SOMAIYA VIDYAVIHAR UNIVERSITY
K J Somaiya College of Engineering

Chapter 2

Principles of Good Screen Design

2.2 Ordering of Screen Data and Content

2.3 Screen Navigation and Flow

2.4 Visually Pleasing Composition and balance

Somaiya TRUST

Ordering of Screen Data and Content

- Divide information into units that are logical, meaningful, and sensible.
- Organize by the degree interrelationship between data or information.
- Provide an ordering of screen units of information and elements that is prioritized according to the user's expectations and needs.

Ordering of Screen Data and Content

- Possible ordering schemes include:

— Conventional.

— Sequence of use.

— Frequency of use.

— Function.

— Importance.

— General to specific.

Ordering of Screen Data and Content

- Form groups that cover all possibilities.
- Ensure that information that must be compared is visible at the same time.
- Ensure that only information relative to the users tasks or needs is presented on the screen.

Common information ordering schemes

- Conventional
- Sequence of use
- Frequency of use
- Function of use Function or category
- Importance
- General To Specific

Upper-Left Starting Point

- Provide an obvious starting point in the upper-left corner of the screen.
- This is near the location where visual scanning begins and will permit a left-to-right, top-to-bottom reading of information or text as is common in Western cultures.

Screen Navigation and Flow

- Provide an ordering of screen information and elements that:

— Is rhythmic, guiding a person's eye through the display.

— Encourages natural movement sequences.

— Minimizes pointer and eye movement distances.

■ Locate the most important and most frequently used elements or controls at the top left.

■ Maintain a top-to-bottom, left-to-right flow.

■ Assist in navigation through a screen by:

— Aligning elements. — Grouping elements. — Using of line borders.

Screen Navigation and Flow

- Through focus and emphasis, sequentially, direct attention to items that are:
- 1. Critical. 2. Important. 3. Secondary. 4. Peripheral.

■ Tab through window in logical order of displayed information.

■ Locate command buttons at end of the tabbing order sequence.

■ When groups of related information must be broken and displayed on separate screens, provide breaks at logical points in the information flow.

Screen Navigation and Flow

- In establishing eye movement through a screen, also consider that the eye trends to move sequentially , for example –
  - From dark areas to light areas
  - From big objects to little objects
  - From unusual shapes to common shapes.
  - From highly saturated colors to unsaturated colors.
  - These techniques can be initially used to focus a person's attention

Screen Navigation and Flow

- Maintain top to bottom, left to right through the screen.
  - This top to bottom orientation is recommended because of –
  - Eye movements between items will be shorter.
  - Control movements between items will be shorter.
  - Groupings are more obvious perceptually.
  - When one's eyes moves away from the screen and then back, it returns to about same place it left, even if it is seeking next item in sequence.

Visually Pleasing Composition

Provide visually pleasing composition with the following qualities:

— Balance.

— Symmetry.

— Regularity.

— Predictability.

— Sequentially.

— Economy.

— Unity.

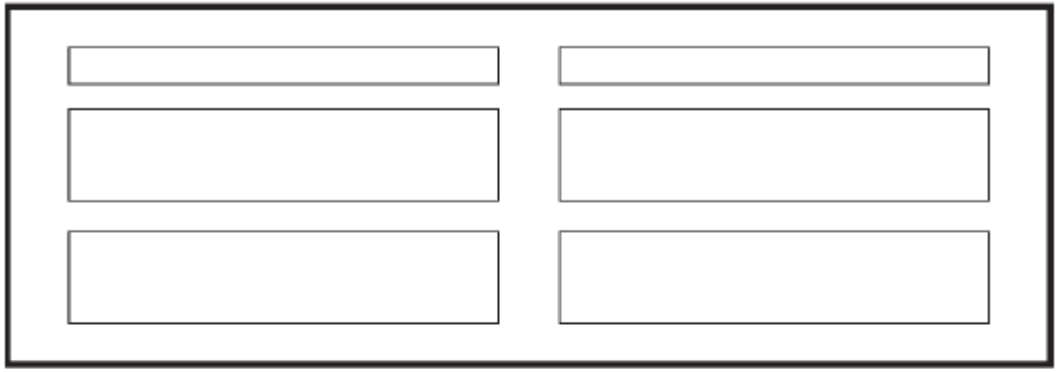
— Proportion.

— Simplicity.

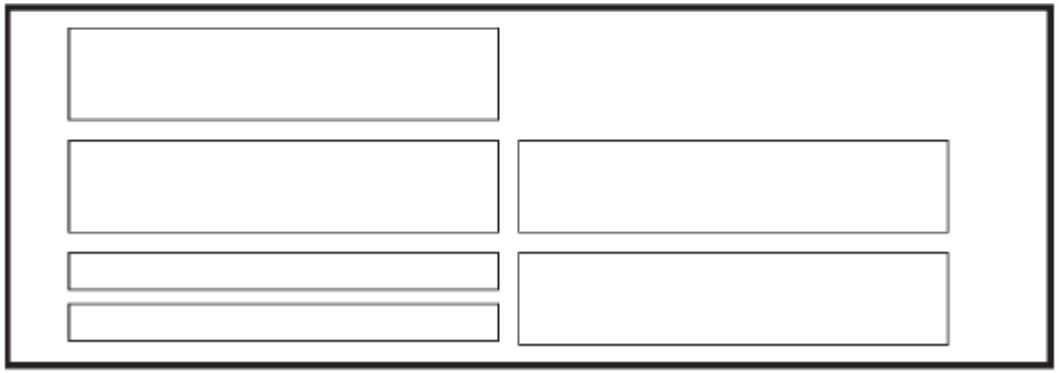
— Groupings.

Visually Pleasing Composition - Balance

Create screen balance by providing an equal weight of screen elements, left and right, top and bottom.



