Layering

The process of organizing information into related groupings in order to manage complexity and reinforce relationships in the information.

Layering involves organizing information into related groupings and then presenting or making available only certain groupings at any one time. Layering is primarily used to manage complexity, but can also be used to reinforce relationships in information. There are two basic kinds of layering: two-dimensional and three-dimensional.[1]

Two-dimensional layering involves separating information into layers such that only one layer of information can be viewed at a time. Two-dimensional layers can be revealed in either a linear or nonlinear fashion. Linear layers are useful when information has a clear beginning, middle, and end (e.g., stories), and are revealed successively like pages in a book. Nonlinear layers are useful when reinforcing relationships between the layers. The types of nonlinear layer relationships can be hierarchical, parallel, or web. Hierarchical layers are useful when information has superordinate and subordinate relationships within itself (e.g., organizational chart), and are revealed top-down or bottom-up in rigid accordance with the hierarchical structure. Parallel layers are useful when information is based on the organization of other information (e.g., thesaurus), and are revealed through some correspondence with that organization. Web layers are useful when information has many different kinds of relationships within itself (e.g., hypertext), and are revealed through any number of associative linkages to other layers.

Three-dimensional layering involves separating information into layers such that multiple layers of information can be viewed at a time. Three-dimensional layers are revealed as either opaque or transparent planes of information that sit atop one another (i.e., in a third dimension). Opaque layers are useful when additional information about a particular item is desired without switching contexts (e.g., software pop-up windows). Transparent layers are useful when overlays of information combine to illustrate concepts or highlight relationships (e.g., weather maps).[2]

Use two-dimensional layering to manage complexity and direct navigation through information. Consider linear layers when telling stories and presenting sequences of time-based events, and use nonlinear layers when emphasizing relationships within the information. Use three-dimensional layering to elaborate information and illustrate concepts without switching contexts. Consider opaque layers when presenting elaborative information, and transparent layers when illustrating concepts or highlighting relationships in information.

See also Chunking, Five Hat Racks, Progressive Disclosure, and Propositional Density.

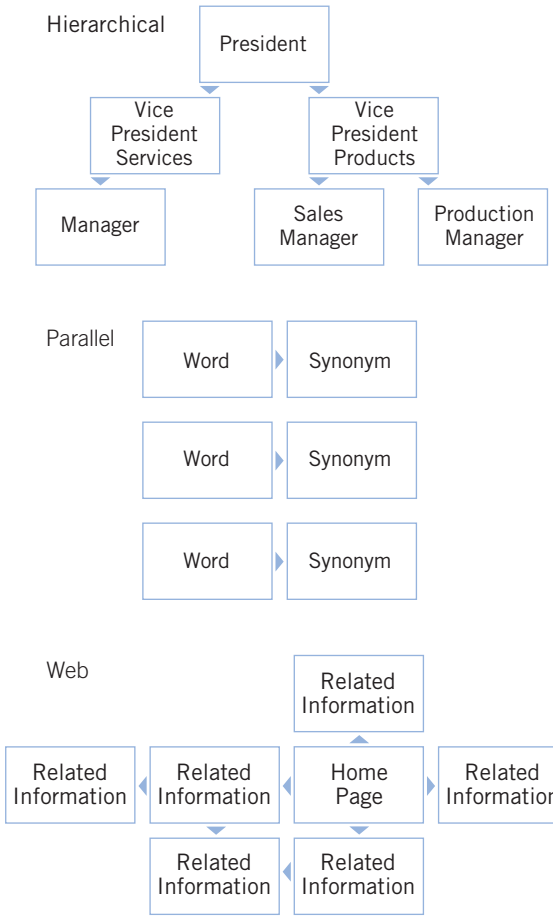
[1] A similar concept is found in *Designing Business: Multiple Media, Multiple Disciplines* by Clement Mok, Adobe Press, 1996, p. 102–107 [Organizational Models].

[2] See, for example, *Envisioning Information* by Edward R. Tufte, Graphics Press, 1998, p. 53–65; 81–95 [Layering and Separation; Color and Information].

Two-Dimensional Layering

Linear

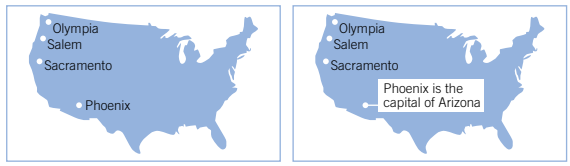
Nonlinear



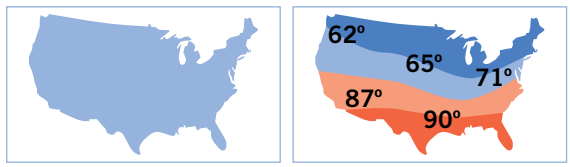
Two-dimensional layering is useful for presentation and navigation. Layers are revealed one at a time, like pages in a book.

Three-Dimensional Layering

Opaque



Transparent



Three-dimensional layering is useful for elaboration and highlighting. Relationships and patterns on one layer of information (left) are elaborated by layers of information that pop up or overlay (right).