

NOTASI & DESAIN DIALOG

Desain Dialog

Dialog Style

Command Language

WIMP

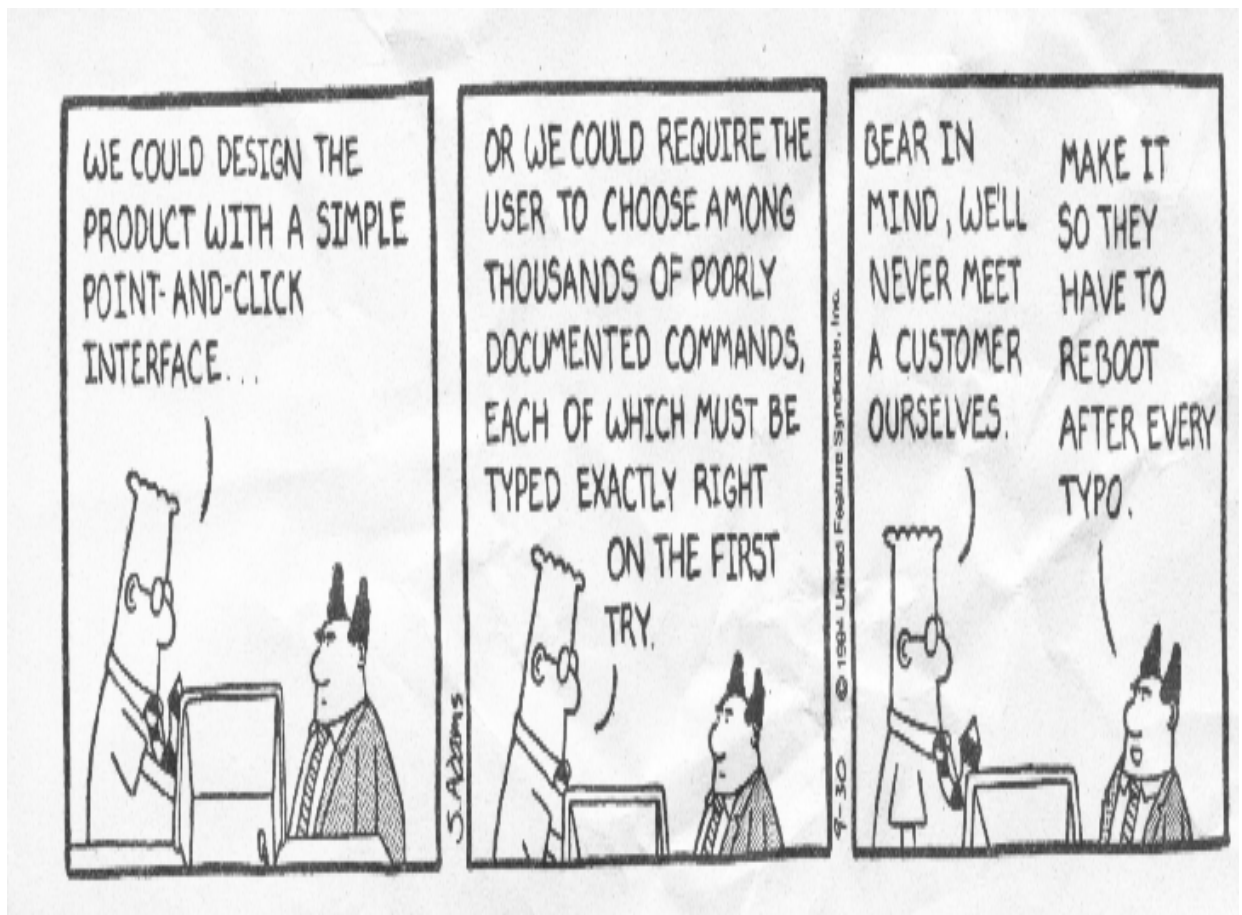
Direct Manipulation

PDA & Pen

Speech dan bahasa natural

User Interface Software

- How does a user interact with the interface?



In Dialog Style Contain :

1. Command languages
2. WIMP - Window, Icon, Menu, Pointer
3. Direct manipulation
4. Speech/Natural language
5. Gesture, pen, VR



- Earliest UI interaction paradigms
- Examples
 - MS-DOS shell, UNIX shell, dBase, GPSS

Atribut

- Work primarily by recall, not recognition
- Heavy memory load
- Little or nothing is visible
so...
- Poor choice for novices
but...