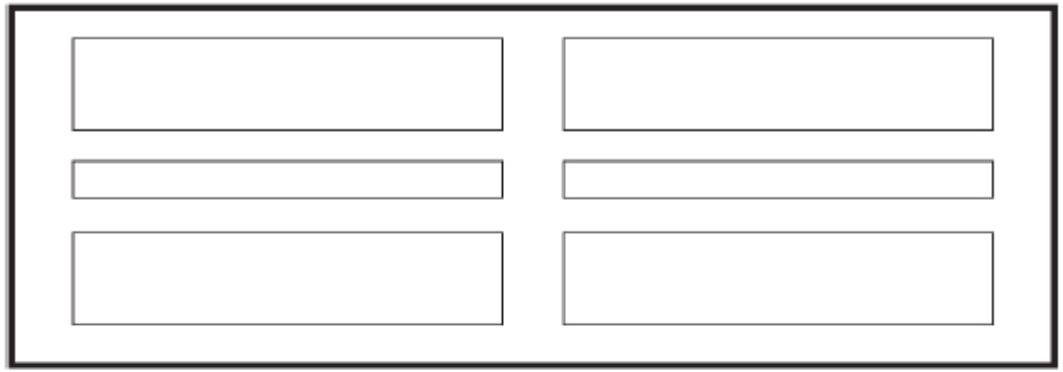
Balance



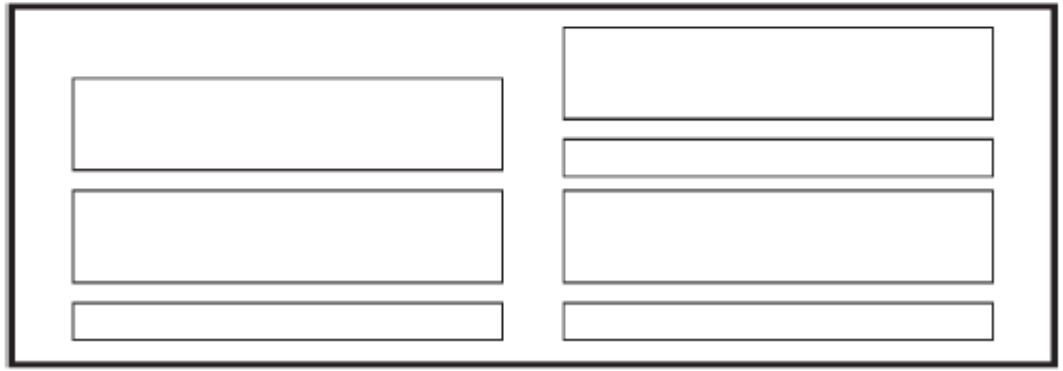
Instability

Visually Pleasing Composition - Symmetry

Create symmetry by replicating elements left and right of the screen centerline.



Symmetry

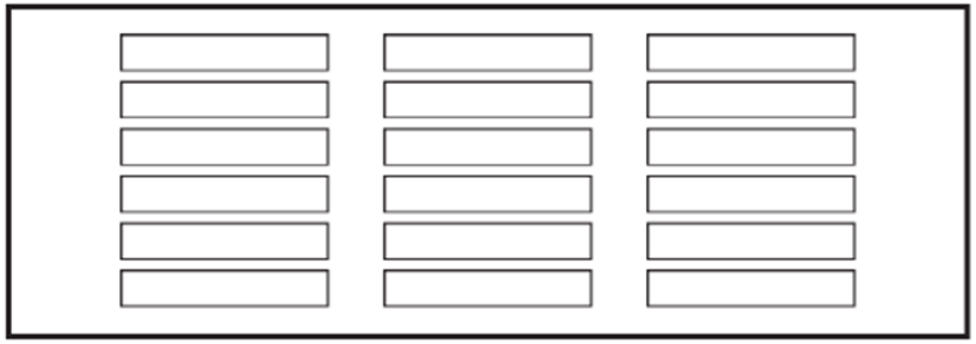


Asymmetry

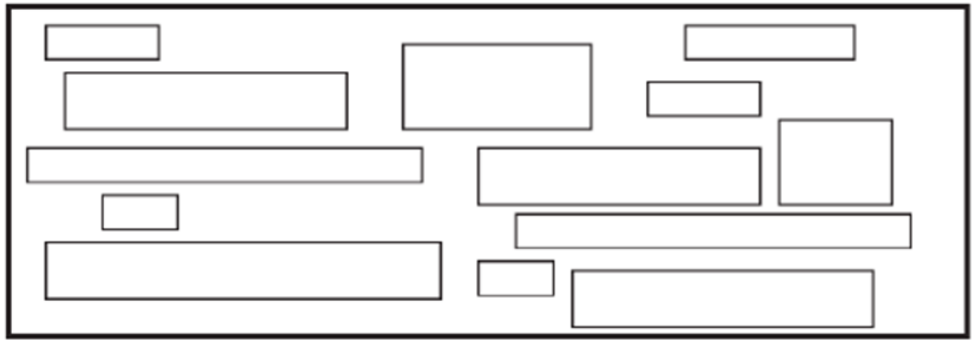
Visually Pleasing Composition - Regularity

Create regularity by establishing standard and consistently spaced horizontal and vertical alignment points.

Also, use similar element sizes, shapes, colors, and spacing.



