

# UAN

User Action Notation

Developing user interfaces Ensuring, Usability Through Product &  
Process – Hix & Hartson 1992

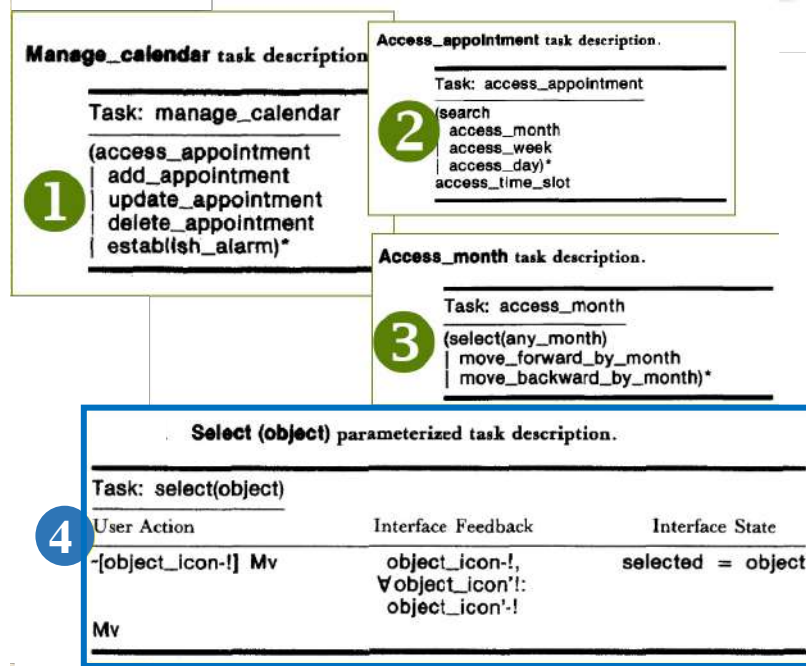
1

## UAN - User Action Notation

- Notation textuelle de spécification de l'interaction
- Deux niveaux d'abstraction : deux représentations complémentaires
- A.** Hiérarchie de tâches utilisant les opérateurs LOTOS : décomposition de tâches en sous-tâches et relation temporelle entre tâches
- B.** Actions de l'utilisateur et feedback (forme tabulaire) : description des suites d'actions physiques (proches de KEYSTROKE)

2

# UAN



3

## UAN : Hiérarchie de tâches

<b>Task: TopLevel</b>		
User Action	Interface Feedback	Interface State
T1 T2 ( T3   T4 ) * → T5		

4

## UAN : Hiérarchie de tâches

Relation temporelle	Symbole UAN
<b>Séquence</b> <b>Attente</b> <b>Disjonction répétée</b> <b>Indépendance d'ordre</b> <b>Entrelacement monodirectionnel</b> <b>Entrelacement bidirectionnel</b> <b>Parallélisme</b>	<b>A B</b> <b>A (t&gt;n) B</b> <b>(A   B)*</b> <b>A &amp; B</b> <b>A → B</b> <b>A ↔ B</b> <b>A    B</b>

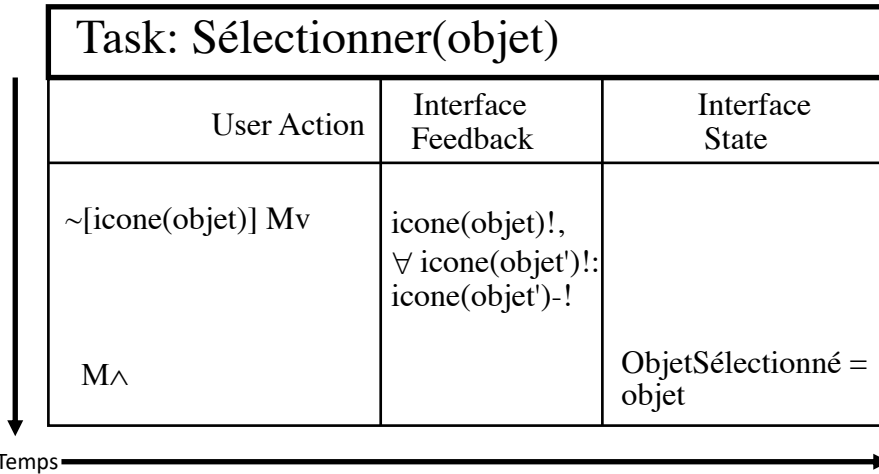
5

## UAN : Hiérarchie de tâches

Task : Utiliser Messagerie		
User Action	Interface Feedback	Interface State
(envoyer message <-> Lire message )*		

