

Graphical Screen Design

Grids are an essential tool for graphical design

Important graphical design concepts include

visual consistency
visual organization
navigational cues
familiar idioms

visual relationships
legibility and readability
appropriate imagery

Ben Bederson

Graphical Design

Must account for:

- a comprehensible mental image
 - metaphor
- appropriate organization of data, functions, tasks and roles
 - cognitive model
- quality appearance characteristics
 - the “look”
- effective interaction sequencing
 - the “feel”

Sources:

- Principle of Effective Visual Communication for GUI design
Marcus in Baecker, Grudin, Buxton and Greenberg
- Designing Visual Interfaces
Mullet & Sano, Prentice Hall

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Components of Visible Language

Layout

- formats, proportions, and grids

scarves: 10.75
hats: 5.43

Typography

- typefaces and typesetting

bold serif fixed
italic sans-serif variable

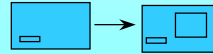
Imagery

- signs, icons, symbols; concrete to abstract



Sequencing

- how the interface unfolds



Visual identity

- unique appearance



Animation

- dynamics of display



Color and Texture

- convey complex information and pictorial reality



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Grids

Horizontal and vertical lines to locate window components

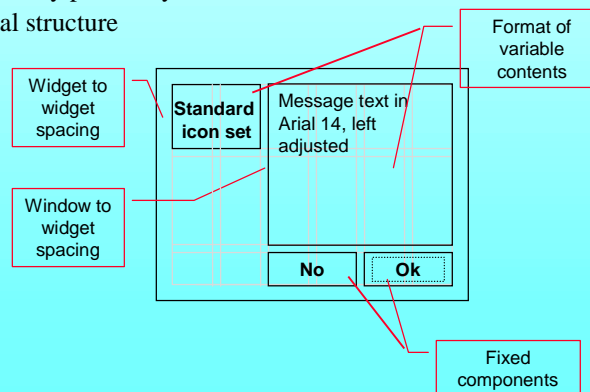
- aligns related components

Organization

- contrast to bring out dominant elements
- grouping of elements by proximity
- show organizational structure
- alignment