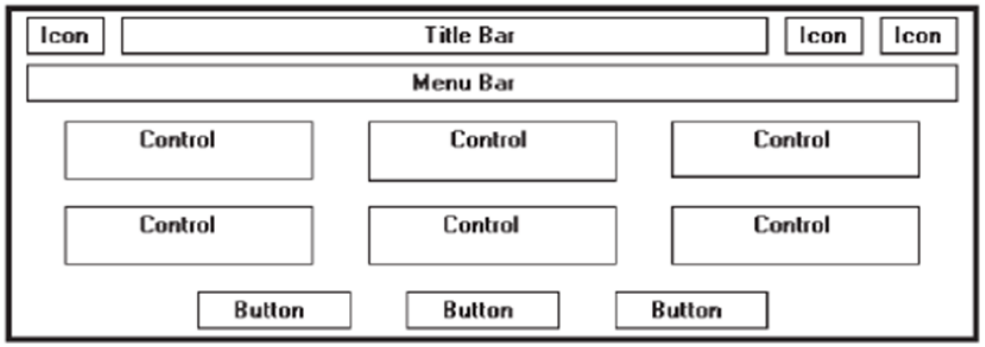
Regularity



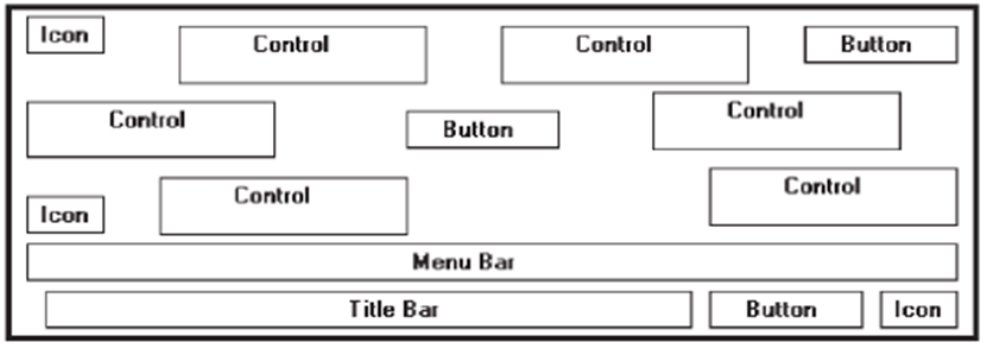
Irregularity

Visually Pleasing Composition - Predictability

- Create predictability by being consistent and following conventional orders or arrangements.



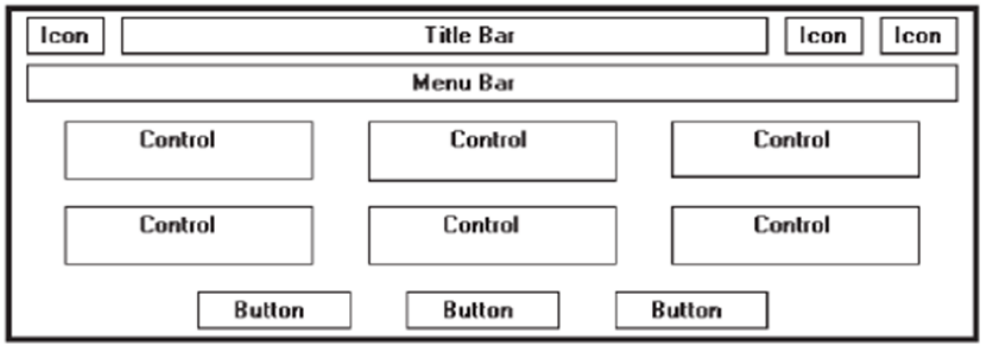
Predictability



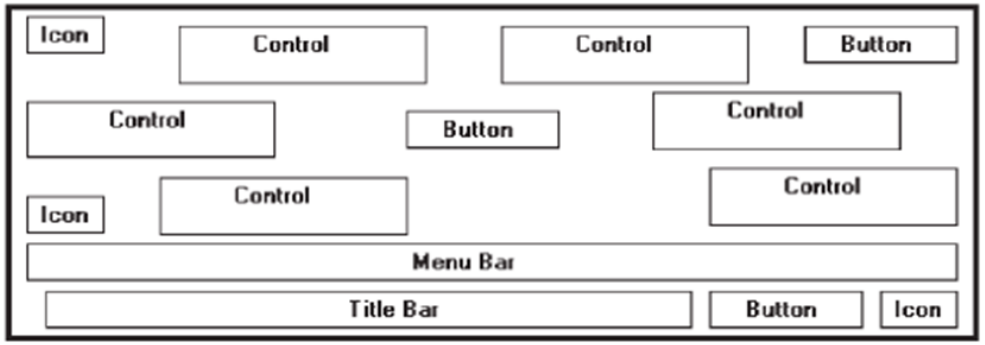
Spontaneity

Visually Pleasing Composition - Predictability

- Create predictability by being consistent and following conventional orders or arrangements.



Predictability



Spontaneity

Visually Pleasing Composition - Sequentiality

- Provide Sequentiality by arranging elements to guide the eye through the screen in an obvious, logical, rhythmic, and efficient manner.
- The eye tends to be attracted to:

— A brighter element before one less bright.

— Isolated elements before elements in a group.

— Graphics before text.

— Color before black and white.

— Highly saturated colors before those less saturated.

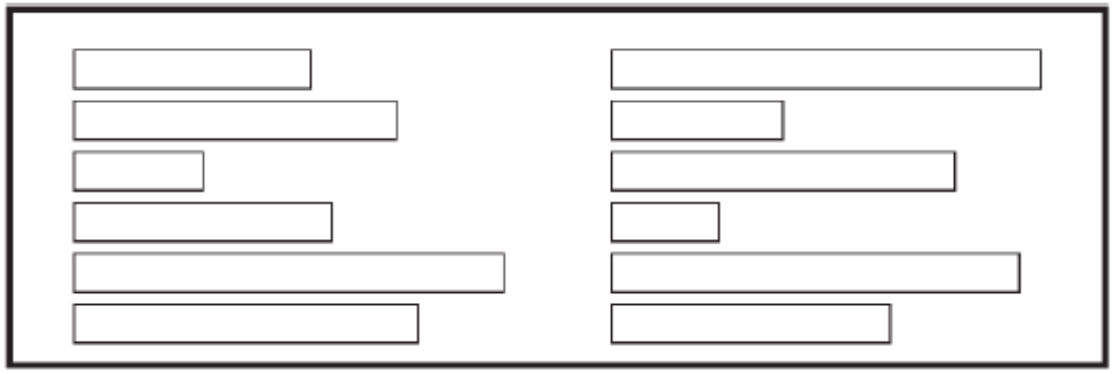
— Dark areas before light areas.

— A big element before a small one.

