

# Human-Centered Design

ICS 491

# Upcoming guest lectures

- October 26: Ahmed Ahmed (Meta, formerly Tesla and Google) – Career Advice
- November 2: Jennifer Ding (Alan Turing Institute) – Open Source AI
- November 14: Aekta Shah (Ex-Google) - Data Ethics

We may need to move around some discussion question presentations.

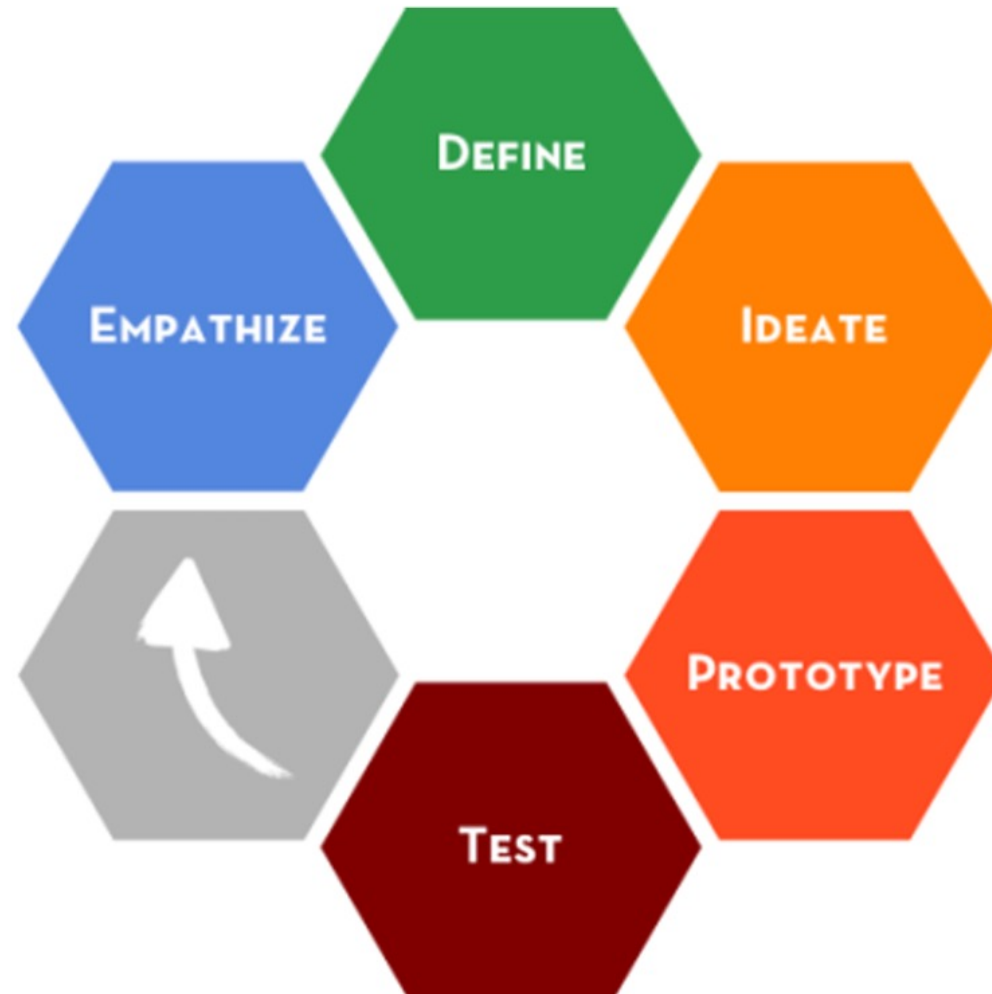
# For next few classes, be prepared to present...

1. Final update on the dataset you are using
2. Your data analysis plan
3. Your preliminary results/findings, if you have them

