

M4 L3 Notes

Donald Norman's Interaction model concentrates on User's view of the interface.

It consists of seven stages as follows:

User to establish **Goal**

User to formulate **Intention**

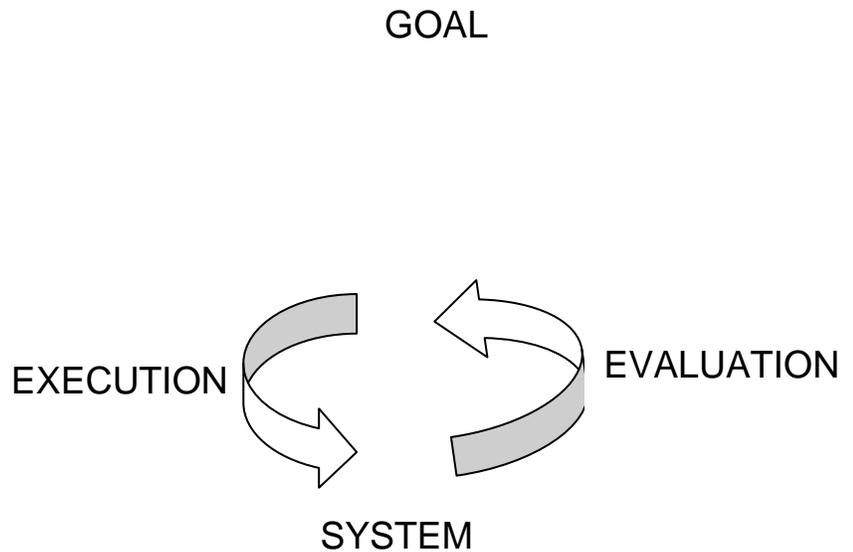
Decides on action on the interface

Executes the action

Perceives system state

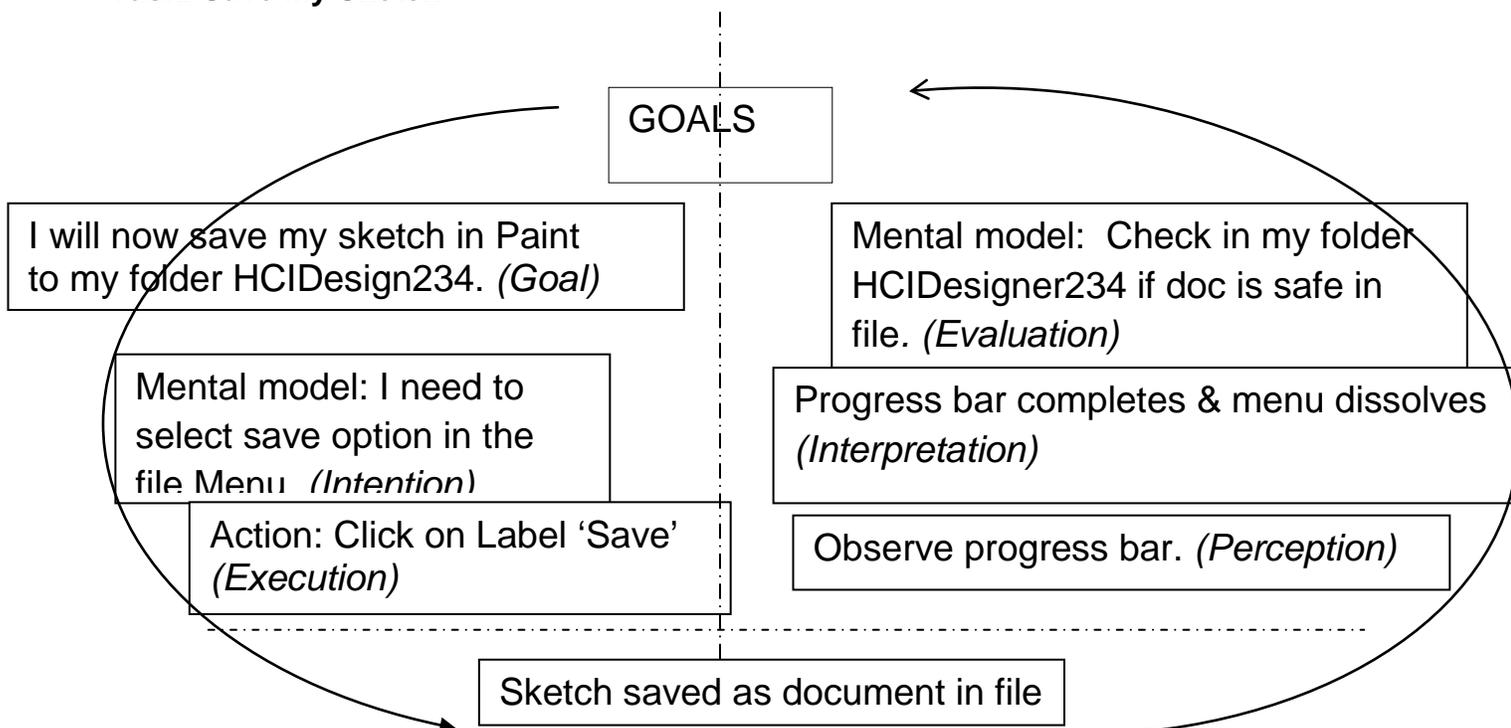
Interprets system response

Evaluates system with respect to goal.



