Chapter 1 - Mental Models

- **Various types of models**

- Interaction of the models
  - Transparency
  - Flexibility

- Execution of goal-directed actions

The Model of the Way How Something Works

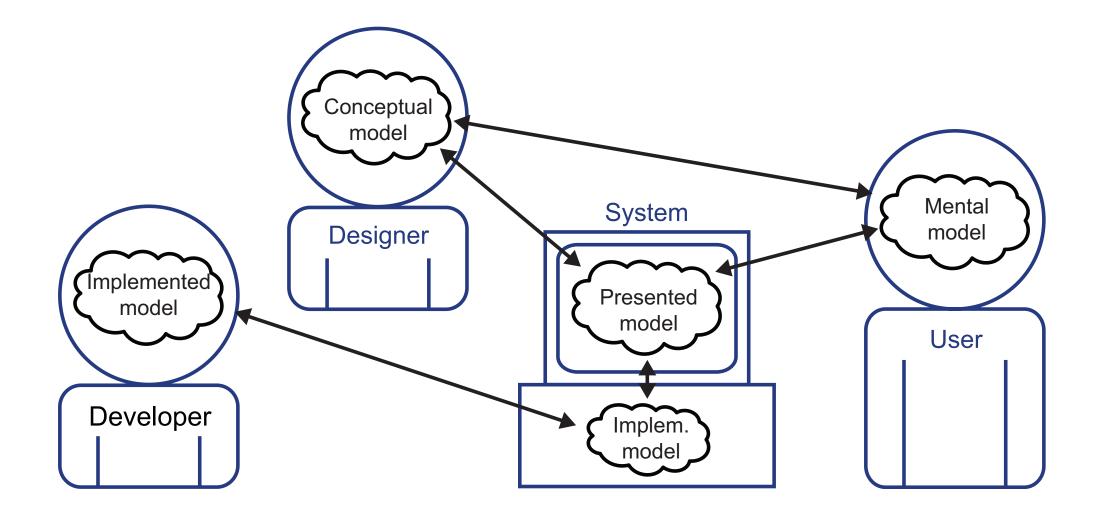https://www.youtube.com/watch?v=v9kTVZiJ3Uc

Mental Models

What was the "mental model" which Commander Montgomery Scott ("Scotty", here "The Professor") had of the computer in front of him?

Commander Scott will be born in the year 2222, if the movie is right.

For how long will we be using a mouse to operate a computer?

What was the mental model of computer users in the 1930s to 1940s?
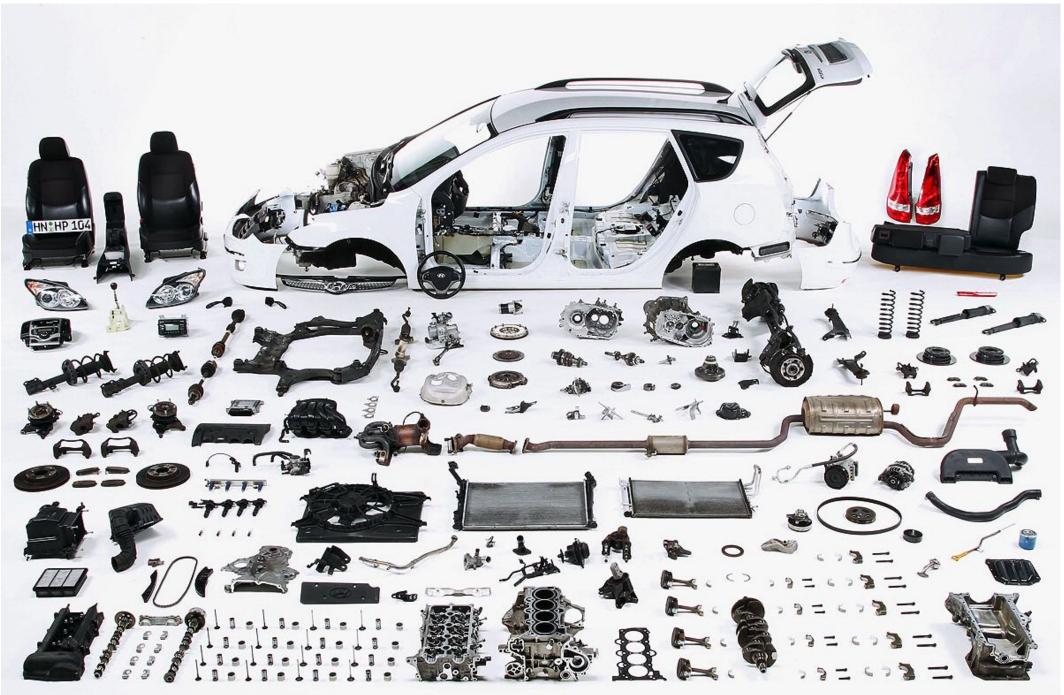
Various Types of Models

Example Seesaw

Are all those models relevant here?