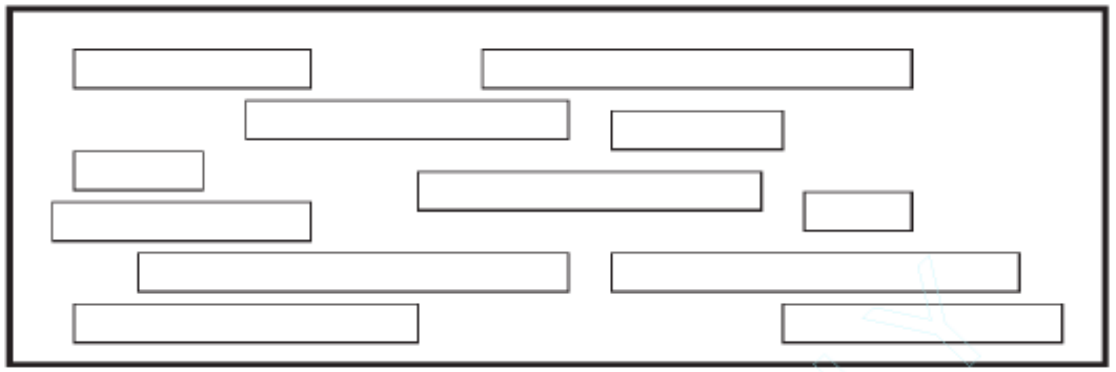
— An unusual shape before a usual one.

— Big objects before little objects.

Visually Pleasing Composition - Predictability



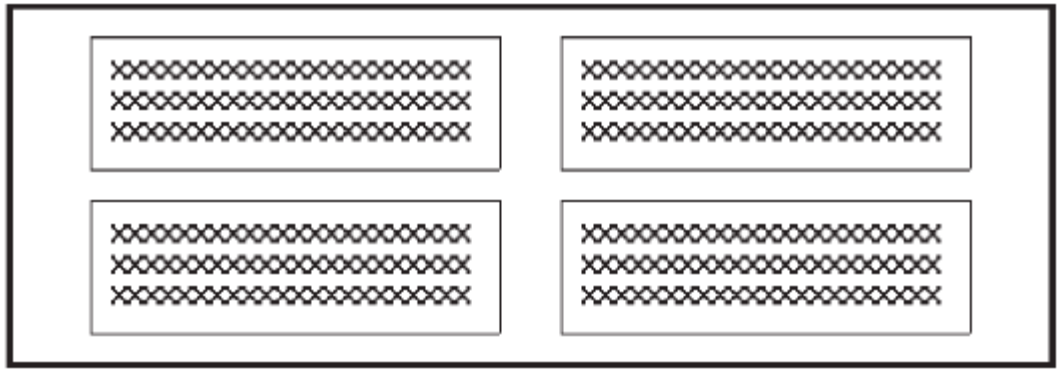
Sequentiality



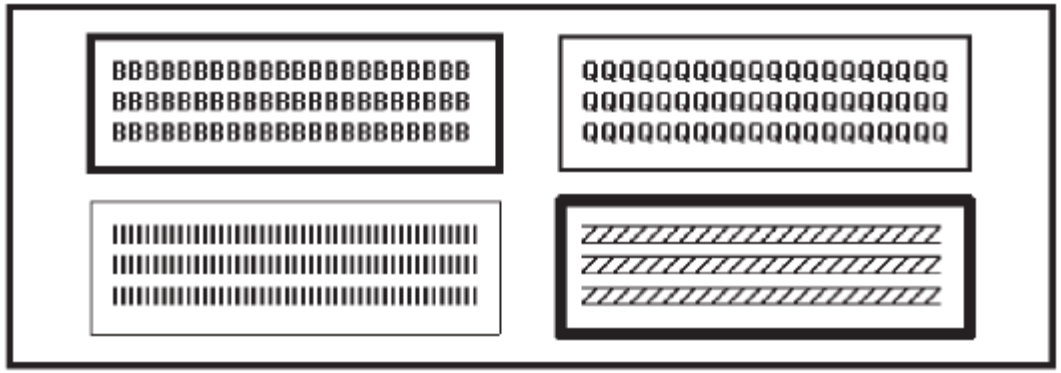
Randomness

Visually Pleasing Composition – Economy

- Provide economy by using as few styles, display techniques, and colors as possible.



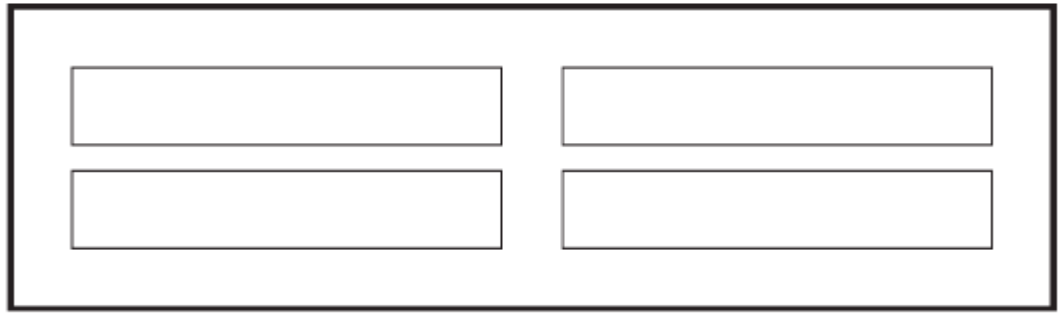
Economy



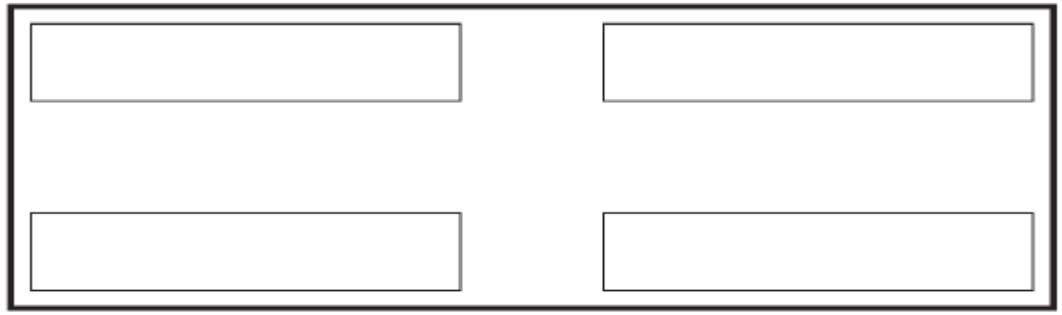
Intricacy

Visually Pleasing Composition – Unity

- Create unity by:
- — Using similar sizes, shapes, or colors for related information.
- — Leaving less space between elements of a screen than the space left at the margins.