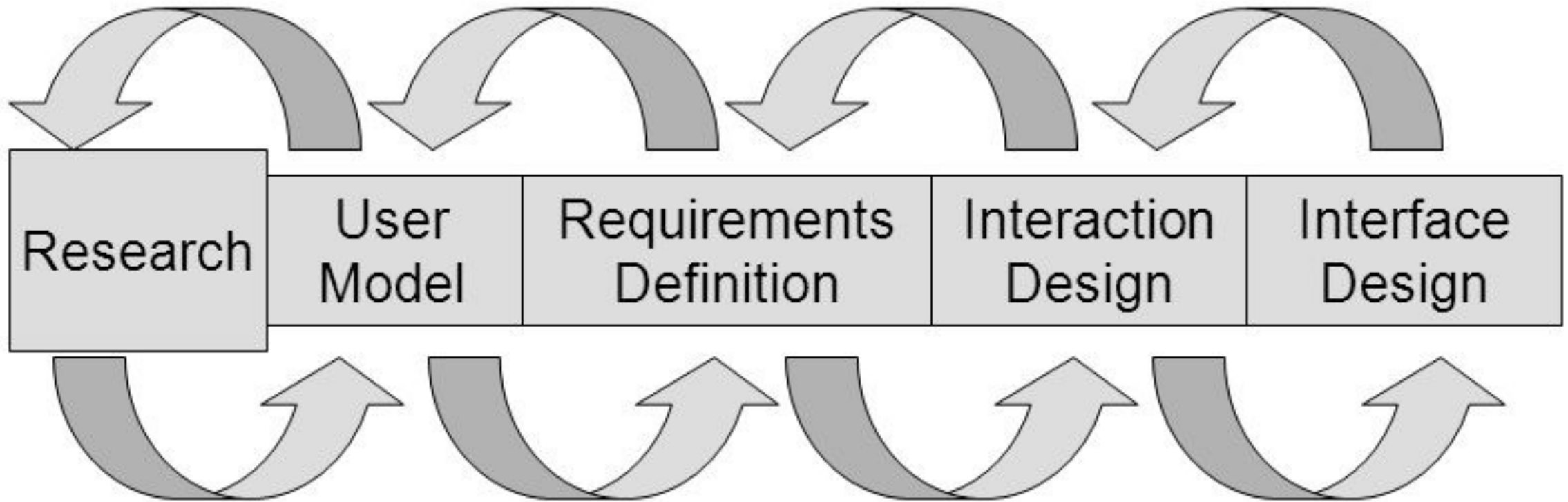
This will be participation credit

~1.5-2 minutes per student

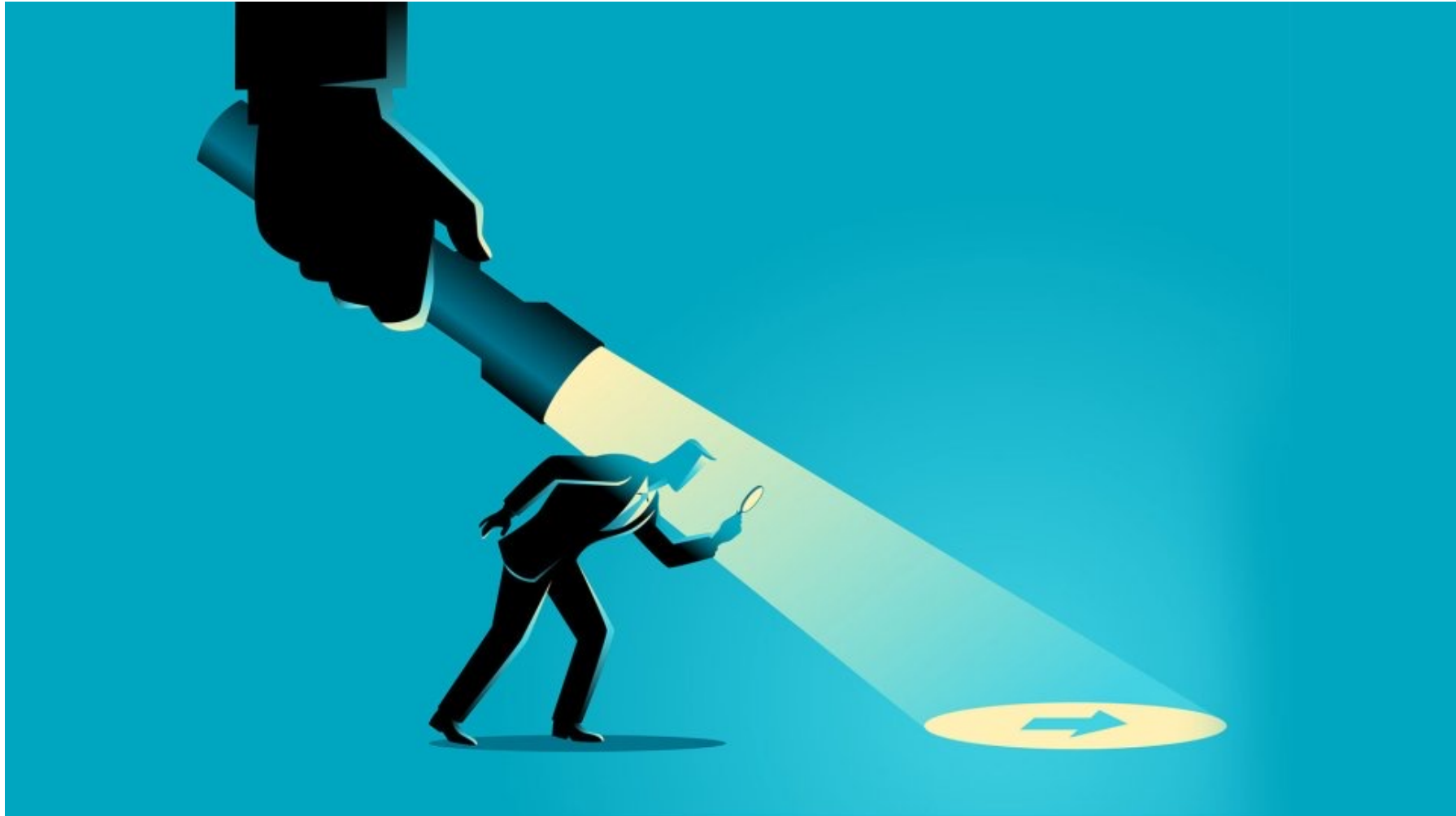
# Human-Computer Interaction (HCI)



