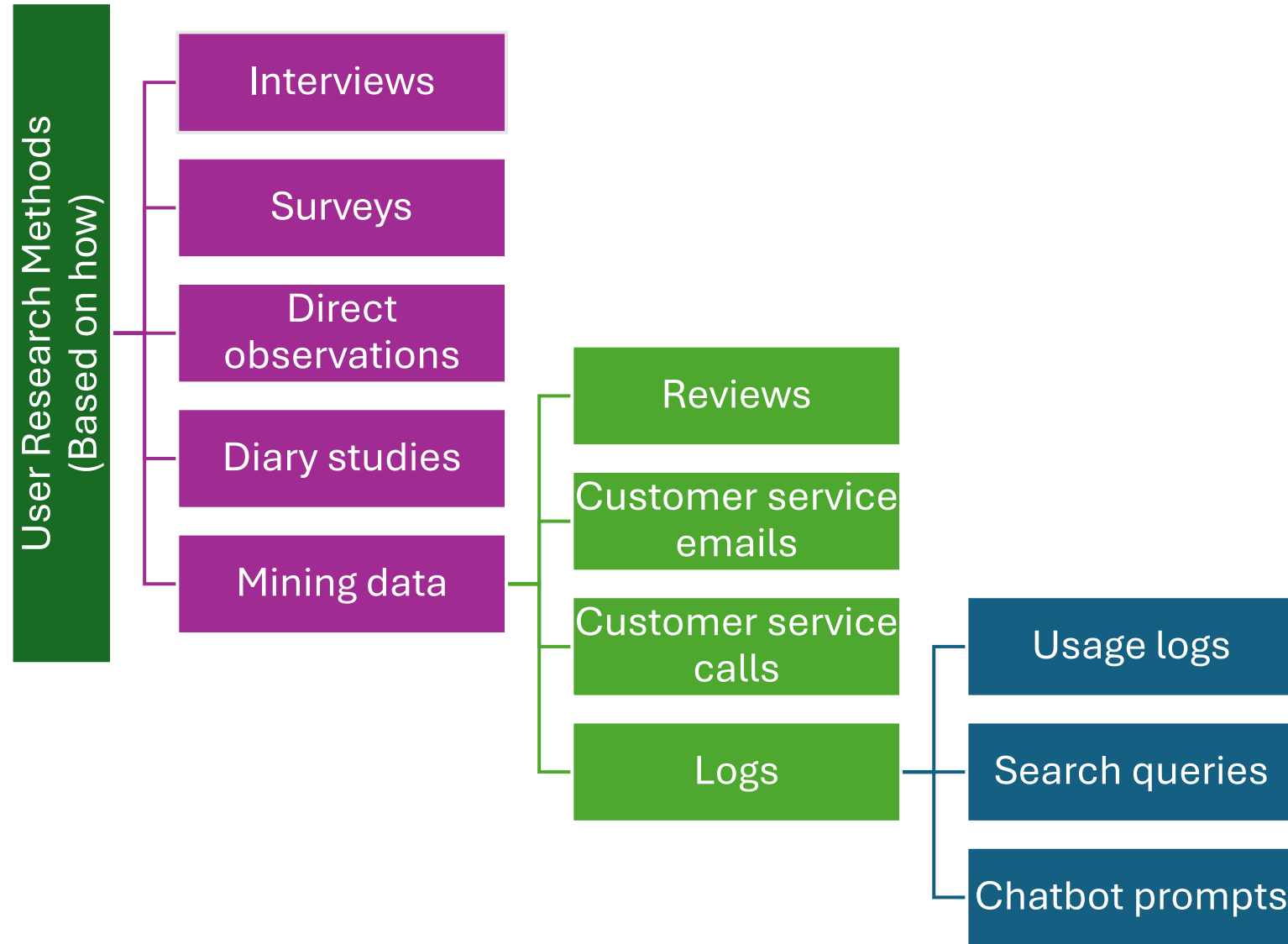


# Lecture 14: Needfinding methods (observations)

Sruti S Ragavan

# Logistics

- No class on Friday
  - Makeup “Studio” TBA, likely next week.
- Quiz next Tuesday (Needfinding methods)
- Milestone-2 due next Friday
  - Will be up soon!