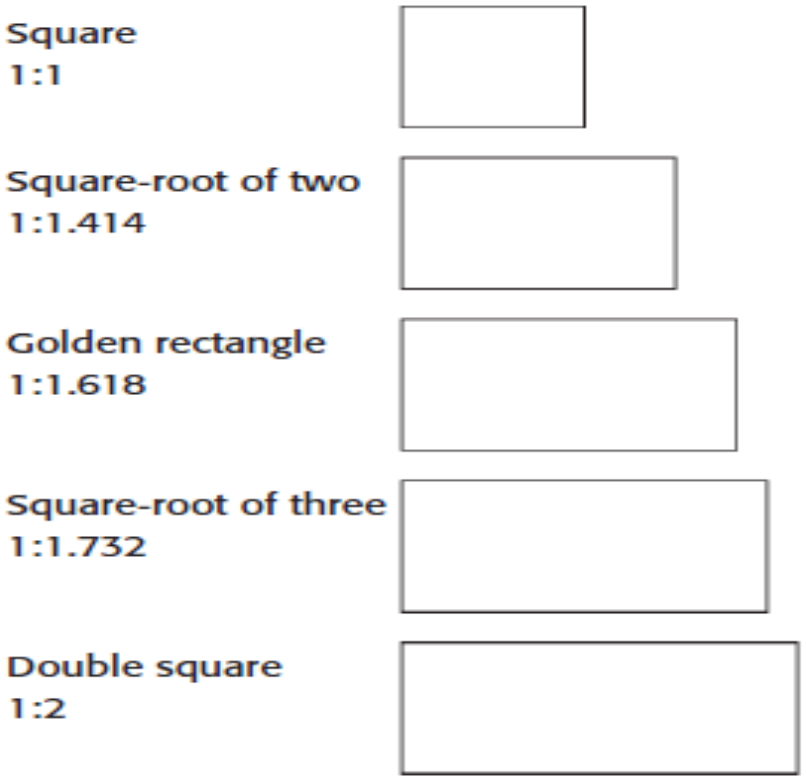
Unity



Fragmentation

Visually Pleasing Composition – Proportions

Create windows and groupings of data or text with aesthetically pleasing proportions.

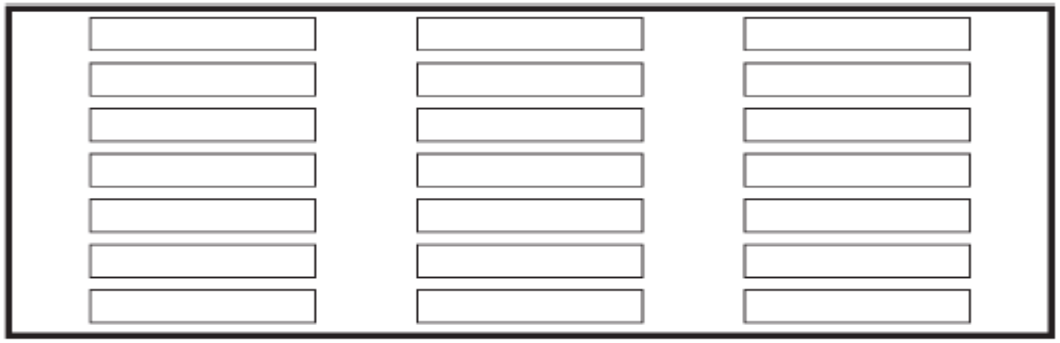


Visually Pleasing Composition – Simplicity (Complexity)

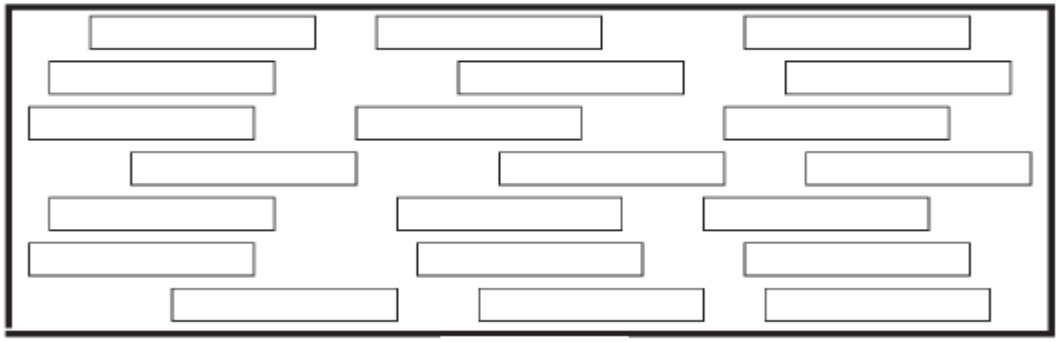
Optimize the number of elements on a screen, within limits of clarity.

Minimize the alignment points, especially horizontal or columnar.

— Provide standard grids of horizontal and vertical lines to position elements.



Simplicity



Complexity

Visually Pleasing Composition – Simplicity (Complexity)

Optimize the number of elements on a screen, within limits of clarity.