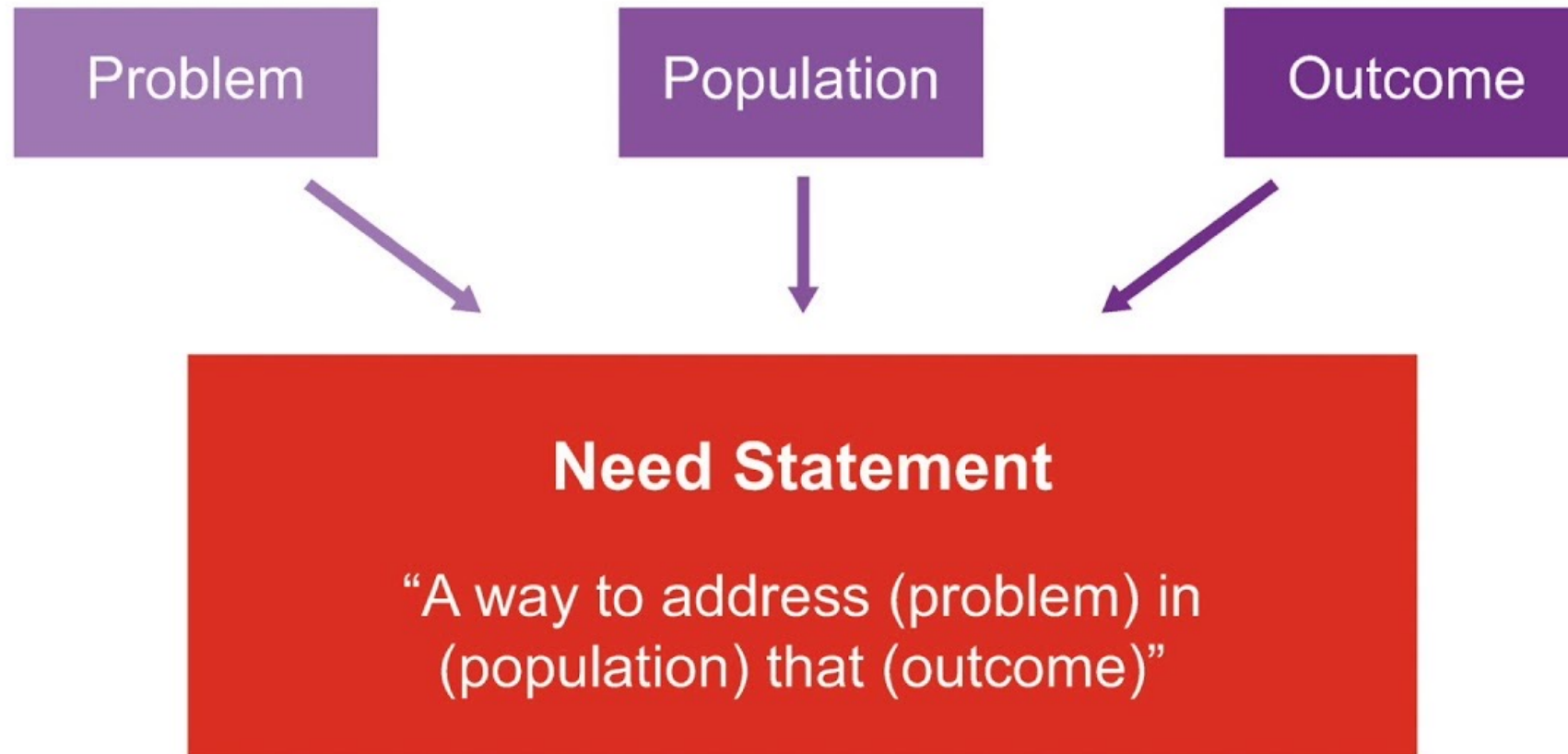
# HCI



# Needs Finding



# Needs Statement



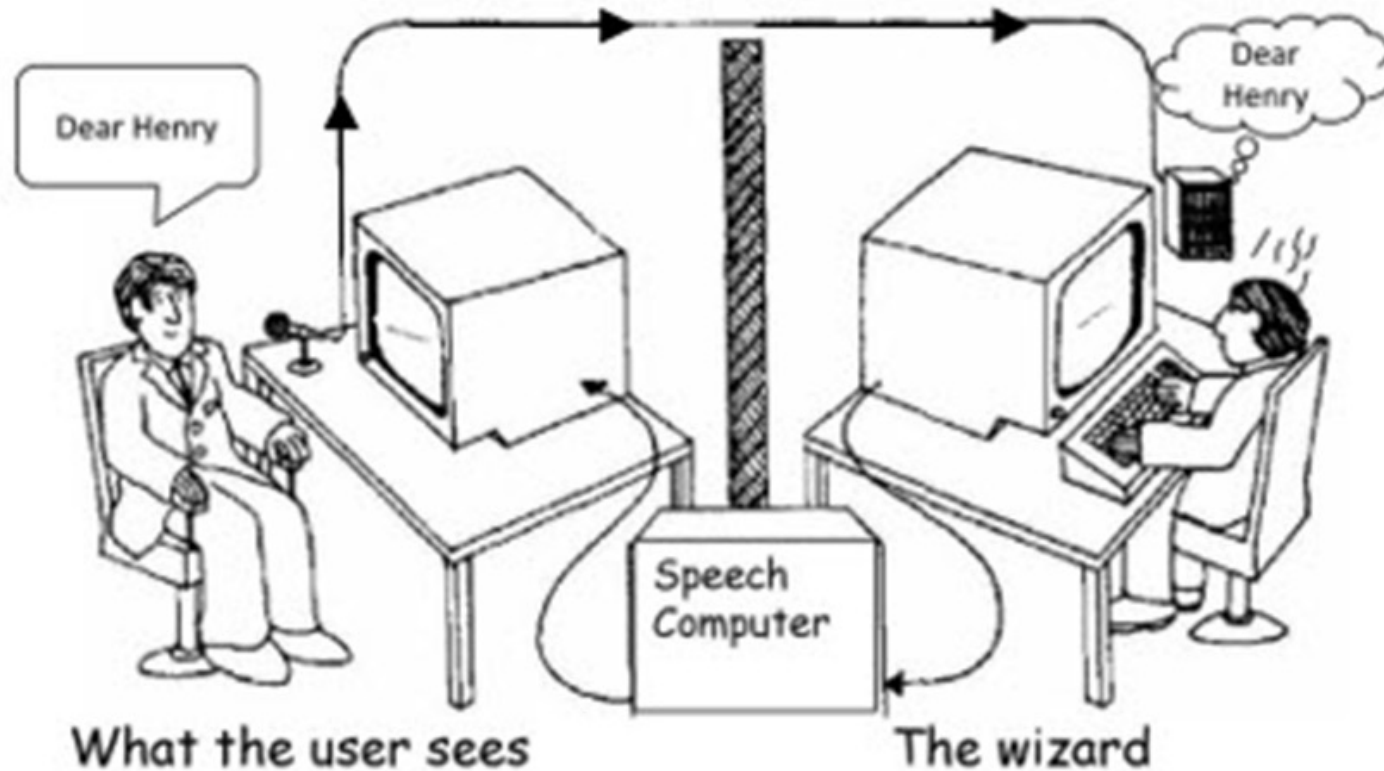