# Before vacations...

- Interviews
- Surveys
  - Kinds of questions, biases, sampling, recruitment
- Today...

# Observations

- Direct method
- Simply observe people doing something
- Advantages:
  - Mitigates recall bias
  - Captures minor subconscious things people might do (e.g., typos!)
- Disadvantages:
  - Hawthorne effect bias
  - Time consuming
  - Only in time, not past history. Similarly, not why (directly).

# Conducting observational studies: same drill!

- Research questions
- What to observe?
  - What do you want to observe (e.g., learning to use a new app)
  - What exactly (app you give, or an app they choose and want to)
- When?
  - When they do it anyway (contextual inquiring)
  - When you tell them to (for the study)
- Where?
  - In a lab setting (in-vitro)
  - In the field (in-vivo)
- How long?
  - Entirety of task? fixed time? Can participants abandon task midway?
- Think aloud or not?
  - Tells the whys as against just whats and hows.

# Drill continued

- Participants
  - Should be sampled from the population of interest
- How many
  - Typically, until saturation, sometimes happens at 5 and a few more.
  - 8-15 is common (provided it saturates)
- What kind of data you get?
  - Qualitative (in the form of video/screen + audio recordings, or notes)
  - Just record anyway!
- How do you analyze?

# Minimize biases

- More than one observer
- Observe from outside
- Tell participants it is OK to make mistakes, you are interested in their way, there is no right or wrong way
- Distance yourself from the task/product (tell them you are helping the team understand, not that you are part of the team!)
  - If you can't, hire someone to do it for you!
- Pick tasks from the real world!
  - Confirm if the tasks are reasonable post-study
- Triangulate – with post-study interviews, surveys, etc.



# Example: observe your neighbour

- Ask them to go to the library webpage
- Find a textbook “Touch of class” by “Bertrand Meyer”
- Ask to see if the book is available or not.
  - If available, where is it?
    - If in library, where?
    - If not, when will it be available?
- As you observe, make notes of mistakes they make (and how the website can be improved.)

# In general, for any Needfinding...

- Start with questions
- Pick a method
  - Population
  - Sampling strategy
  - Sampling size
  - Recruitment
  - Tasks/questionnaire/interview questions
  - Data gathering
  - Where to run the study – lab, field, etc.
  - Analyze
  - Triangulate

# Methods: Strengths and weaknesses

	Interview	Survey	Observations
Time per participant	High	Low	High
No. of participants at once	One	High	One
Level of details	Rich details	Not rich	Very rich details
Time covered	Present + past	Present + past	Only what is observed in present
Scope for follow-up questions	Yes	No	No
Truthfulness / reliability	Recall errors / bias	Recall errors / bias	What happens is for the researcher to see

These methods have complementary strengths and weaknesses, so we typically mix methods.  
(E.g., interviews + survey, observations + interview)

