User Studies
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Bookkeeping
- Piazza: http://tiny.cc/hri-piazza
- Signup sheet: http://tiny.cc/hri-signup
- Schedule
- Project milestones
- How to Read a Research Paper
- User Studies
  - Characteristics
  - WoZ studies

Reading a Research Paper
- What does it say?
  - Central question / problem the paper addresses
  - Answer or conclusion
  - Approach / how do they do it
- What do you think?
  - Do you like this paper?
  - What do you like most about it?
  - What do you like least about it?
- Questions
  - What did you not understand?
  - What do you want clarification about?

Be critical
- Are they solving the right problem? The right way?
- What are the limitations of the approach?
- Is the data correct? Well-gathered? Interpreted?

Be thoughtful
- What are the good ideas in this paper?
- Do these ideas have other applications?
- Are there important improvements?

Understand
- Summarize the main ideas; compare to other papers

www.eecs.harvard.edu/~michaelm/postscripts/ReadPaper.pdf

User Studies: Context
- What question are you trying to answer?
  - What are your hypotheses?
  - What do you expect to get out of the study?
  - What are the independent variables being manipulated?
- What will you measure?
  - How will you measure it?
  - What will you ask your participants?
  - What are your dependent variables?
- What robot are you using?
  - What capabilities and instrumentation? Why?
User Studies: Participants
- What will you measure?
  - How will you measure it?
  - What (if anything) will you ask your participants?
  - What are your dependent variables?
- Where does your population come from?
  - Crowdsourced (e.g., Mechanical Turk)
  - Paid or volunteer (e.g., “my roommate, plus I put up fliers”)
  - Targeted group (e.g., elderly patients)

User Studies: Terminology
- Qualitative vs. quantitative
  - Quantitative data defines
  - Qualitative data describes
- Observational vs. comparative
  - Single vs. multiple condition
    - Single condition: What do you observe or ask?
    - Multiple condition: What is different between the scenarios?

User Studies: Terminology
- Within- or between-participant
  - Same participants, or different?
    - Same group, different conditions
    - Different groups, different conditions
- Attitudinal vs. Behavioral
  A. “What people say”
  B. “What people do”
    - A ⇒ B

User Studies: Instruments
- Likert scales
  - Suitable for statistical analysis
  - Which is not the same as objective
- Qualitative
  - Coding
- Experimenter observation
  - “She looked nervous”
  - “He dropped it twice”
- Etc...

User Studies: Structure
- Where will you conduct the study?
- How will you instruct the participants?
- Will you have familiarization tasks?
- What tasks will the participants perform?
- Will you have a pre, post, or per-task questionnaire?
- What part of the robot’s capabilities will be autonomous? Implemented! Wizard-of-Oz!
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WoZ Studies

- What is a WoZ study?
- What’s good about them?
  - Immediate
  - Iterative
  - Inclusive
- What are some concerns?
  - Ethics
- Approach
- Is it really HRI?

Literature Review

- Where do these papers appear?
- Is it human-like?
- Do we have any idea how to do these things?
- Are we asking real HRI questions?