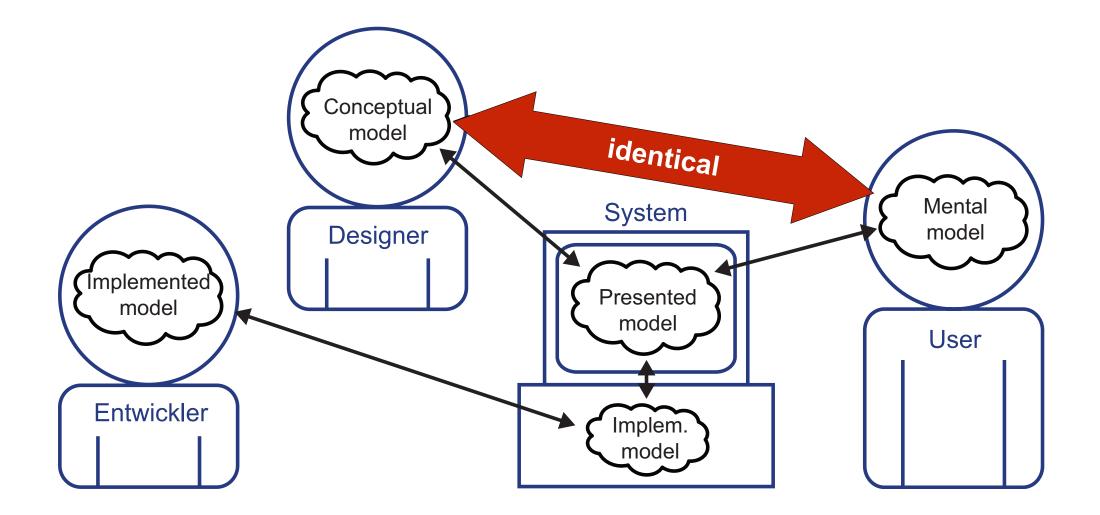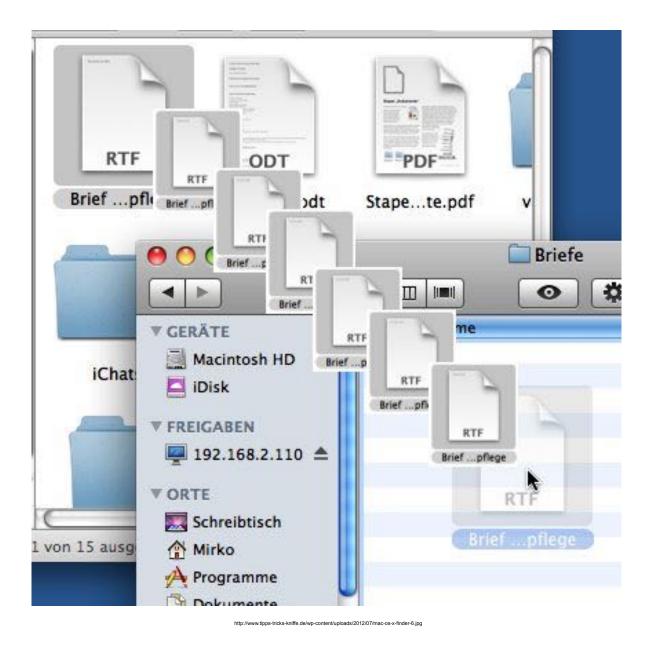http://www.eibe.ch/shop/mall/4/pic/5550905--02-PK-01.jpg