# Why mixed methods?

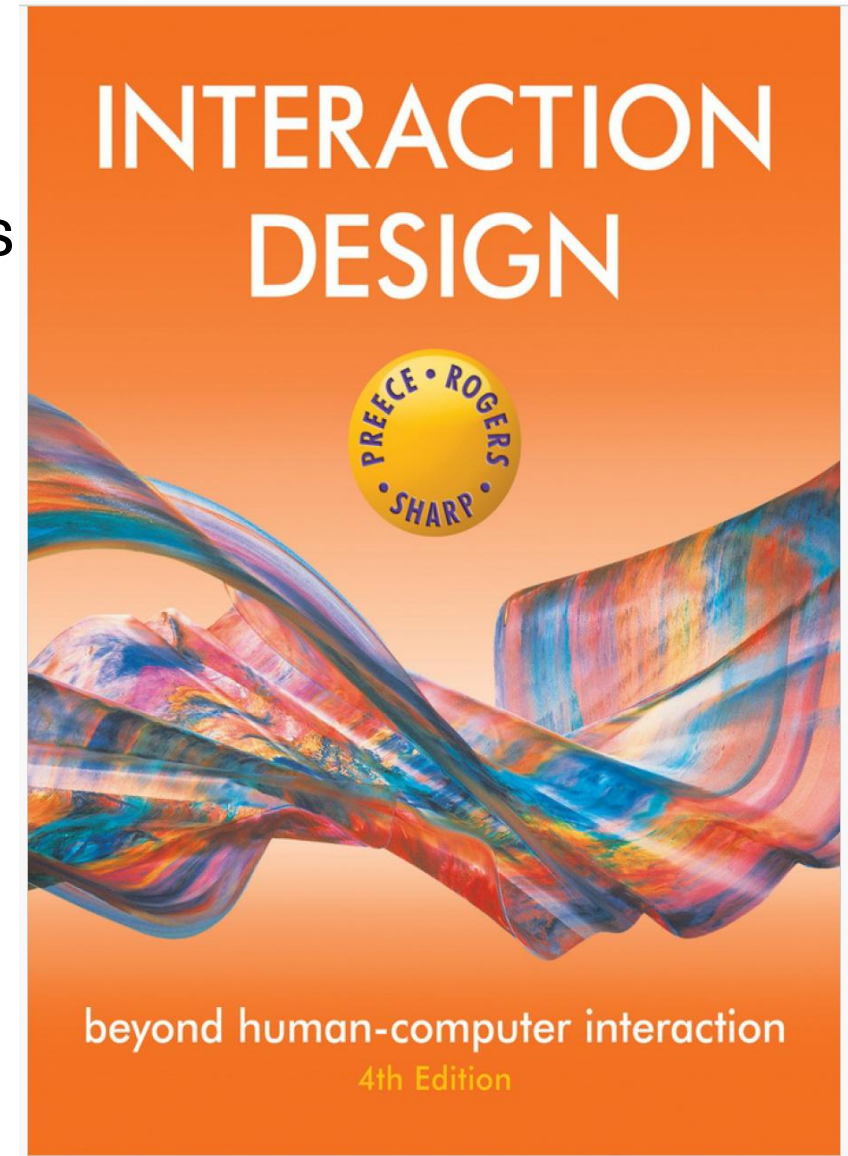
- Gather Additional / Complementary Data
  - Qualitative vs. quantitative (interviews for what, surveys for how many/much)
  - Observations for “what happens”, interviews for “why it happens”
- Triangulation
  - Arrive at the same results through multiple methods/sources/ways
  - Minimizes biases, offsets limitation of one method
  - E.g., geometric constructions, trigonometry, coordinate geometry, rotational geometry could all ascertain some property of circles/ polygons
  - E.g., conduct a larger survey to confirm data from small interview study is generalizable to the larger population.

# Common mixes

- Interviews + Surveys (surveys to sample for interviews, as well as to generalize interview findings)
- Observations + Interviews (Retrospective)
- Critical inquiry: Interviews with Observations (show and tell)

# Readings:

- Read the chapter on data gathering methods
- Long, but fun reading.
  - A lot the chapter covers that I don't cover
  - But needed for your exams, final project, and for any HCI student.
- A practical read on survey design:
  - [Survey design guidelines](#)



# Any questions on methods, so far?

- Next week...
  - Design revisited and basics of prototyping
  - Then... evaluating interfaces (hopefully ends by end of March)
- Quiz next Tuesday (Needfinding methods)
- Milestone-2 due next Friday
  - Will be up soon!
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