

Exhibit 31



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United States Patent [19] Peckover

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- [54] **INTELLIGENT AGENTS FOR ELECTRONIC COMMERCE**
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- [21] Appl. No.: **08/784,829**
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Related U.S. Application Data

- [60] Provisional application No. 60/010,087, Jan. 17, 1996.
- [51] **Int. Cl.**⁷ **G06F 17/40**; G06F 17/60; G06F 17/30
- [52] **U.S. Cl.** **705/26**; 705/27; 705/10; 705/14
- [58] **Field of Search** 705/10, 14, 26, 705/27

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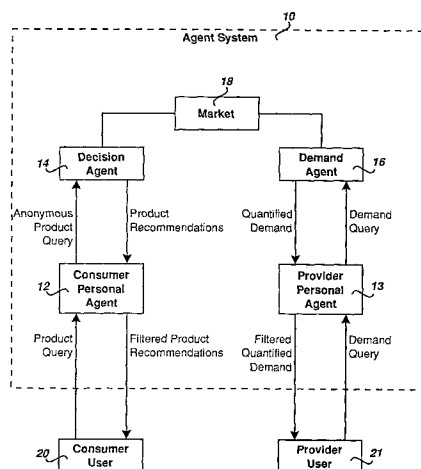
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[57] ABSTRACT

A system for electronic commerce (10) having personal agents (12 and 13) that represent consumers and providers in a virtual marketplace (28). Consumer personal agents conceal the identity of the consumer and are capable of creating decision agents (14) that shop for products and assist consumers in comparing and ranking products. Provider personal agents are capable of creating demand agents (16) that quantify demand and target specific consumers without learning the identity of the consumers. Based on data generated by the activities of the decision agents and on preference data maintained by consumer personal agents, provider personal agents can quantify current, historical, and future demand, simulate demand, and target specific consumers for advertising and other messages. Provider personal agents can cooperate with consumer personal agents to collect data about reasons for sales and lost sales and to offer consideration payments to consumers. Consumer personal agents can automatically reject unsolicited messages that do not satisfy the consumer's preferences.

57 Claims, 46 Drawing Sheets



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