

Harmony: A Tool for Navigating Through Deep Hyperspace

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Harmony is a new tool conceived for navigation through *deep hyperspace*, i.e. large-scale (many tens of thousands of nodes), dynamic hyperstructures. One of the main problems of such hyperstructures is disorientation – the “lost in hyperspace” syndrome. Harmony draws on the real-world experience of “finding your way in an unfamiliar part of the world” to suggest promising approaches to the task of navigating through deep hyperspace.

The underlying infrastructure of a *Hyper-G* (Kappe, 1993) server provides the basis for Harmony’s navigational metaphors. Based on the real-world observation that a hierarchical stack of progressively more detailed maps (e.g. The World – Canada – British Columbia – Vancouver) is better than a single global map, Hyper-G provides for the hierarchical structuring of hypermedia documents into collections and subcollections in addition to (and orthogonal to) the traditional plane of link-based browsing. Harmony’s navigational facilities include:

- **Hierarchical Navigation:** Harmony’s *collection browser* displays the tree structure of the collection hierarchy, opening up new levels of detail as the user navigates down the hierarchy. Subcollections can be opened and closed and documents viewed by double-clicking. The collection hierarchy’s representation is automatically expanded to show the location of documents reached by other navigational techniques (search, local browsing, etc.). Such *location feedback* is an important feature of Harmony not found in other comparable systems, allowing users to build up knowledge of the location of documents within hyperspace.
- **Search:** Harmony supports both attribute (title, keyword, etc.) and full text search, performed by default in the current collection. A ranked list of matching documents is displayed, from which individual documents may be selected. This is similar to looking up a historic building in the index on the back of a city map.
- **Local Browsing:** Local browsing refers to the process of following hyperlinks from within a document. Harmony presently supports linking from text, image, and 3D scene documents. Local browsing can be compared to visiting a historic building and then wandering down a few nearby streets.
- **Local Map:** A “local map” can be generated to show documents related to a particular document by hyperlinks. By default, two levels of incoming and outgoing links are presented. The local map is active: users can double-click on documents to view them. In our analogy, a local map corresponds to a kind of short-range radar, showing the vicinity around the current document.
- **Information Landscape:** Harmony’s information landscape is a 3D representation of the collection hierarchy. Users can “fly” over the landscape looking for salient features, like taking a helicopter flight over a city and picking out its important buildings.

We believe this combination of new and traditional features helps alleviate the sense of disorientation commonly experienced when navigating deep hyperspace.

References

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