SFWR ENG 4HC3

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Contents

[Learnability 1](#_Toc434715643)

[Norman’s Design Principles 1](#_Toc434715644)

**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?
   1. **Logical**: terminology, abbreviations, representations of symbols
   2. **Semantic**: operation should be valid on all objects, e.g. cancel, undo, help, etc.
   3. **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.