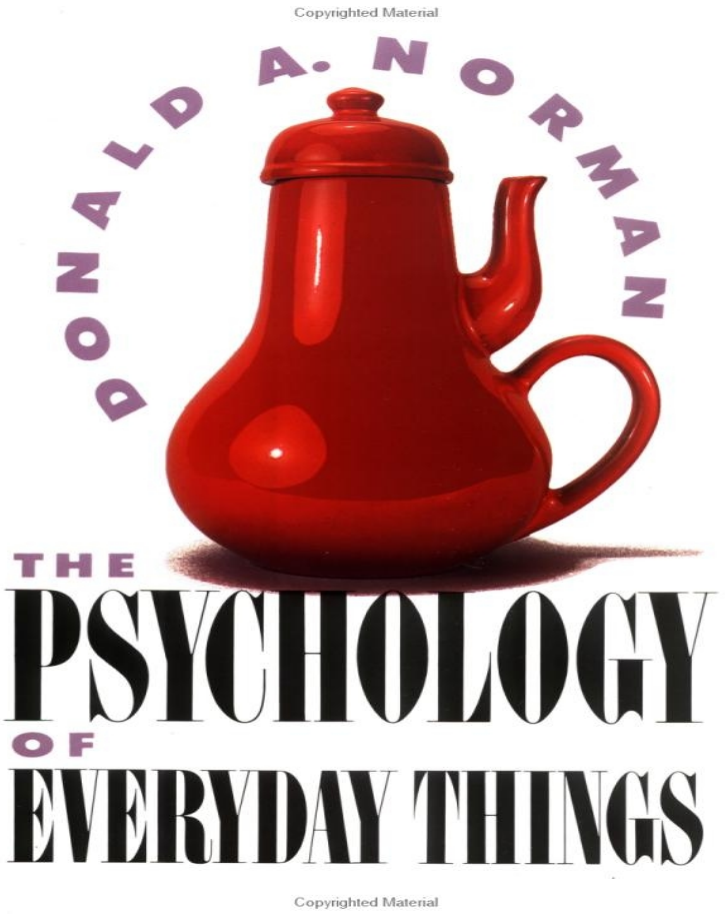
CS4826 HCI Tutorial Week 4

- Theory of Action (the 7-stage model)
- Qualities of well designed artifacts
- Mental models
- Representations
- Normans User centred design principles



http://www.youtube.com/watch?v=bOqnAbQzQbs

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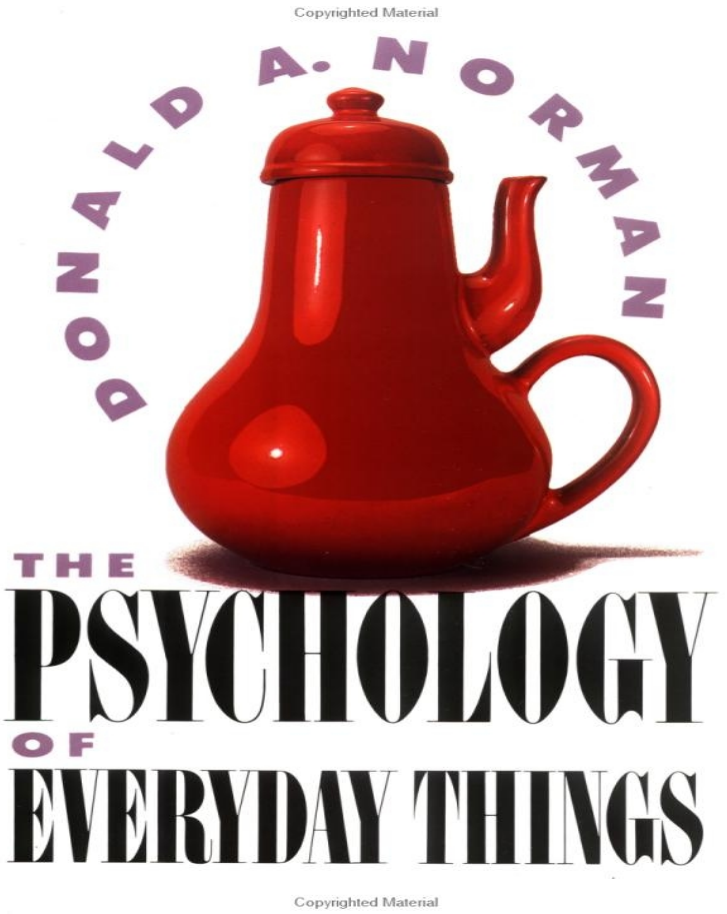
- Visibility
- Mapping
- Feedback
- Affordances/Constraints