# Ideation





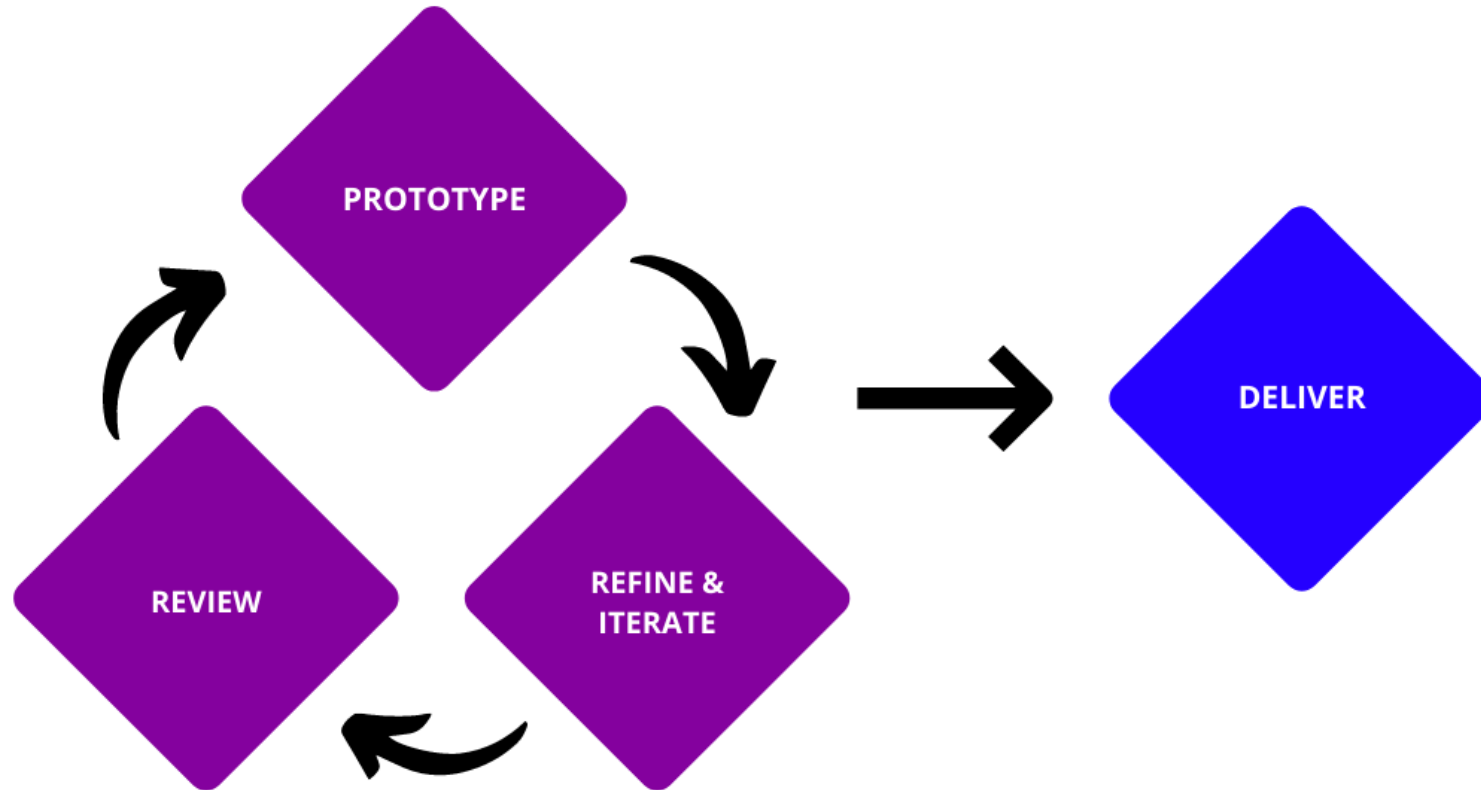
# Low-Fidelity Prototyping

*Wizard of Oz testing – The listening type writer IBM 1984*



# Rapid Prototyping

## Rapid Prototyping



# Active Research in HCI

Large subfield of computer science research. Sometimes called Computer-Human Interaction (CHI).