Example Car

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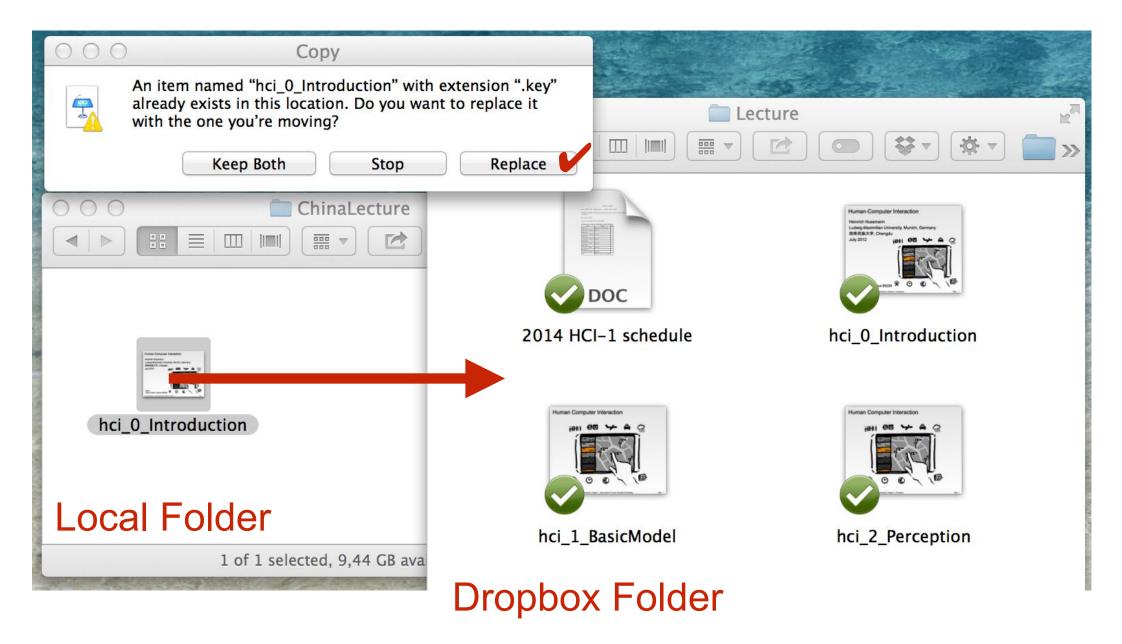- Execution of goal-directed actions

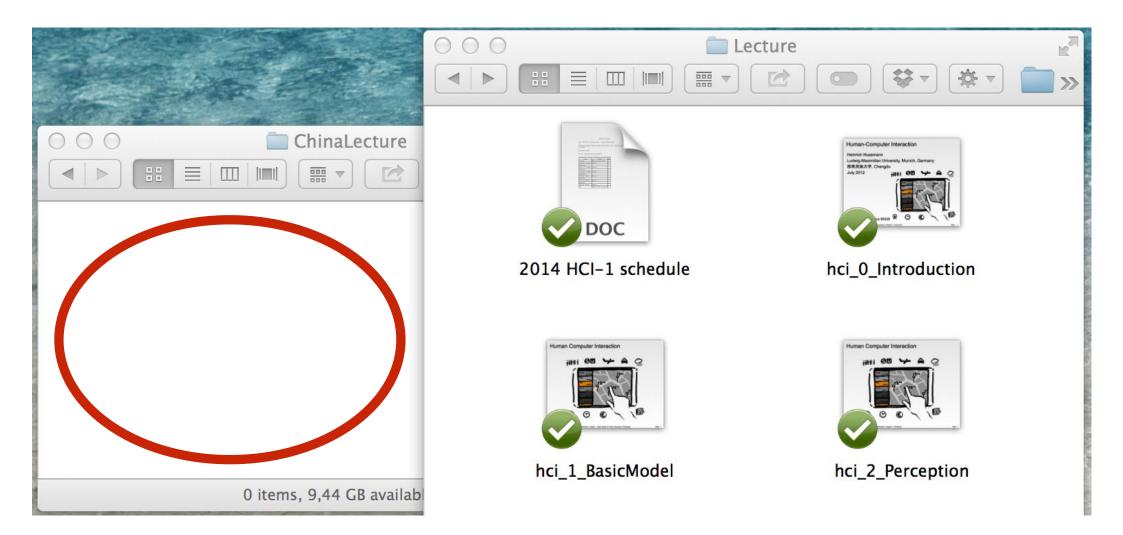# Transparency

Example: Transparency Violation

http://www.gravis.de/out/pictures/z1/western-digital-wd30ezrx-caviar-green-3-tb-interne-8-9-cm-festplatte-sata_z1.jpg