Design Goals

- Consistency

In general: Have options and arguments expressed the same way everywhere, UNIX fails here because commands were developed by lots of different people at different organizations No guidelines provided

- Good naming and abbreviations

Specificity versus Generality

- General words

More familiar, easier to accept

- Specific (typically better)

More descriptive, meaningful, distinctive

(Nonsense does surprisingly well in small set)



Strategies

- Simple truncation
(works best, but conflicts)
 - Vowel drop plus truncation
(avoid conflicts)
 - First and last letters
 - First letters of words in a phrase
 - Standard abbrev from other contexts
 - qty, rm, bldg
 - Phonics
 - xqt
-
- Doing your homework in design can help alleviate some of the negatives



- Focus: Menus, Buttons, Forms

Key advantages of menu :

- 1 keystroke or mouse operation vs. many
- No memorization of commands
- Limited input set

Many different types menu

pop-up, pull-down, radio buttons, pie buttons, Hierarchies

Organization strategies menu

- Create groups of logically similar items
- Cover all possibilities
- Ensure that items are non-overlapping
- Keep wording concise, understandable



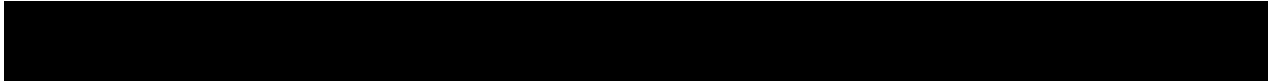
- Predominant interface paradigm now (with some direct manipulation added)

Presentation Sequence

Choices

- Alphabetical
- Group related items
- Frequently used first
- Most important first

One possible methodology (first->last)

- Natural order (if exists)
 - Frequency of use
 - Order of use
 - Categorical
 - Alphabetical
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In Direct Manipulation :

- 1) Continuous visibility of the objects and actions of interest
- 2) Rapid, reversible, incremental actions whose effect is immediately noticeable
- 3) Replacement of command language syntax by direct manipulation of object of interest (physical actions, buttons, etc.)

Examples

WYSIWYG editors and word processors,
VISICALC - 1st electronic spreadsheet,
CAD, Desktop metaphor, Video games



- **Advantages**

Provides context & instant visual feedback so user can tell if objectives are being achieved,
Exploits human use of visual spatial cues,
Limits types of errors that can be made

- **Disadvantages**

PSYCHOLOGICAL VIEW

Related to two things:

- Distance

Two gaps or “gulfs” between user’s goals and system image, Directness partly depends on the distance between these two gulfs

- Engagement

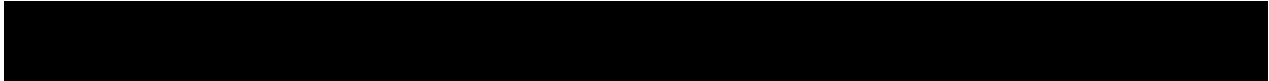
Feeling that you are directly manipulating the objects of interest



PDA

- Becoming more common and widely used
- Smaller display (160x160), (320x240)
- Few buttons, interact through pen
- Estimate: 14 million shipped by 2004
- Improvements
 - Wireless, color, more memory, better CPU, better OS
- Palmtop versus Handheld

Input

- Pen is dominant form
 - Three main techniques
 - Free-form ink
 - Soft keyboards (tapping)
 - Recognition systems
 - Also can connect keyboard
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Pen Use Modes

- Often, want a mix of free-form drawing and special commands
 - Might use visible mode switch
 - Might have pen action buttons/switches

Error Corection

Having to correct errors can slow input tremendously

Interesting Application


- Signature verification
- Note-taking
 - Academic course
 - Corporate meeting
- Sketching systems
 - Designers' aids



Speech

- What is speech?
 - Vibrations of vocal cords creates sound “ahh”
 - Mouth, throat, tongue, lips shape sound
- English speech
 - 40 phonemes; 24 consonants, 16 vowels
- Sounds transmit “language”

Speech Input

- Speaker recognition
 - Speech recognition
 - Natural language understanding
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Natural Language

- Putting meaning to the words
- Input might be speech or could be typed in
- Holy grail of Artificial Intelligence problems

Term

Syntactic, Prosodic, Pragmatic, Semantic

Advantage	Disadvantage
1. Easy to learn and remember	1. Doesn't work good enough yet
2. Powerful	2. Assumes knowledge of problem domain
3. Fast, efficient (not always)	3. Requires typing skill
4. Little screen real estate	Enhancements are invisible
	4. Expensive to implement