Sub-subfields:

- User Interface Software and Technology (UIST)
- Computer Supported Cooperative Work (CSCW)
- Ubiquitous Computing (UbiComp)
- Graphics (SIGGRAPH)
- Intelligent User Interfaces (IUI)
- Human-Robot Interaction (HRI)
- Tangible, Embedded, and Embodied Interaction (TEI)

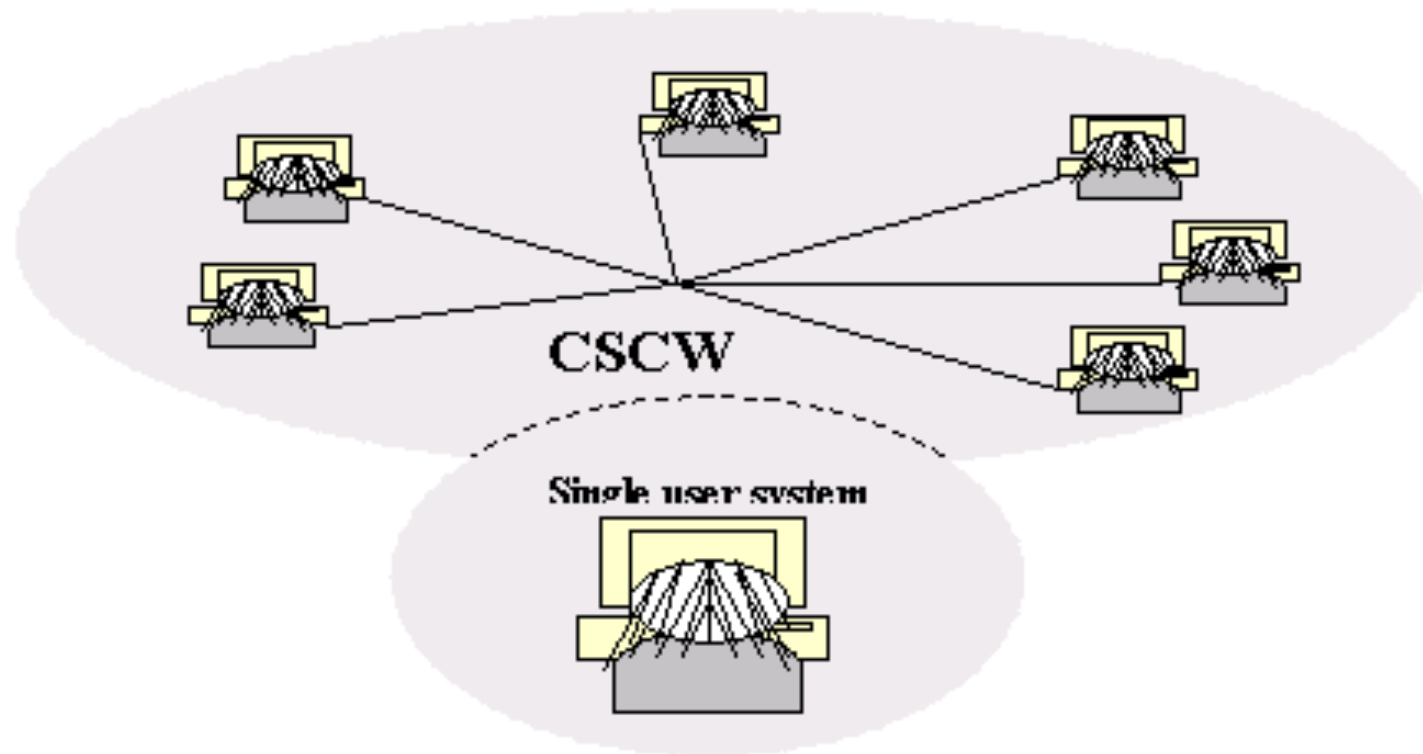
# Subcommittees at CHI

- User Experience and Usability
- Specific Applications Areas
- Learning, Education, and Families
- Interaction Beyond the Individual
- Games and Play
- Privacy and Security
- Visualization
- Health
- Accessibility and Aging
- Design
- Building Devices: Hardware, Materials, and Fabrication
- Interacting with Devices: Interaction Techniques & Modalities
- Blending Interaction: Engineering Interactive Systems & Tools
- Understanding People: Theory, Concepts, and Methods
- Critical Computing, Sustainability, and Social Justice
- Computational Interaction

