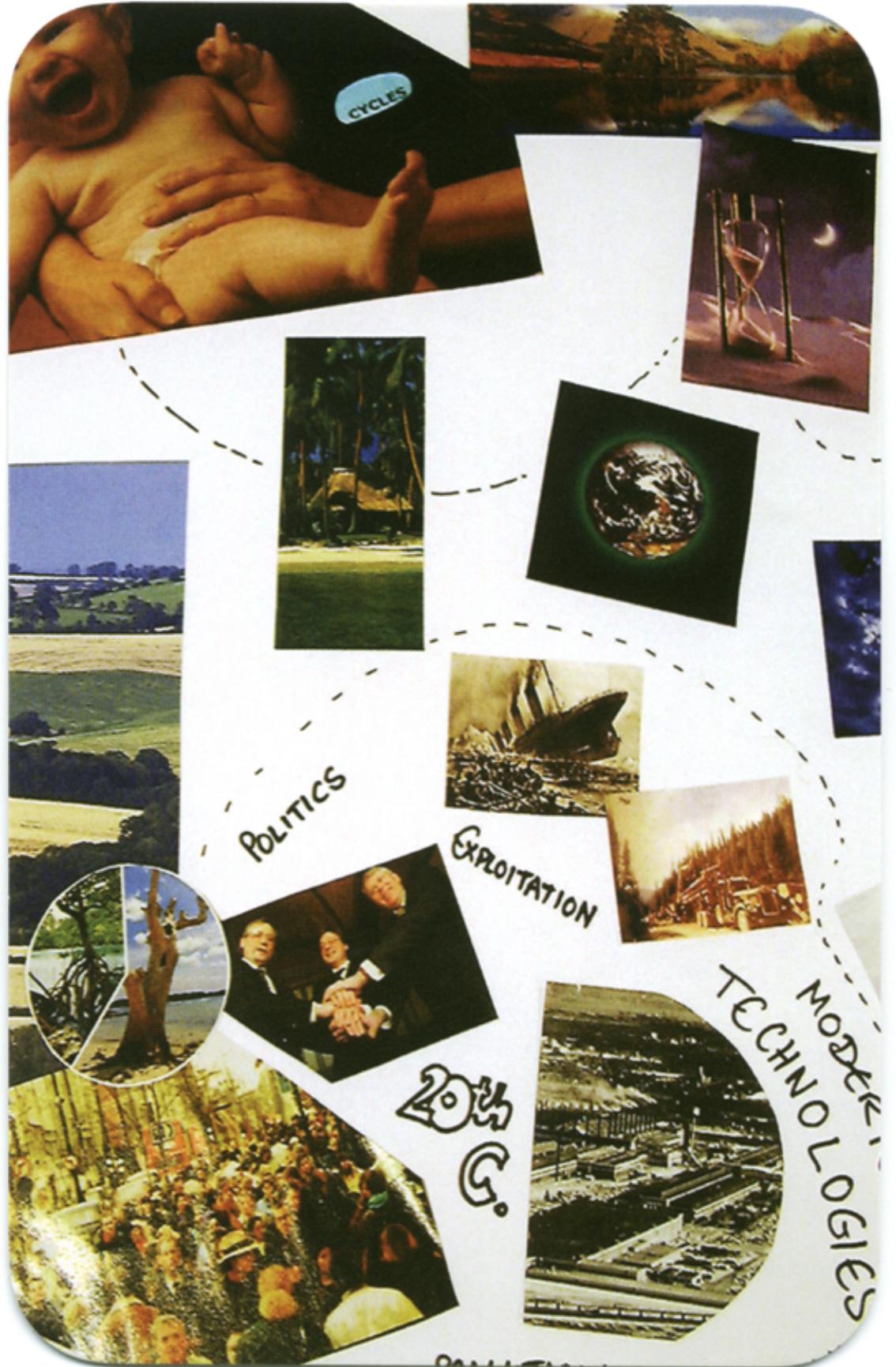
- Are Kindles/Nooks good for work-related reading?
- Paper logs – fit in a pocket
  - Log reading activity
  - What else is going on
- Findings
  - People write while reading
  - Searching/finding is frequent
  - Annotations are common
  - Single displays may be inadequate