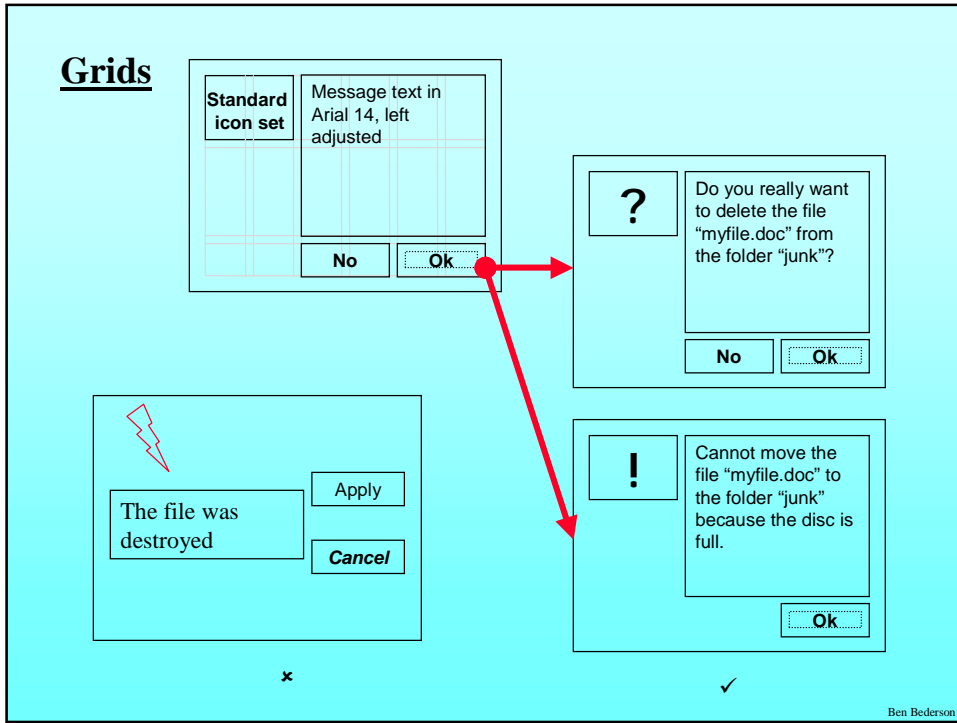
Consistency

- location
- format
- repetition
- organization

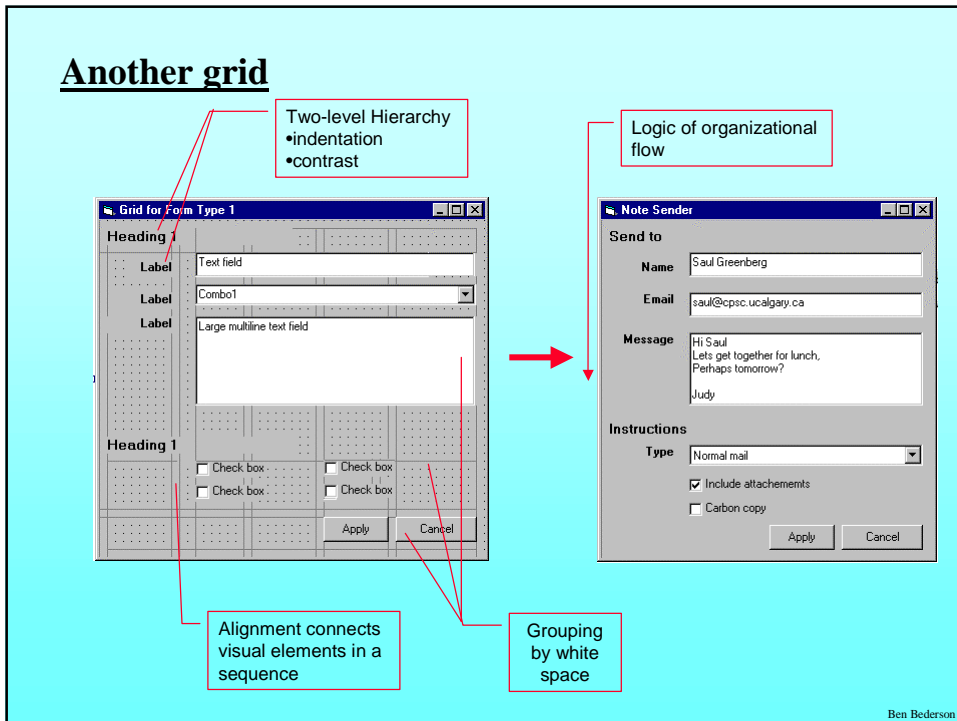


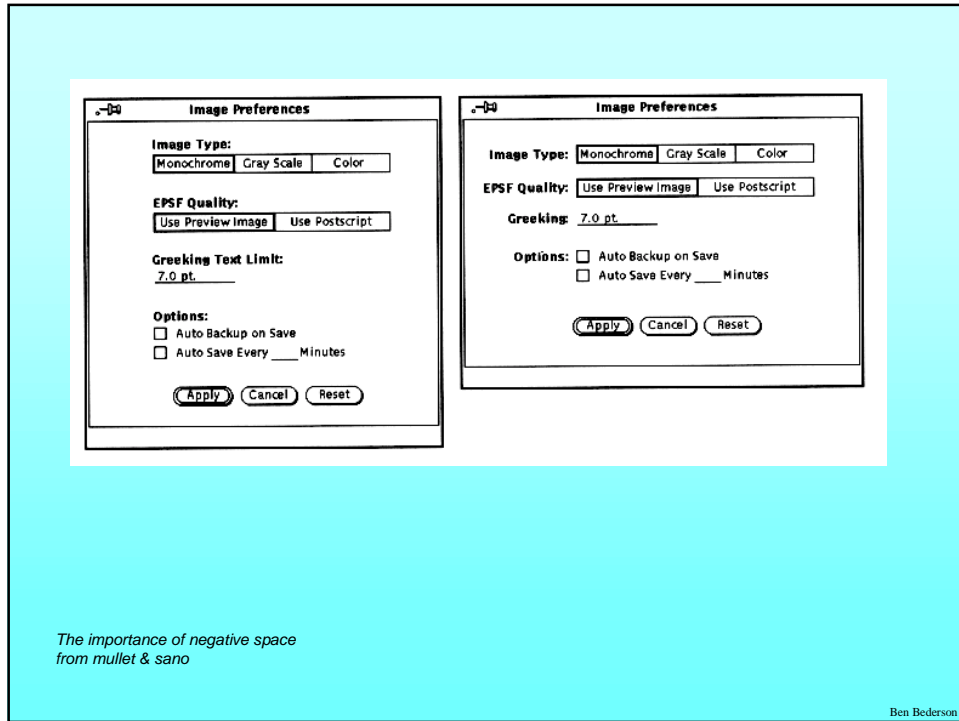
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Grids



