

## Mapping, Diagramming & Visualization

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## Mapping

### What is a map?

- :: find your way
- :: provide information
- :: directions & instructions

- :: visual – a tool for perception
- :: semantic – a tool for cognition

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## Mapping : Examples

- Shape & Contour
- Relationships
- Proximity
- Size
- Color
- Labeling



What is assumed about the user?

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## Mapping : Examples

- Selective information
- Abstracts physical, emphasis conceptual
- Color
- Labeling
- Trees & Forest



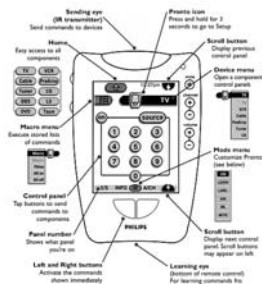
Henry C. Beck - 1931

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## Mapping : Examples

- Physical representation emphasized to promote conceptual mapping
- Descriptive
- Instructional

What are the tradeoffs between usability and instruction?

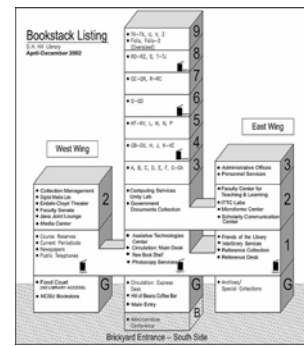


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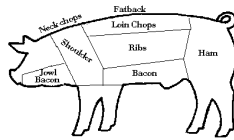
## Mapping : Examples

- Physical used as a backdrop, but abstracted to promote information

What is going on in this example?



## Mapping : Examples



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## Mapping : Examples

**View Plan**  
Shows the user a read-only version of the plan spreadsheet. The user can view the requested shipments values, forecasted values, and other in-progress planning calculations.

**Edit Plan**  
Shows the user an editable version of the plan spreadsheet. The Account Manager can edit forecasted shipments values, forecasted receipts, and other elements to help target the True Demand.

**Plan Reassign**  
Account Managers can reassign their

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## Mapping : Principles

"Total map perception integrates geographic material (the base map) and thematic material (the distribution which is mapped).



Psychological studies of the figure-ground relationship indicate that maps should be designed so that the thematic symbols are experienced as figures, and base map materials as ground."

(Borden Dent, Cartographer)

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## Mapping : Principles

- Simplify
- Identify unnecessary clutter, and eliminate it
- Identify hierarchies – visual elements (based on gestalt theory) that produce an intended or unintentional value of information
- Pay attention to contrast, contour (shape) and size of elements
- Use color sparingly

### Gestalt Cheat Sheet

Figure/Ground  
Proximity  
Equilibrium  
Isomorphic  
Correspondence  
Closure/Continuation  
Similarity  
Whole/Parts

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## Mapping : As a Design Problem

- Solving a mapping issue is just like solving any other design problem:

Who is the user?  
What is the domain being mapped?  
What are the important terms, images and elements that your user population will expect?

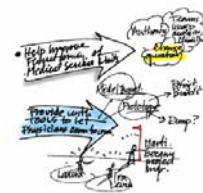
- Iterative, user-centered design!

**What are some examples of unusable maps?**

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## Diagramming

- A visual way of illustrating a problem, concept, solution or some information
- Levels of fidelity, levels of abstraction
- Graphs, maps, charts, mind-maps, concept flows, schematics, instructions are all forms of diagrams



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### Diagramming : Examples

- Diagramming a sentence.
- Subject / Verb relationship; modifier relationship
- Visual way of representing a sentence

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### Diagramming : Examples

- Venn Diagram
- Overlapping elements illustrate combination (logical AND)

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### Diagramming : Examples

- DFD (Data Flow Diagram)
- Used to show how database tables relate to each other
- Shows flow of information

Figure 4: A sample data flow diagram - bank operations

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### Diagramming : Examples

- Affinity Diagram
- Show relationships and organization of information

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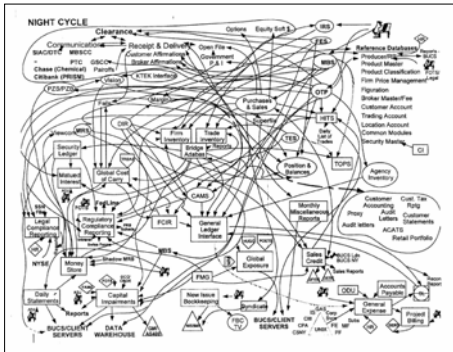
### Diagramming : (bad) Examples

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### Diagramming : (bad) Examples

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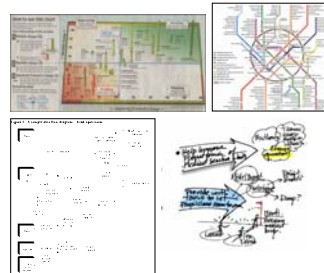
## Diagramming : (bad) Examples



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## Diagramming : Examples

### What are common elements of diagrams?



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## Diagramming : Principles

- Pick a visual presentation style and be consistent  
:: Bubbles? Squares? Arrows?
- Strive for visual clarity – simplify!
- Breadth or depth? (a diagram is an abstraction)
- Include a contextual clue  
:: A title  
:: A paragraph of explanation

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## Wayfinding

### What the heck is "wayfinding", and why don't they just write "finding your way"?

"Wayfinding design is the process of organizing spatial and environmental information to help users find their way" (Biesek)

**Spatial** : of or pertaining to space

**Environmental** : the circumstances or conditions that surround one; surroundings

Wayfinding is, generally, the aspect of design and architecture that directs how an individual moves through a physical space.

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## Wayfinding : Principles

Principles for architectural wayfinding:

- Conceptual, first. Visual dominance, definition of space as public or private, ability to separate a functional zone from another
- Naming, numbering and general organization
- Public information counts (brochures, maps, driving instructions, etc)
- Signage – standardization, plain language
- Users within the structure; verbal

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## Wayfinding : Why do we care?

**How does this relate to mapping & diagramming?**

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## How Not To Make a Diagram

:: [The Vizomatic!](#)

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## Let's Give it a Shot.

In groups of two or three, map your geographical movements yesterday.

- Highlight important events
- Include physical landmarks
- Include signage, wayfinding devices, etc.
- Use color to enhance your design.
- Show time
  
- Map all participants on the same diagram, showing commonalities and variations

**Assume that your audience has never been to Savannah.**

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