# User Interface Software and Technology



# Computer Supported Cooperative Work



# Ubiquitous Computing

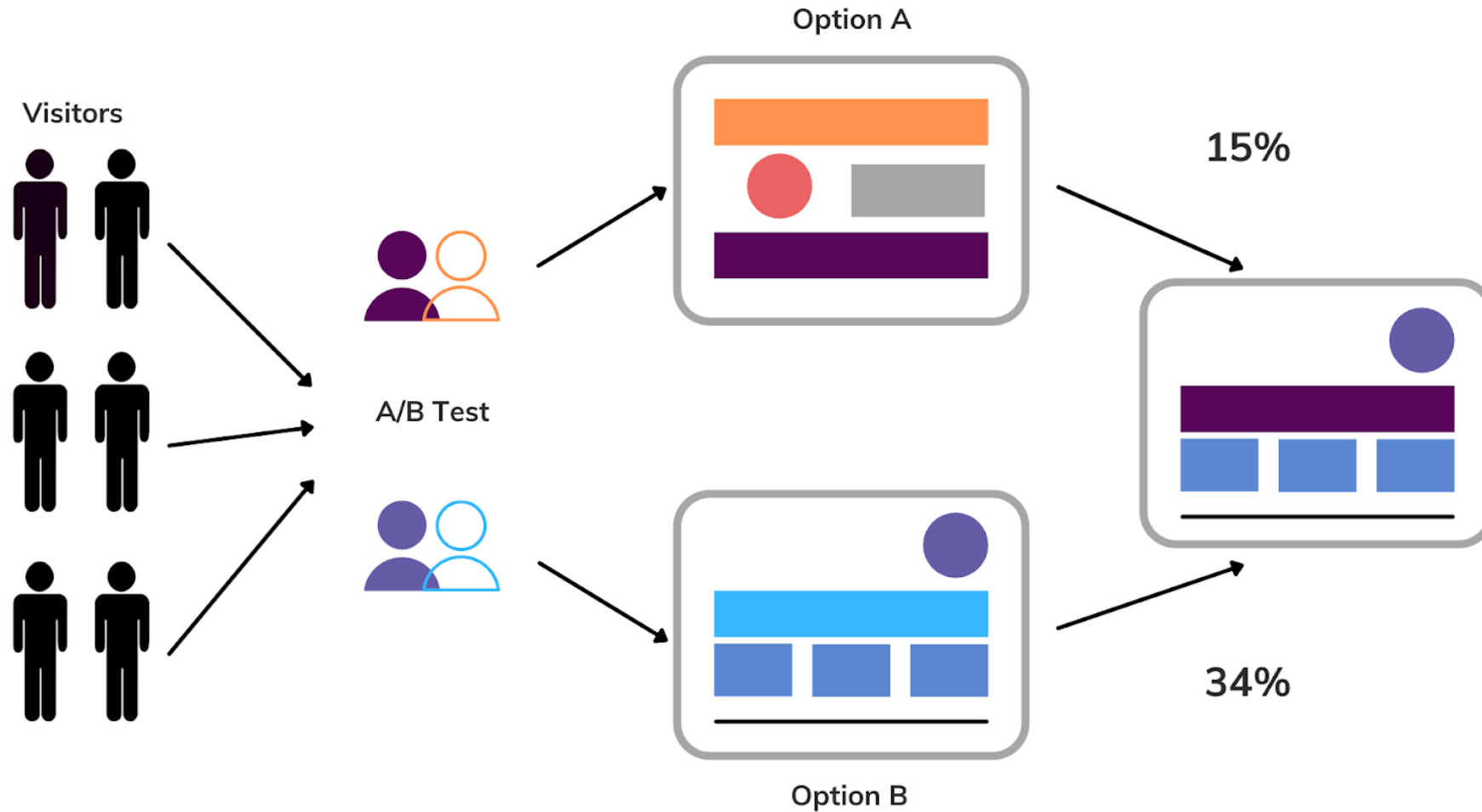


# HCI Study Design

- Qualitative
  - User studies followed by interviewing users and categorize their responses
  - We will describe qualitative study design in detail in an upcoming class
- Quantitative
  - Measure X between 2 conditions, e.g., group with AI vs. control condition
  - X can be time using the application, improvement in an outcome (e.g., learning or health), etc.
  - ...



# Industry UI/UX Research



# Industry UI/UX Research

**Product Demo**

**Usability Testing**

**User Interviews**

**Design Critiques**

**+**

**User Group Surveys**

---

**=**

**Focus Group**

# HCI from the Experts



# HCI from the Experts



# HCI from the Experts



# HCI from the Experts