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- Visibility?

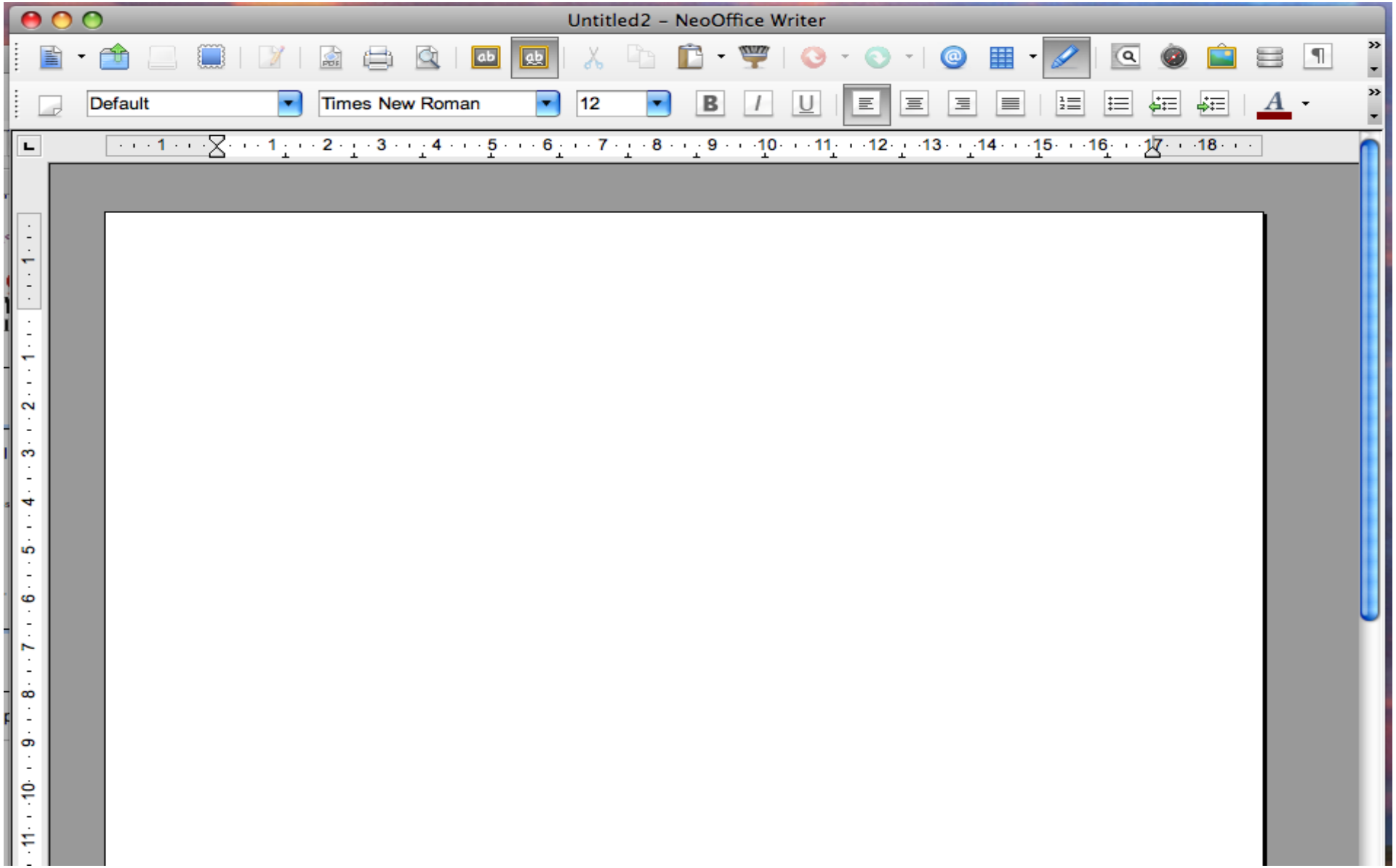
  -Make the users aware of what possibilities for interaction are available to them

