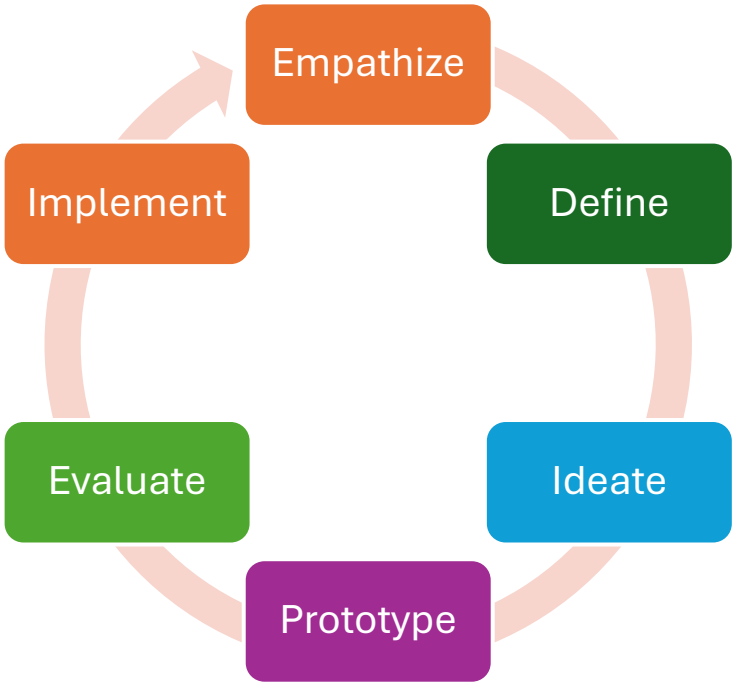
Lecture 16
Evaluating prototypes

CS798H (Semester-II)

Prototyping



Three kinds:

- Low fidelity
- Medium fidelity
- High fidelity

Tradeoffs between cost, time and details/completeness

Media:

Sketches, paper, powerpoint, figma, Wizard-of-oz

Evaluating prototypes

- Evaluate a prototype on its own – fidelity depends on nature of evaluation
  - For usefulness
  - For usability

- Evaluate a prototype against another
  - Prototype A vs Prototype B
    - Both need to be same fidelity
  - Old system vs. New prototype
    - Old system is high fidelity, so new one needs something similar
    - Alternatively, compile a bare bones version of old system

Two kinds of evaluations

- Evaluation with users
  - Controlled experiments (compare A and B, by controlling everything else such as tasks, machine, ever user characteristics)
  - Usability tests (users do a task and we see how well they do it)
  - User surveys (show two elements such as icons and see what people like)
- Evaluation without users
  - Within development team: Cognitive walkthrough where you pretend to be a user (or think like a user of interest)
  - With experts: who evaluate your interfaces against a set of heuristics

Usability tests

- Also done with users (N=5 or more)
- What we do?
  - Give the prototype to user
  - Give a task
  - Observe user do the task (with optional think aloud)
  - Optionally, provide a survey on what characteristics are good about the interface, how they rate it, etc.
    - NASA's Task Load Index, System Usability Survey (SUS), Microsoft desirability toolkit, etc.
- Outcome is a list of usability issues
- Also helps see usefulness issues if you see when users are confused, or if you ask if this is what they'd normally do