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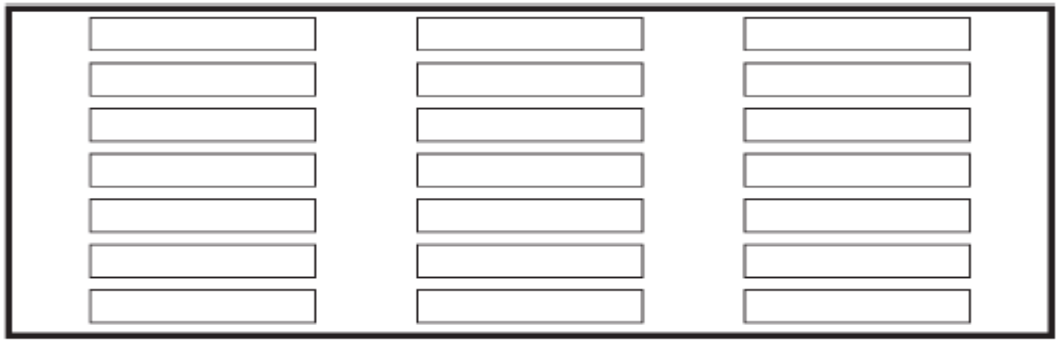
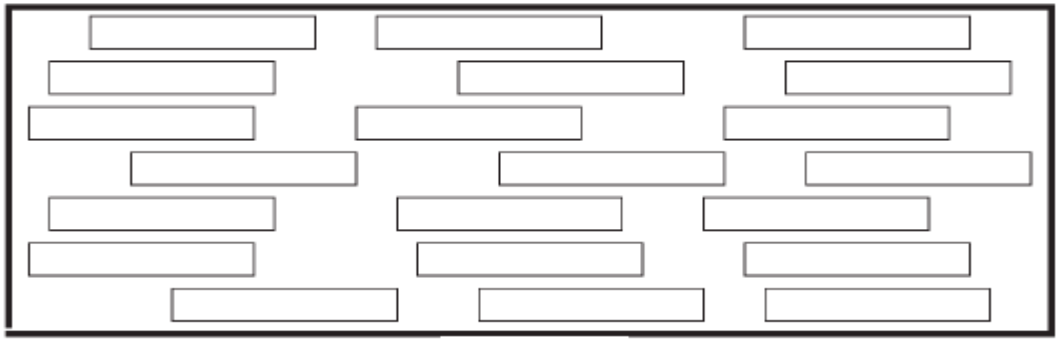


Simplicity



Complexity

Point Discussed Till Now

Provide visually pleasing composition with the following qualities:

— Balance.

— Symmetry.

— Regularity.

— Predictability.

— Sequentially.

— Economy.

— Unity.

— Proportion.

— Simplicity.

— Groupings (CONTINUE IN NEXT LECTURE)

Groupings

- Provide functional groupings of associated elements.
- Create spatial groupings as closely as possible to five degrees of visual angle
- Evenly space controls within a grouping, allowing 1/8 to 1/4 inch between each.
- Visually reinforce groupings:

  — Provide adequate separation between groupings through liberal use of white space.

  — Provide line borders around groups.
- Provide meaningful titles for each grouping.

Groupings

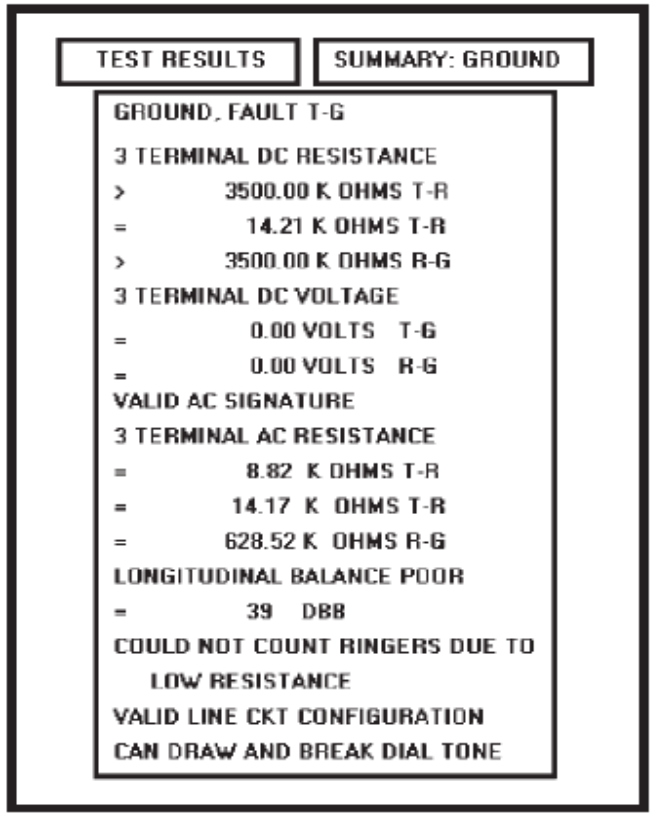


Figure 3.12 Original screen, from Tullis (1981), with grouping indicated by bold boxes.

