



# Integrating GSS with Hypertext:

## Hyperthought

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### Why using Hypertext?

Previous research has demonstrated the superiority of hypertext over linear text in information representation from several standpoints:

**Visualization**  
... hypertext improves navigational efficiency/flexibility and reducing redundancy

**Conceptualization**  
...hypertext referential branching is consistent with the associative nature of human mind

... hypertext provides an explicit representation of the semantic relationships between the concepts

**Contextualization**  
...hypertext provides explicit linkages to better locate the context and leads to an easier interpretation of ideas

### How to manage an online discussion?

**The DEMOCRATIC way**  
...characterized by its voting feature. Participants vote for the creation of a concept or a proposition.

**The TOTALITARIAN way**  
...the facilitator is the sole decider of which concepts or/and propositions to retain. Participants can only create new comments or ideas and cannot guide the overall discussion

**The ANARCHIST way**  
...all proposed concepts and propositions are kept. Although this could lead to complex concept maps, it also provides more freedom of expression and may foster better creativity

### Research Objective:

- To propose a method for integrating GSS and Hypertext.
- To illustrate it through a prototype called Hyperthought.

### Research background:

The inconsistent effects of Group Support System on group performance have been recently explained through the contingency theories. However, little has been done on the potential effect of information representation on group performance. Today, GSS mainly use linear text to represent information while hypertext has been shown superior in many aspect. In this study, we are addressing this gap by integrating GSS with Hypertext.

### System Design:

The interface of the Hyperthought consists of five elements: 1) the map editing frame; 2) the concept listing frame; 3) the navigational frame; 4) the ideas frame; and 5) the comments frames.

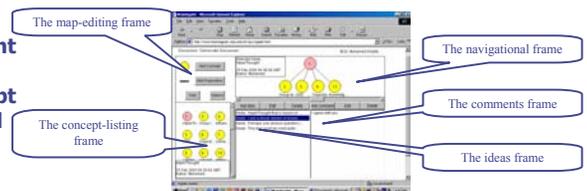


Fig. 1: Hyperthought main window



Contains the functions that enable the user to build and validate the concept map.

- To add concept
- To add a proposition (relationship between two concepts)



Show the immediate neighborhood of the selected concept



All concepts both newly proposed and validated are listed in the concept-listing frame.



By clicking an existing idea, the user can visualize its full text as well as its other attributes, i.e., author, date and time of addition.



The user can then comment on the selected idea by selecting the "add comment" menu item in the comments frame.

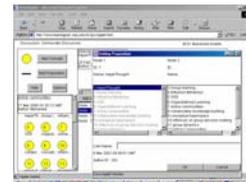


Fig. 2: How to add a proposition

### Hyperthought features and benefits:



- Organizing discussion content
- Enhancing visualization and conceptualization of discussions
- Externalization of mental models
- Fostering knowledge sharing
- Avoiding confusion and information overload



- Enhancing contextualization
- Providing better documentation for meetings



- Flexibility with different levels of restrictiveness

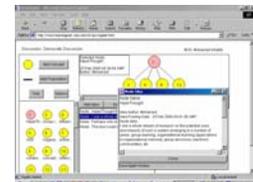


Fig. 3: Visualization of an idea

### Future research based on Hyperthought:

- Comparison of the Hyperthought to traditional GSS in terms of effects on a number of process variables (volume and quality of contributions, convergence, efficiency) and on outcome variables (decision quality, learning, consensus, satisfaction).
- Comparison of the three modes of restrictiveness in different contexts, e.g., decision making versus learning.

Fig. 4: Voting feature for the democracy mode