  - Recognition rather than recall?

    - Recall
    - Recognition

  -Make interface functionality visible, not hidden

Visibility Example



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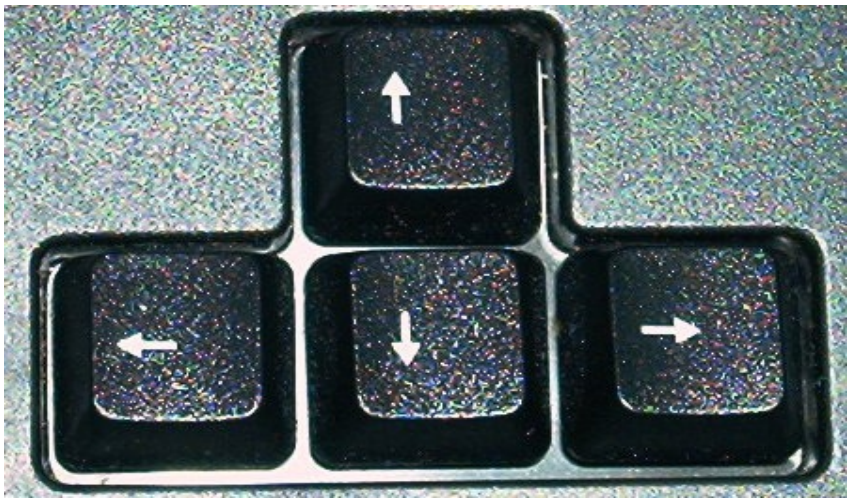
- Mapping?

  - Mapping correctly between an interface element and its direct effect

  -Making sure that users know on to what their actions will have an effect

  -Examples of Good Mapping?



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- Feedback?

  -Perceivable information we receive when operating an interface telling us that our actions are having an effect

  -Feedback of through different ways (visual, tactile, auditory)

  -Feedback is to be designed in such a way that the users will know how successful their actions were.

  - Good feedback allows users to progress in their interaction, knowing that certain steps don’t have to be repeated

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- Affordances?

  -Perceived qualities of an artefact that suggest a person how such an artefact could be used/operated

  -Features of Buttons, Chairs, doors, etc

  -Notion from J.J. Gibson theory of “Ecological Perception”

  - Norman’s notion of Affordances builds on Gibson’s idea of perceivable clues to action

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- Constraints?

  -Constraints give us clues on what cannot be done with a certain artefact

  -Other constraints includes ways of making things difficult

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- Mental Model?
  - These properties can help create a mental model of how a certain system works
    - How we think the system reacts and behaves to our actions
  - Why?
    - So user can build an appropriate mental model of the interactive system

