# SFWR ENG 4HC3

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**Gustation**: chemical reception (sweet, salty, bitter, sour)
**Flavour**: gustation + smell
Composite range:

**Special Interest Group on Computer Human Interfaces (SIGCHI)**:

**Human error** is mostly because of **design induced error**

**Interaction error**: physical properties of controllers

Hard: designed for a purpose that cannot be changed
Soft: interfaces created in software

**Psychophysics**: Relationship between human perception and physical phenomena

Give user feedback, like progress bars

### Learnability

- **Generalizability**: generalize existing knowledge of the system to other as-yet untested interactions
    - **Skeumorphism**: parts of the UI emulate real-world objects
        - Isn't always best design
- **Predictability**: predict the outcome of interactions based on their previous interactions
- **Synthesizability**:
- **Robustness**:

## Norman's Design Principles

**Affordances**: perceived or actual ways the UI (or parts of it) can be used
**Mappings**: how controls are mapped to actions/ Control-display relations:

- Spatial relationships
    - Natural/learned
- Dynamic relationships
- Physical relationships

**Conceptual Models**: how the user will understand the usage of the system
**Visibility**: are aspects of the controls (, displays, affordances, mappings, etc.) apparent to the user?
**Feedback**: do these systems provide adequate feedback upon performing an operation to indicate something has been done?
**Constraints**: how do parts of the UI constrain the user (i.e. limit the possible actions) to avoid errors?

- Physical
- Semantic: knowledge of situation
- Cultural
- Logical: natural mappings

Schneider's 8:

1. **Consistency**: is the UI consistent within itself? What about to other UIs–can users draw upon past experience to use these systems?
    a. **Logical**: terminology, abbreviations, representations of symbols
    b. **Semantic**: operation should be valid on all objects, e.g. cancel, undo, help, etc.
    c. **Syntactic**: don't change command ordering in different contexts, e.g. place errors in same place
2. **Shortcuts**:
3. **Feedback**:
4. **Yield Closure**: beginning, middle, end to experience
5. **Error handling**: easy to avoid and fix errors
6. **Reversible**: easy to reverse all actions
7. **Users should initiate movement**:
8. **Reduce short-term memory load**:

**Widget**: interactive object

- Windows
- Canvas: drawing
- Menus
- Dialog Boxes
- Control Objects: list box, forms, etc.

**Fitt's Law**: corners are the best location for a button