http://www.tipps-tricks-kniffe.de/wp-content/uploads/2012/07/mac-os-x-finder-6.jpg
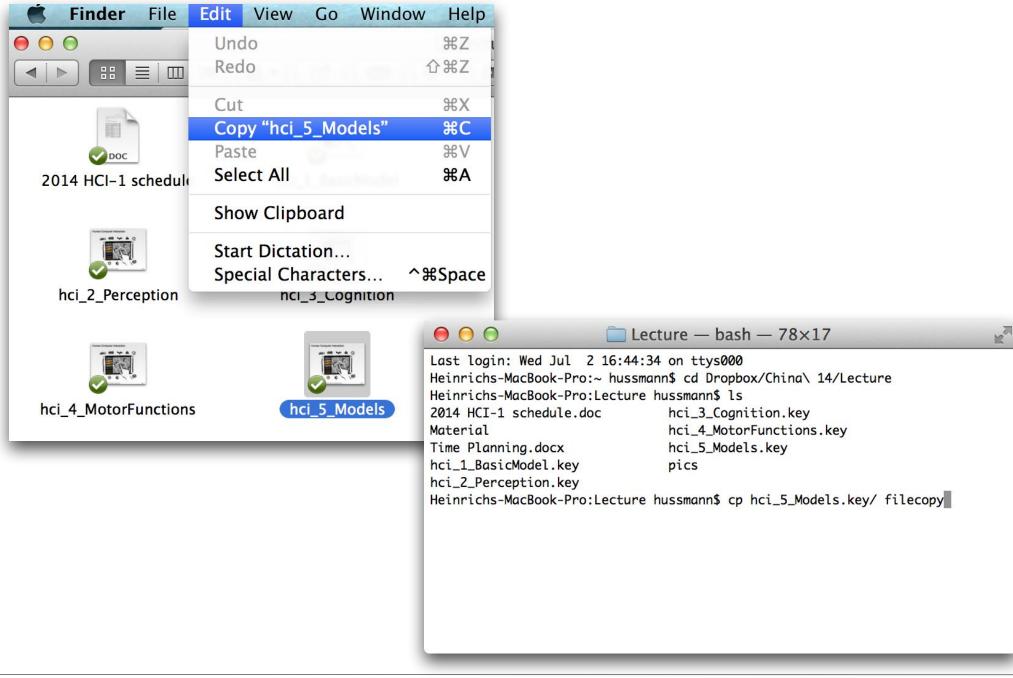
Dropbox Example 1

Local Folder

Dropbox Folder

Dropbox Example 2

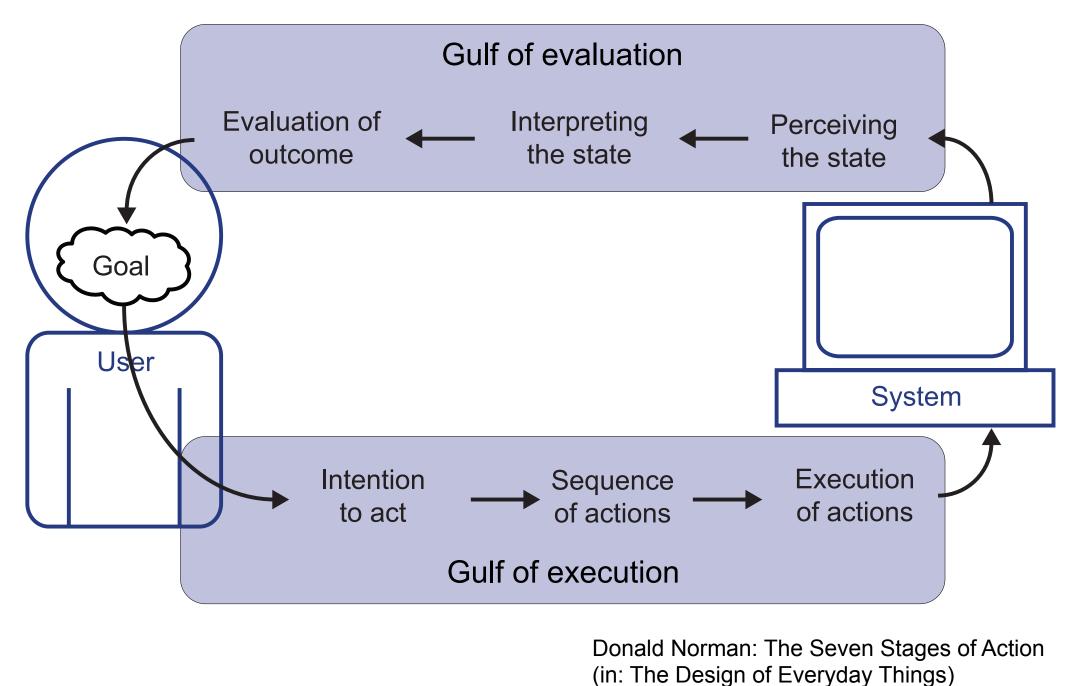"Why has my file disappeared from the local drive?"

Flexibility = Various Ways to the Same Goal

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- Various types of models
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Execution of Goal-Directed Actions

Gulf of evaluation

Evaluation of outcome ← Interpreting the state ← Perceiving the state

Goal

User

System

Intention to act → Sequence of actions → Execution of actions

Gulf of execution

Donald Norman: The Seven Stages of Action
(in: The Design of Everyday Things)

Goal-Directed Actions & Models

- How are goal-directed actions related to mental/conceptual models?

- How are human mistakes in operating a system related to mental/conceptual models?

- Can we find real-life examples in an attempt to answer these questions?
  - Real "gulf" experiences (of execution, evaluation)