

5.1 Perceptual Organization: Visual Salience

Proximity, Contrast and Symmetry are powerful organization principles. But does proximity always work? How can we make Contrast much more effective? And if Symmetry conveys ease, what could asymmetry do? Lets find out.

1. To 3D or not to 3D ?

There has been numerous efforts to organize information artifacts, such as browser tabs, utilizing the principle of 'proximity' in 3D space [2][6]. Stuart et al., [6] organized web-pages into virtual books which were then organized along virtual spaces along shelves, desktops etc (Fig1.a) while George et al., [2] organized them into spatially proximal groups (Fig1.b). Though these 3D approaches pique user's interest, Cockburn and McKenzie found that users are eventually faster with 2D when compared to 3D [1]. How could this be? One of the reasons could be because that these designs fail to translate the spatial affordance offered by proximity into affordances of interactivity from a 2D plane in real world to a 3D virtual space. A new way of rethinking the problem might be necessary.

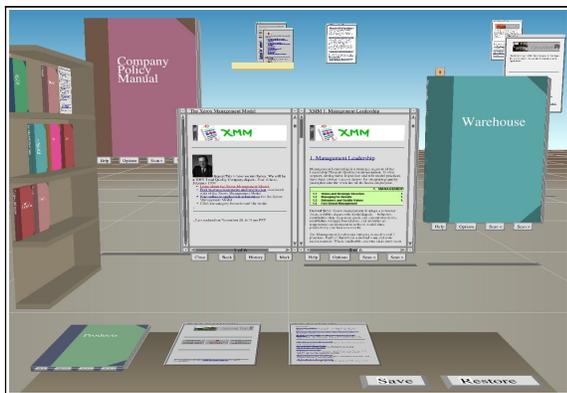


Figure 1.a The web forager with desktops and shelves containing web books



Figure 1.b : Data Mountain with 100s of web pages

2. Temporal organization

Searching for and selecting an item from a long list of menu items is a hard task. Several solutions ranging from simple horizontal line separators (proximity), to highlighting important items (contrast) have been designed. But Leah Findlater et al., found that using temporal dimension in addition to contrast narrows down the search time much more than contrast alone [4]. Fading in the most relevant or important menu items ahead of time and attracting the user's attention towards them, results in amplification of contrast and decreasing the visual search time for the user drastically (Fig.2). Hence temporal dimension could be also used to organize information in addition to contrast.

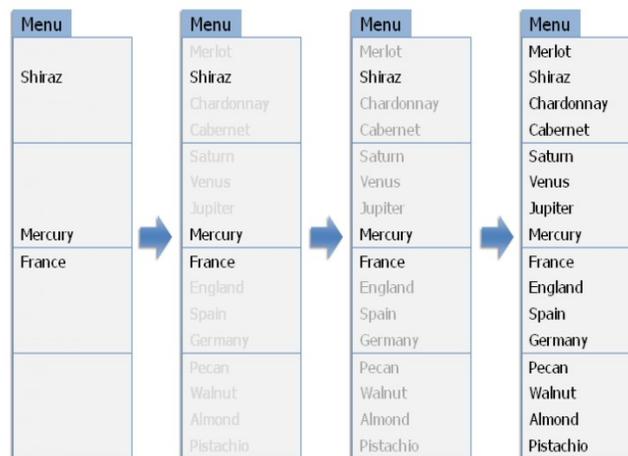


Figure 2. Ephemeral adaptation applied to menus: predicted items appear immediately, while remaining items gradually fade in.

3. Using asymmetry to attract attention

Robin Williams [5] talks about how proximity, alignment, and repetition can convey a sense of underlying order to the eye. Mullet and Sano [3] talk about about symmetry as an underlying thread of aesthetics. By contrast then, asymmetry should convey a sense of disorder and uneasiness. Let me illustrate a scenario where this could be exploited.

Let us consider the buttons representing choices in a dialog box. Designers have been trying to guide users to safer choices from the ones whose outcome could be more disruptive by using elements such as spatial order (for example 'Cancel' button comes as the left most option) and colour (for example 'No' button is coloured red). One of the problems with these approaches is that they are not usually consistent or strong enough to reduce the decision time of the user drastically. Asymmetry I assume would convey a much stronger association of the outcome of the choice to the user. For example, the appearance of the button representing the choice that users wouldn't typically make under the situation, could be tweaked slightly to enhance asymmetry (for example tilt a little over its central axis) to alert the user that the choice isn't a usual one and that he/she should think a bit more before clicking it.

We saw how a principle such as proximity has exceptions. We saw how an organizing element such as contrast can be enhanced by adding temporal dimension to it. Finally, we saw how asymmetry can be used to communicate concern and warning to the user. Hence though proximity, contrast and symmetry are powerful organizing principles, we can still benefit from knowing their limitations (3D), knowing how to increase their effectiveness multi-fold (temporal) and to use the absence of a principle to highlight (asymmetry).

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