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Reading for how long?	<ul style="list-style-type: none"><li>&lt;5 min</li><li>5min - 15min</li><li>15min - 30min</li><li>30min - 1hr</li><li>1hr&gt;</li></ul>						
Have you read this before?	<ul style="list-style-type: none"><li>Yes</li><li>KIND</li><li>No</li></ul>						

# Experience sampling

- Have users carry around a device that has them answer questions at given intervals
  - Cell phone
- Example: page user once every 3 hours and ask them to fill out a short survey on their current activity and rate sleepiness level on a scale from 1 to 7





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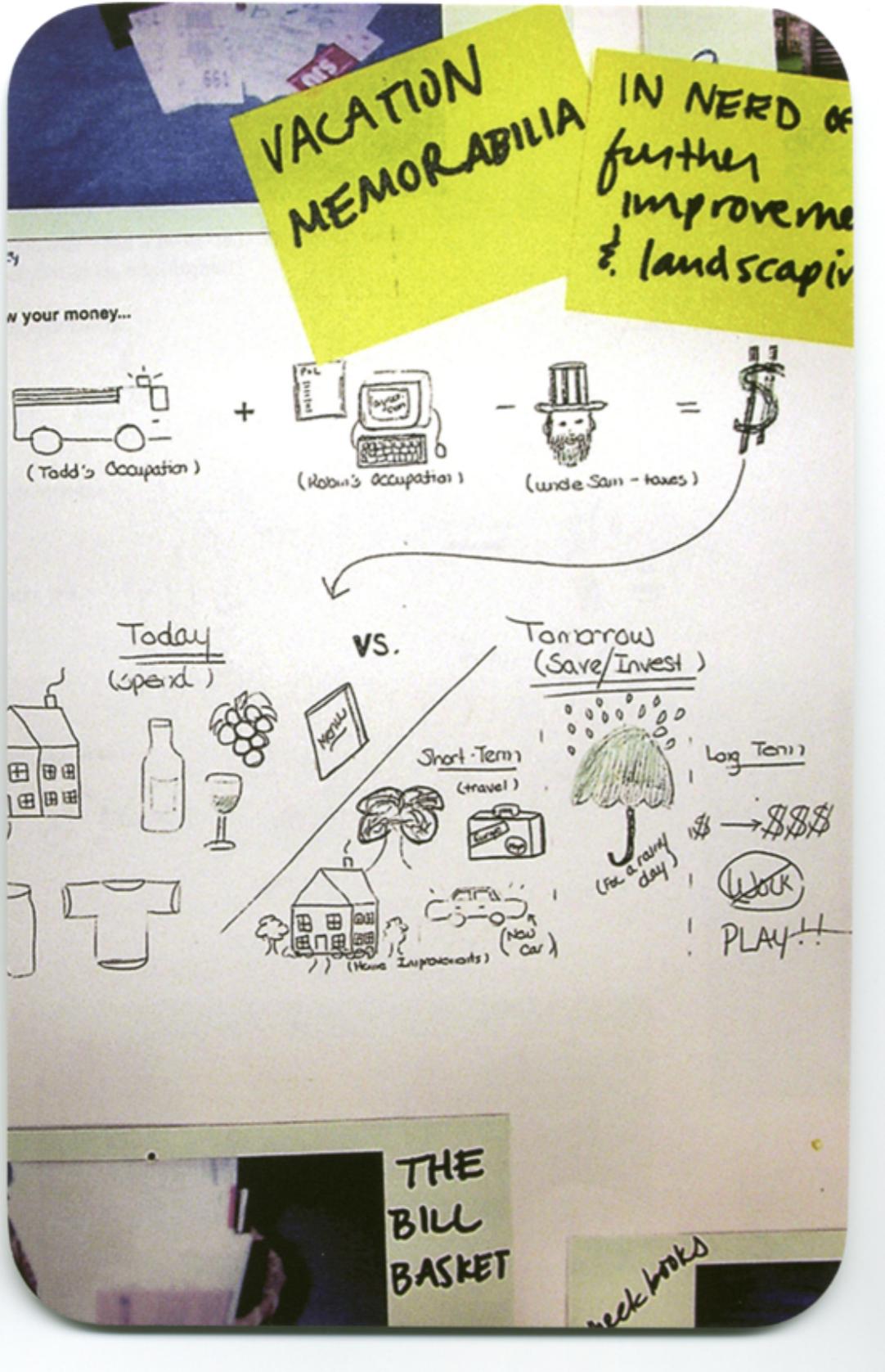
Try