6

## UAN : Actions de l'utilisateur



7

## UAN : Actions

Action	Meaning
$\sim$	move the cursor
$[X]$	the context of object X, the "handle" by which X is manipulated
$\sim[X]$	move cursor into context of object X
$\sim[x, y]$	move the cursor to (arbitrary) point $x, y$ outside any object
$\sim[x, y \text{ in } A]$	move the cursor to (arbitrary) point within object A
$\sim[X \text{ in } Y]$	move to object X within object Y (e.g., $[\text{OK\_icon} \text{ in } \text{dialogue\_box}]$ )
$[X]\sim$	move cursor out of context of object X
$\vee$	depress
$\wedge$	release
$X\vee$	depress button, key, or switch called X
$X\wedge$	release button, key, or switch X
$X\wedge\vee$	idiom for clicking button, key, or switch X
$X"abc"$	enter literal string, $abc$ , via device X
$X(xyz)$	enter value for variable $xyz$ via device X
$()$	grouping mechanism
$*$	iterative closure, task is performed zero or more times
$+$	task is performed one or more times
$\{\}$	enclosed task is optional (performed zero or one time)
A B	sequence; perform A, then B (same if A and B are on separate, but adjacent, lines)
OR	disjunction, choice of tasks (used to show alternative ways to perform a task)
$\&$	order independence; connected tasks must all be performed, but relative order is immaterial
$\Leftrightarrow$	interleavability; performance of connected tasks can be interleaved in time
$\parallel$	concurrency; connected tasks can be performed simultaneously
$;$	task interrupt symbol; used to indicate that user may interrupt the current task at this point (the effect of this interrupt is specified as well, otherwise it is undefined, i.e., as though the user never performed the previous actions)
$\forall$	for all
$:$	separator between condition and action or feedback

8

## UAN : Retours

Feedback	Meaning
!	highlight object
-!	dehighlight object
!!	same as !, but use an alternative highlight
!-!	blink highlight
(!-!) <sup>n</sup>	blink highlight <i>n</i> times
@ <i>x, y</i>	at point <i>x, y</i>
@ <i>X</i>	at object <i>X</i>
display ( <i>X</i> )	display object <i>X</i>
erase ( <i>X</i> )	erase object <i>X</i>
<i>X</i> > ~	object <i>X</i> follows (is dragged by) cursor
<i>X</i> >> ~	object <i>X</i> is rubber-banded as its follows cursor
outline ( <i>X</i> )	outline of object <i>X</i>

9

## UAN : Actions de l'utilisateur

Tâche : T2 Retour : -		
Actions utilisateur	Retour d'information	État du système
(T1(ensemble))* (file-icon ! : ~ [file-icon] Mv (~ [x,y] )*)  ~[Trash-icon]  M^)	$\forall$ file-icon' $\in$ ensemble : Outline (file-icon') > ~  trash-icon !  $\forall$ file-icon' $\in$ ensemble : Erase (outline (file-icon')) Erase (file-icon') trash-icon -!	Destruction Ensemble

10

## UAN : Actions de l'utilisateur

<b>Tâche : T1 Retour : Ensemble</b>		
<i>Actions utilisateur</i>	<i>Retour d'information</i>	<i>Etat du système</i>
Shift-Key v (file-icon -! : ~ [file-icon] Mv M^)*	file-icon !	Ajout file-icon dans Ensemble
 (file-icon' ! : ~ [file-icon'] Mv M^)*	file-icon' -!	Retrait file-icon' de Ensemble
ShiftKey ^		Retour Ensemble