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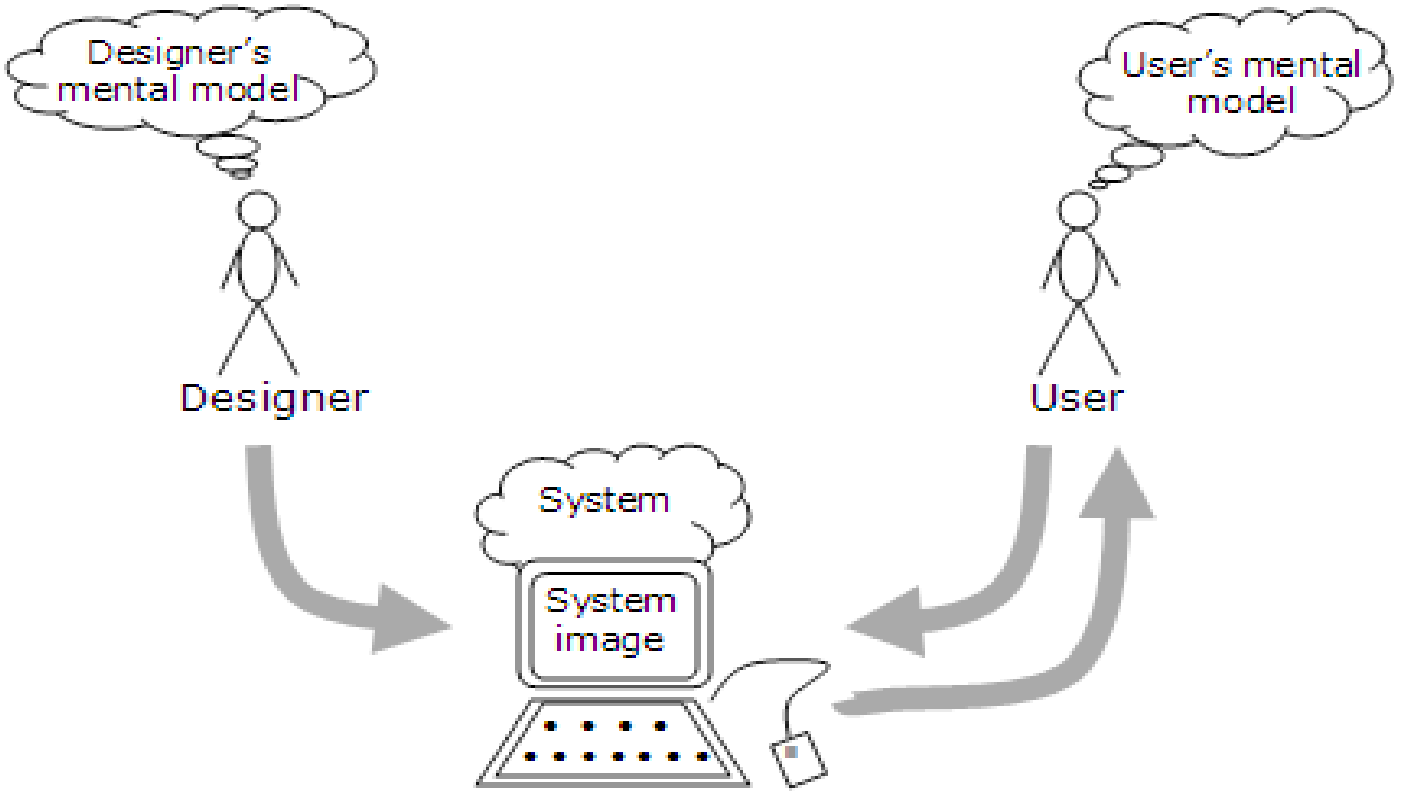