## 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.



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## Draw the Experience

**HOW:** Ask participants to visualize an experience through drawings and diagrams.

**WHY:** This can be a good way to debunk assumptions and reveal how people conceive of and order their experiences or activities.

By asking people to "draw your money," the IDEO team designing an online bank was able to discern people's attitudes towards their finances.



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# Card Sort

**HOW:** On separate cards, name possible features, functions, or design attributes. Ask people to organize the cards spatially, in ways that make sense to them.

**WHY:** This helps to expose people's mental models of a device or system. Their organization reveals expectations and priorities about the intended functions.

In a project to design a new digital phone service, a card-sorting exercise enabled potential users to influence the final menu structure and naming.

# Some concepts...

- **Mental model**
  - Thought process or understanding of how something works



# Some concepts...

- **Work processes**

- Formal articulation of how to get s

- **Work practices**

- Informal ways in which people get the context

All employees must wash hands after using the toilet and before handling food.

Proper handwashing:



1 Use warm water.



2 Moisten hands/apply soap.



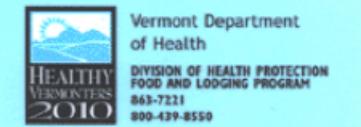
3 Rub hands together for 20 seconds.



4 Rinse thoroughly.



5 Dry hands.



# Contextual Inquiry

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- Combining “looking” and “asking” by immersing oneself into a particular context/culture: understand mental models and work practices.

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- Combining “looking” and “asking” by immersing oneself into a particular context/culture: understand mental models and work practices.
- “The core premise of Contextual Inquiry is very simple:
  - **go** to where the customer works, **observe** the customer as he or she works, and **talk** to the customer about the work. Do that, and you can’t help but gain a better understanding of your customer.

# Contextual Inquiry: Principles

- **Context:** in the setting of the participant
- **Relationship:** you are the apprentice, participant is the expert
- **Interpretation:** observed facts must be considered for design implications
- **Focus:** lots of themes will emerge, but this helps to orient the team

# Expert/Apprentice relationship

- You are the noob

# Expert/Apprentice relationship

- You are the noob
- It means that you should:
  - Be a keen observer
  - Ask questions
  - Be eager to learn
  - Admire the master
  - Aspire to see the world as the expert does

# Interviewing

- **Summaries** vs. ongoing experience
- “I got to work, checked my email and had a cup of coffee” [*abstract summary*]
- “I got to work, looked over my email, answered messages from my boss, decided to have some coffee, walked to the coffee machine, found there was no coffee, so I made coffee...” [*concrete detail*]

# Summary

- Broad assumption in User-Centered Design:
  - as designers, we know very little

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- Broad assumption in User-Centered Design:
  - as designers, we know very little
- ASK methods complement LOOK methods to help us discover **what** is happening and **why**
  - Survey & questionnaire; interview; narration; camera journal; experience sampling; diary studies; collage; draw the experience; card sort
  - Concepts: mental model; work processes; work practices
  - Contextual Inquiry combines these ideas into one technique

# Acknowledgements

- Tony Tang
- Lora Oehlberg
- Ehud Sharlin
- Frank Maurer
- Saul Greenberg

# Course information

- Website
  - GitHub Pages <https://silvadasilva.github.io/CPSC481-2019S/>
- Communications
  - Slack <https://cpsc481-2019s.slack.com/>
- Readings and Slides
  - Posted online at the main website