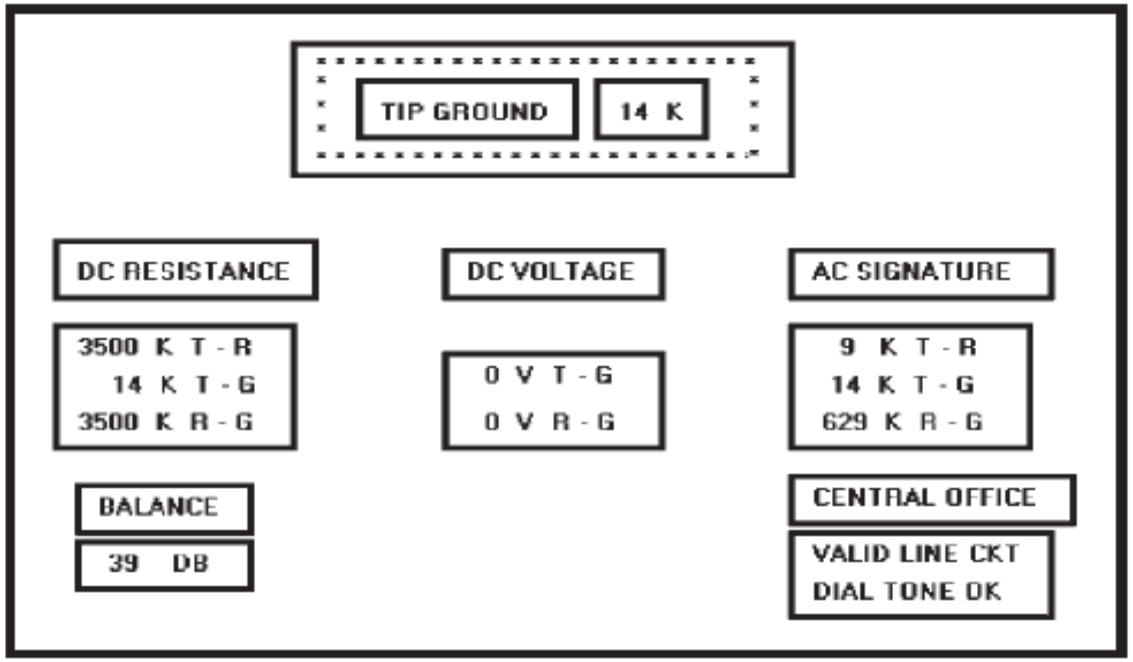


Figure 3.13 Redesigned screen, from Tullis (1981), with grouping indicated by bold boxes.

Perceptual Principles and Functional Grouping

- Use visual organization to create functional groupings.
  - — Proximity: 000 000 000
  - — Similarity: AAABBBCCC
  - — Closure: [ ] [ ] [ ]
  - — Matching patterns: >> < >

- Combine visual organization principles in logical ways.

— Proximity and similarity:	AAA	BBB	CCC
— Proximity and closure:	[ ]	[ ]	[ ]
— Matching patterns and closure:	( )	< >	{ }
— Proximity and ordering:	1234	1	5
	5678	2	6
		3	7
		4	8

- Avoid visual organization principles that conflict.

— Proximity opposing similarity:	AAA	ABB	BBC	CCC
— Proximity opposing closure:	] [	] [	] [	
— Proximity opposing ordering:	1357	1	2	
	2468	3	4	
		5	6	
		7	8	

Groupings with white Space

- Provide adequate separation between groupings through liberal use of white space.
- For Web pages, carefully consider the trade-off between screen white space and the requirement for page scrolling.

Groupings using Borders

- Incorporate line borders for:

— Focusing attention on groupings or related information.

— Guiding the eye through a screen.

- Do not exceed three line thicknesses or two line styles on a screen, however.

— Use a standard hierarchy for line presentation.

Groupings using Borders

- Create lines consistent in height and length.
- Leave sufficient padding space between the information and the surrounding borders.
- For adjacent groupings with borders, whenever possible, align the borders left, right, top, and bottom.
- Use rules and borders sparingly.
- In Web page design:

— Be cautious in using horizontal lines as separators between page sections.

— Reserve horizontal lines for situations in which the difference between adjacent areas must be emphasized.

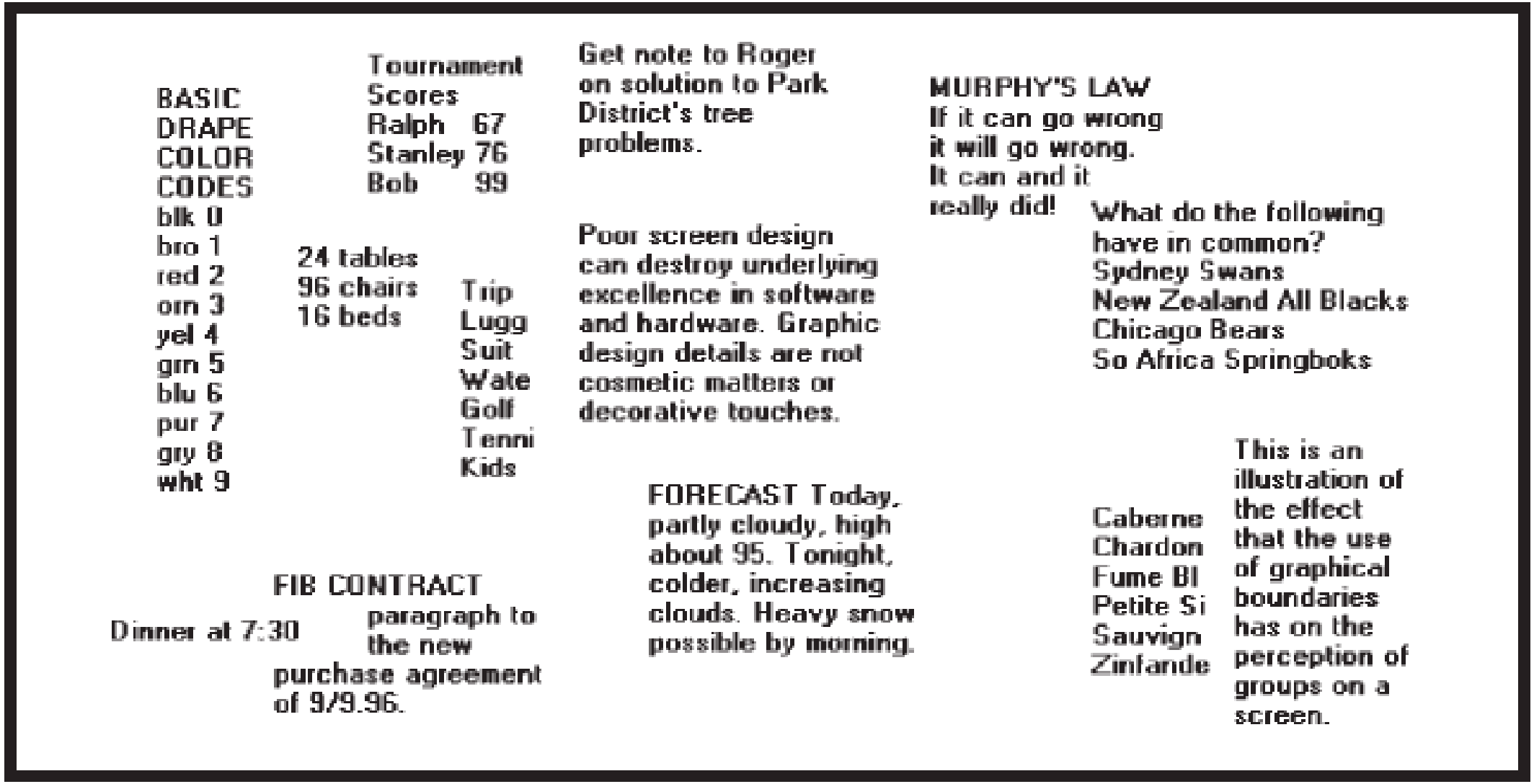


Figure 3.14 The effect of line or graphical borders. Groupings without borders.