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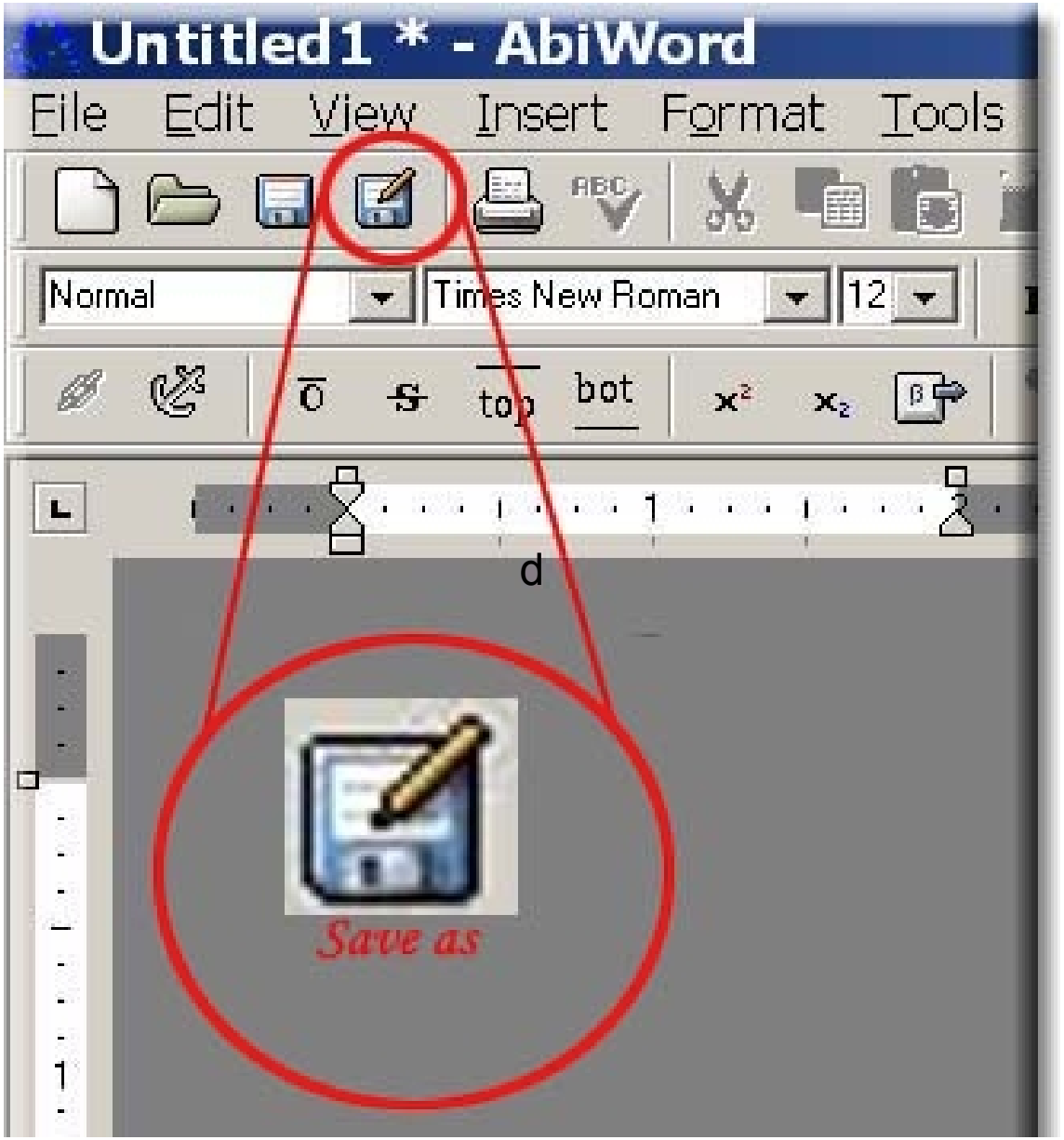
- The importance of representations?
  - External representations and external artefacts are cognitive aids in everyday life
  - E.g, we don’t have to remember everything by heart because we can rely on forms of externalisation (such as writing) to help our brain cope
  - “Cognitive Artefacts”
  - “Distributed Cognition”: cognition does not only take place in one’s head, but relies on external artefacts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1. Use both knowledge in the world and knowledge in the head.
2. Simplify the structure of tasks.
3. Make things visible: bridge the Gulfs of Execution and Evaluation.
4. Get the mappings right.
5. Exploit the power of constraints, both natural and artificial.
6. Design for error.
7. When all else fails, standardize.