Universal Principles of Design

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ERRORS

Proseminar "Mensch-Computer-Interaktion" (SS 2009)

Thomas Dackweiler
2 basic types of errors:

*Slips* and *Mistakes*

**Slips:**
- *errors of action* or *errors of execution*
- occur when an action does not accord with the intention

   → result of automatic, unconscious processes or result from a *change of routine* or *an interruption of an action*

*How to avoid slips?*

   → Provide clear feedback on actions, include the consequences of the error, use of *position controls* and *confirmations*
Mistakes:
- errors of intention or errors of planning
- occur when an intention is inappropriate

→ caused by conscious mental processes and often result from stress or decision-making biases

How to avoid mistakes?

→ Increase the situational awareness and reduce environmental noise
- keep visible key indicators and controls within one eyespan
- just enough feedback to accomplish warnings
- use of confirmations regarding critical tasks
- train on troubleshooting and point out communication with your team
Errors

Slips: Confirmations

Mistakes: Improve situational awareness + provide clear feedback

Slips: Clear orientation + status cues

Mistakes: Easy decision-making tools in times of stress

Mistakes: Memory mnemonics

How to use a fire extinguisher?

P pull the pin
A aim the hose at the flame
S squeeze the trigger
S sweep hose from side to side
Universal Principles of Design

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ERRORS

Thank you for your attention!

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