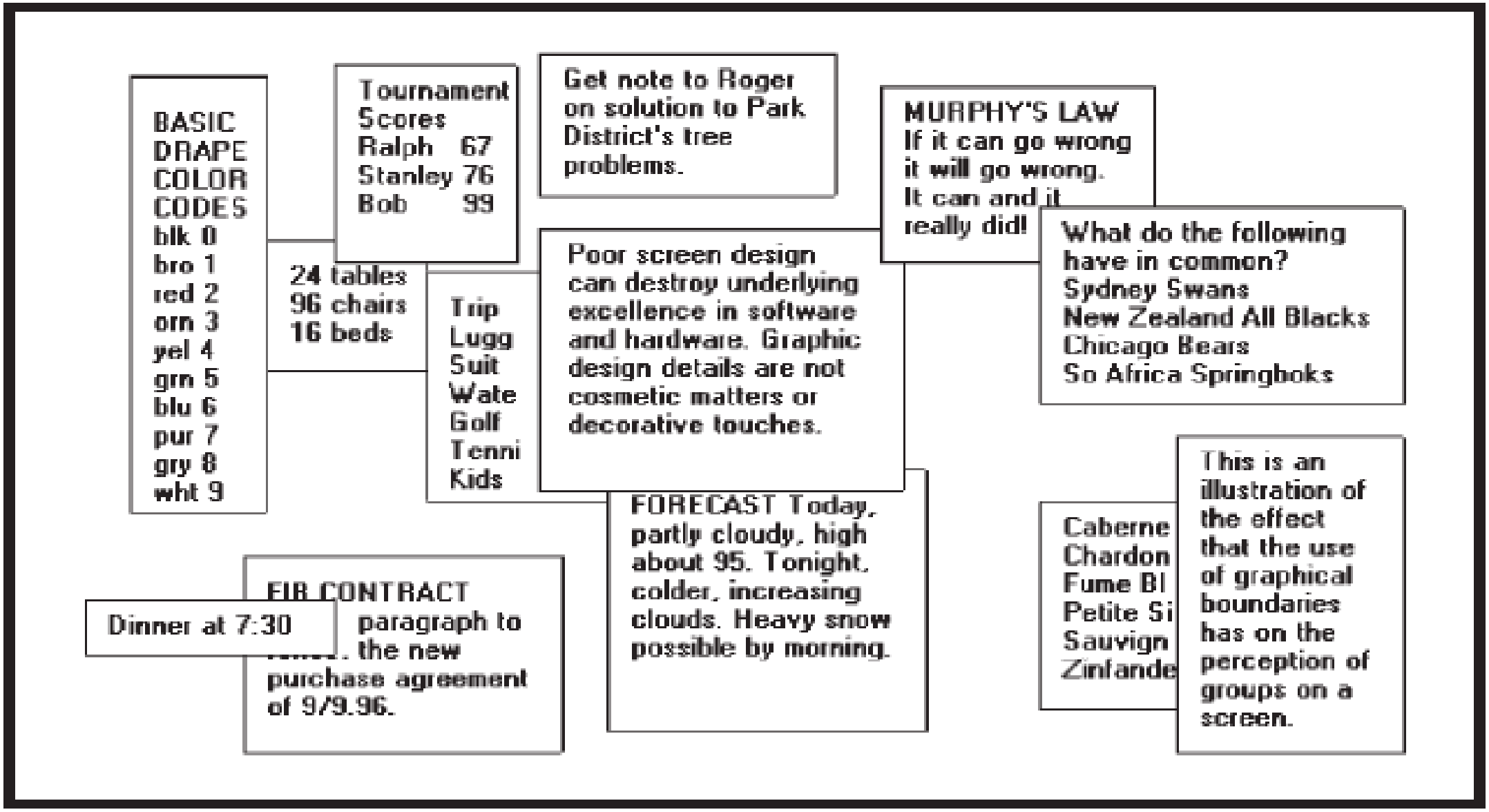


Figure 3.15 The effect of line or graphical borders. Groupings with borders.

Groupings using Borders

The background should not have the “emphasis” of the screen component that should be attended to. Consider about a 25 percent gray screening.

Reserve higher contrast or “emphasizing” techniques for screen components to which attention should be drawn.

Visual Style in Web Page Design

Maintain a consistent and unified visual style throughout the pages of an entire Web site.

Base the visual style on:

— The profile and goals of the Web site owner.

— The profile, tastes, and expectations of the Web site user.

Screen Navigation and Flow

Provide an ordering of screen information and elements that:

— Is rhythmic, guiding a person's eye through the display.

— Encourages natural movement sequences.

— Minimizes pointer and eye movement distances.

Screen Navigation and Flow

Locate the most important and most frequently used elements or controls at the top left.

Maintain a top-to-bottom, left-to-right flow.

Assist in navigation through a screen by:

— Aligning elements.

— Grouping elements.

— Using of line borders

Screen Navigation and Flow

Through focus and emphasis, sequentially, direct attention to items that are:

1. Critical.
2. Important.
3. Secondary.
4. Peripheral.

Screen Navigation and Flow

- Tab through window in logical order of displayed information.
- Locate command buttons at end of the tabbing order sequence.
- When groups of related information must be broken and displayed on separate screens, provide breaks at logical or natural points in the information flow.

Experiment List Till now

- To write case study on User Interface
- To write case study on Wireframing/prototype tool
- To write problem definition including personas, usecases