Lecture 9, Sep 28, 2021

Scoping

- Scoping fits into framing as a whole
- Framing is the orientation, perspective, lens/filter
- Scoping is the boundary, size and level of abstraction
- Framing asks the question of "How am I perceiving this?"
- Scoping asks the question of "What am I considering?"

Designing for X

- Designing for X (DfX) is one "lens" to narrow the scope
- Create a scoping diagram:
  - Will be included/considered:
    * These are absolutely critical
  - Should be included/considered:
  - Won't be included/considered (unless forced):
    * These do not matter
- Key things to consider/design for: SUMA: Safety, Usability, Manufacturing & Assembly, Accessibility
  - Designing for Safety:
    * Eliminate: "Design out" the hazard
    * Mitigate: Design in safety devices: things that allow the device to be safe even when things are going wrong
    * Warn: Design in warning devices: things that make it evident when things are going wrong
    * Train: Design special procedures and training
  - Designing for Usability:
    * Usability involves testing using a consistent methodology; without testing we can't say that something is usable
    * The people tested on should be a sample of representative users
    * Sample representative users, sample representative tasks, follow standard procedures
    * Use handbook resources to find the appropriate things to test for
    * Usability generally does not require a large number of test subjects
  - Designing for Accessibility
    1. Physical accessibility is easy to measure
    2. Cognitive accessibility has metrics that can also be measured (e.g. usability)
    3. Accessibility is becoming more important and even mandatory