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# United States Patent [19]

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Sauter

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[54] **HIGH-LEVEL ADAPTABLE BIDIRECTIONAL PROTOCOL FOR USE BETWEEN A HYPERMEDIA SYSTEM AND A PLURALITY OF EDITORS**

5,220,657	6/1993	Bly et al. ....	395/425
5,293,619	3/1994	Dean .....	395/650
5,339,388	8/1994	Bates et al. ....	395/148
5,355,472	10/1994	Lewis .....	395/700
5,392,400	2/1995	Berkowitz et al. ....	395/700

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### FOREIGN PATENT DOCUMENTS

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0451281 10/1991 European Pat. Off. .

[21] Appl. No.: **546,623**

### OTHER PUBLICATIONS

[22] Filed: **Oct. 23, 1995**

"Multimedia Databases: A Formal Framework", Yoshifumi Masunaga, IEEE Computer Society Office Automation Symposium, Apr. 1987, pp. 36-45, Gaithersburg, Maryland, U.S.A.

### Related U.S. Application Data

[63] Continuation of Ser. No. 44,588, Apr. 7, 1993, abandoned.

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### Foreign Application Priority Data

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Apr. 17, 1992 [FR] France ..... 92 04803

[51] **Int. Cl.**<sup>6</sup> ..... **G06F 17/24**; G06F 13/00

### [57] ABSTRACT

[52] **U.S. Cl.** ..... **395/200.01**; 395/153; 395/154; 395/200.04

A very high-level bidirectional protocol (CP) used for communication between a hypermedia system (HS) and a large number of interconnected editors (HSE, Ea, Eb, Ec, . . .) communicating within a hyperstructure. This protocol (CP) uses a set of messages that allow each editor to manipulate and manage the contents of hypermedia objects called nodes, and it is also manipulated by the hypermedia objects and is accessible through a programming interface.

[58] **Field of Search** ..... 395/153, 154, 395/200.01, 200.04

### [56] References Cited

#### U.S. PATENT DOCUMENTS

5,107,443 4/1992 Smith et al. .... 395/158

**7 Claims, 1 Drawing Sheet**