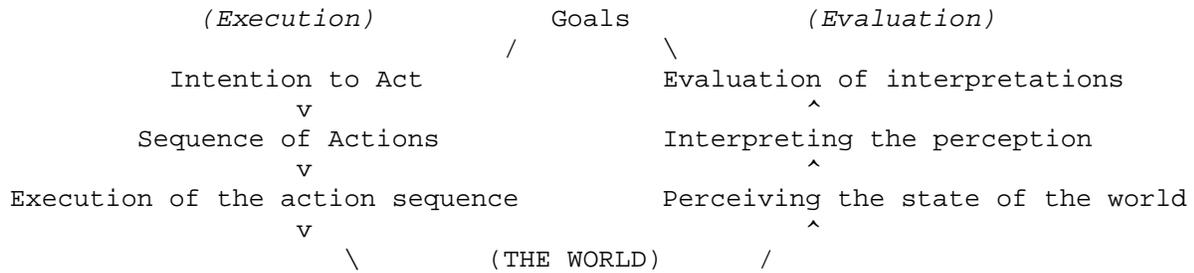
Normans Model with Example:

Task: Save My Sketch



Another way of depicting Normans 7 stage Action model is shown in figure below:

7 Stages of Action: An Approximate Model



7 Stages of Action: 1 for goals, 3 for execution, 3 for evaluation:

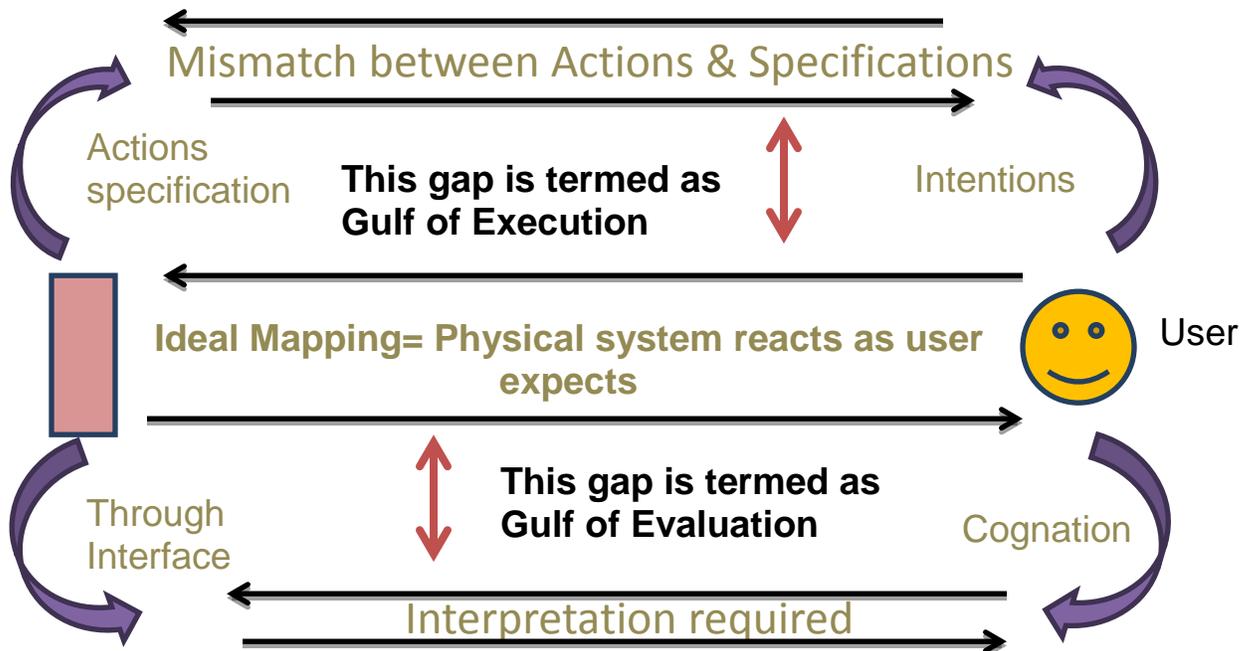
Norman applies the Model to explain why some interfaces cause problems to the users. He uses the terms “**Gulf of execution**’ and ‘**Gulf of evaluation**’.

Gulf of Execution represents the difference between user’s formulation of the action to reach their goals and the actions allowed by the system.

User’s formulation of action \neq Actions allowed by the system.

The Gulf of Evaluation is the difference between physical presentation of system state and the expectations of the user.

User’s Expectation is different from \neq system’s presentation.



Normans model (also some times called as Gulf Model) is useful in understanding the reasons of interface failures from the users point of view. The Seven stages of action model is an elaboration of the Gulf model.

Models of the User Interface: Moran's (1981) Top Down classification of Interface Components

Conceptual Component: Task Level
Semantic Level
Communication Component: Syntactic Level
Interaction Level
Physical Component: Spatial Layout Level
Device Level

Task Level: task level is to analyse the user's needs and to structure the task domain in such a way, that a computer system can play a part in it. The task level describes the structure of the tasks which can be delegated to the computer system.

Semantic level describes the set of objects, attributes, and operations, the system and the user can communicate. Semantics is about how the user interprets it and makes meanings out of the system.

Syntactic level describes which conceptual entities and operations may be referred to in a particular command context or system state.

Interaction level describes the translation of commands and objects into the associated physical actions and the structure of the interaction, including typing / mouse usage rules.

Common Interaction Styles in GUIs:

Command Line

Menus

Natural language (Speech, Gestural,)

Query- Dialogue (Question Answer)

Forms (Filling)

WIMP (Windows- Icons- Menus- Pointer)

Point & Click

Three Dimensional

Virtual Reality