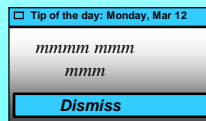
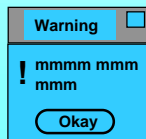
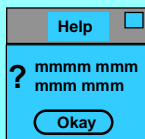
Another grid





Visual Consistency

- internal consistency
 - same conventions and rules for all elements of the GUI unless strong reason
 - set of application-specific grids enforce this
- external consistency
 - follow platform and interface style conventions
 - use platform and widget-specific grids
 - deviate from conventions only when it provides a clear benefit to user



✓

✗

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Relationships between screen elements (Grouping)

Link related elements, disassociate unrelated elements

- proxemic clusters
- white (negative) space
- alignment
- explicit structure

Mmmm: <input type="text"/>	<input type="text"/>	Mmmm: <input type="text"/>
Mmmm: <input type="text"/>	<input type="text"/>	Mmmm: <input type="text"/>
Mmmm: <input type="text"/>	<input type="text"/>	Mmmm: <input type="text"/>
Mmmm: <input type="text"/>	<input type="text"/>	Mmmm: <input type="text"/>
Mmmm: <input type="text"/>	<input type="text"/>	Mmmm: <input type="text"/>

x ✓

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(a)

(b)

Using explicit structure as a crutch from mullet & sano

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Legibility and readability

- Characters, symbols, graphical elements should be easily noticeable and distinguishable

Text set in
Helvetica

Text set in
Times Roman

✓

TEXT SET IN
CAPITOLS

Text set in
Braggadocio

Text set in
Courier

✗

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Legibility and readability

Proper use of typography

- 1-2 typefaces (3 max)
- normal, italics, bold
- 1-3 sizes max

Large
Medium
Small

Readable

Design components to be
inviting and attractive

Design components to be
inviting and attractive

✓

Large
Medium
Small

Unreadable

Design components to be
inviting and *attractive*

Design components to be
inviting and *attractive*

✗

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Legibility and readability

- typesetting
 - point size
 - word and line spacing
 - line length
 - indentation

Readable

Design components to be inviting and attractive

Design components to be inviting and attractive



Unreadable: Design components to be easy to interpret and understand. Design components to be inviting and attractive



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Imagery

Signs, icons, symbols

- right choice within spectrum from concrete to abstract

Icon design *very* hard

- except for most familiar, always label them

Image position and type should be related

- image “family”
- don’t mix metaphors

Consistent and relevant image use

- not gratuitous
- identifies situations, offerings...



Partial icon family

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What you now know

Grids are an essential tool for graphical design

Important visual concepts include

- visual consistency
 - repetition
- visual organization
 - contrast, alignment and navigational cues
- visual relationships
 - proximity and white space
- familiar idioms
- legibility and readability
 - typography
- appropriate imagery

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