

SFWR ENG 4HC3

Kemal Ahmed
Fall 2015

Contents

Learnability	1
Norman's Design Principles	1

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.