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United States Patent [19]
Weinberg et al.

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[45] **Date of Patent:** **Nov. 7, 2000**

- [54] **VISUALIZATION OF WEB SITES AND HIERARCHICAL DATA STRUCTURES**
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- [73] Assignee: **Mercury Interactive Corporation**, Sunnyvale, Calif.
- [21] Appl. No.: **08/843,265**
- [22] Filed: **Apr. 11, 1997**

Related U.S. Application Data

- [60] Provisional application No. 60/028,474, Oct. 15, 1996.
- [51] **Int. Cl.⁷** **G06F 17/30**
- [52] **U.S. Cl.** **707/10; 707/104; 345/356; 345/357**
- [58] **Field of Search** **707/10, 104; 395/200.48, 395/200.49, 200.54; 345/356, 357**

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(List continued on next page.)

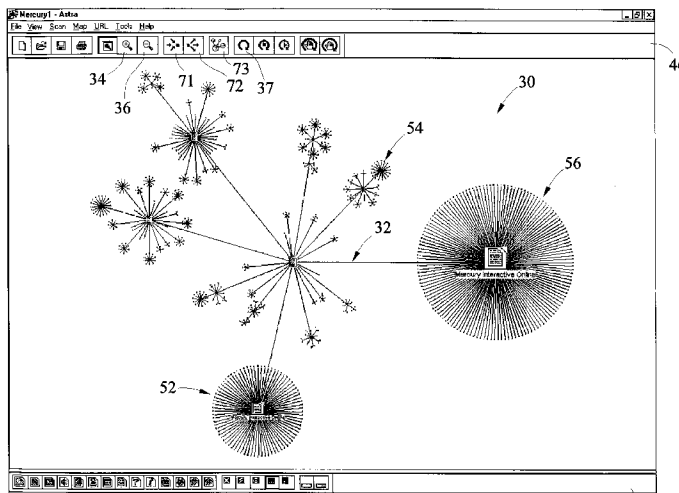
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[57] **ABSTRACT**

A visual Web site analysis program, implemented as a collection of software components, provides a variety of features for facilitating the analysis and management of Web sites and Web site content. A mapping component scans a Web site over a network connection and builds a site map which graphically depicts the URLs and links of the site. Site maps are generated using a unique layout and display methodology which allows the user to visualize the overall architecture of the Web site. Various map navigation and URL filtering features are provided to facilitate the task of identifying and repairing common Web site problems, such as links to missing URLs. A dynamic page scan feature enables the user to include dynamically-generated Web pages within the site map by capturing the output of a standard Web browser when a form is submitted by the user, and then automatically resubmitting this output during subsequent mappings of the site. The Web site analysis program is implemented using an extensible architecture which includes an API that allows plug-in applications to manipulate the display of the site map. Various plug-ins are provided which utilize the API to extend the functionality of the analysis program, including an action tracking plug-in which detects user activity and behavioral data (link activity levels, common site entry and exit points, etc.) from server log files and then superimposes such data onto the site map.

67 Claims, 24 Drawing Sheets

Microfiche Appendix Included
(1 Microfiche, 45 Pages)



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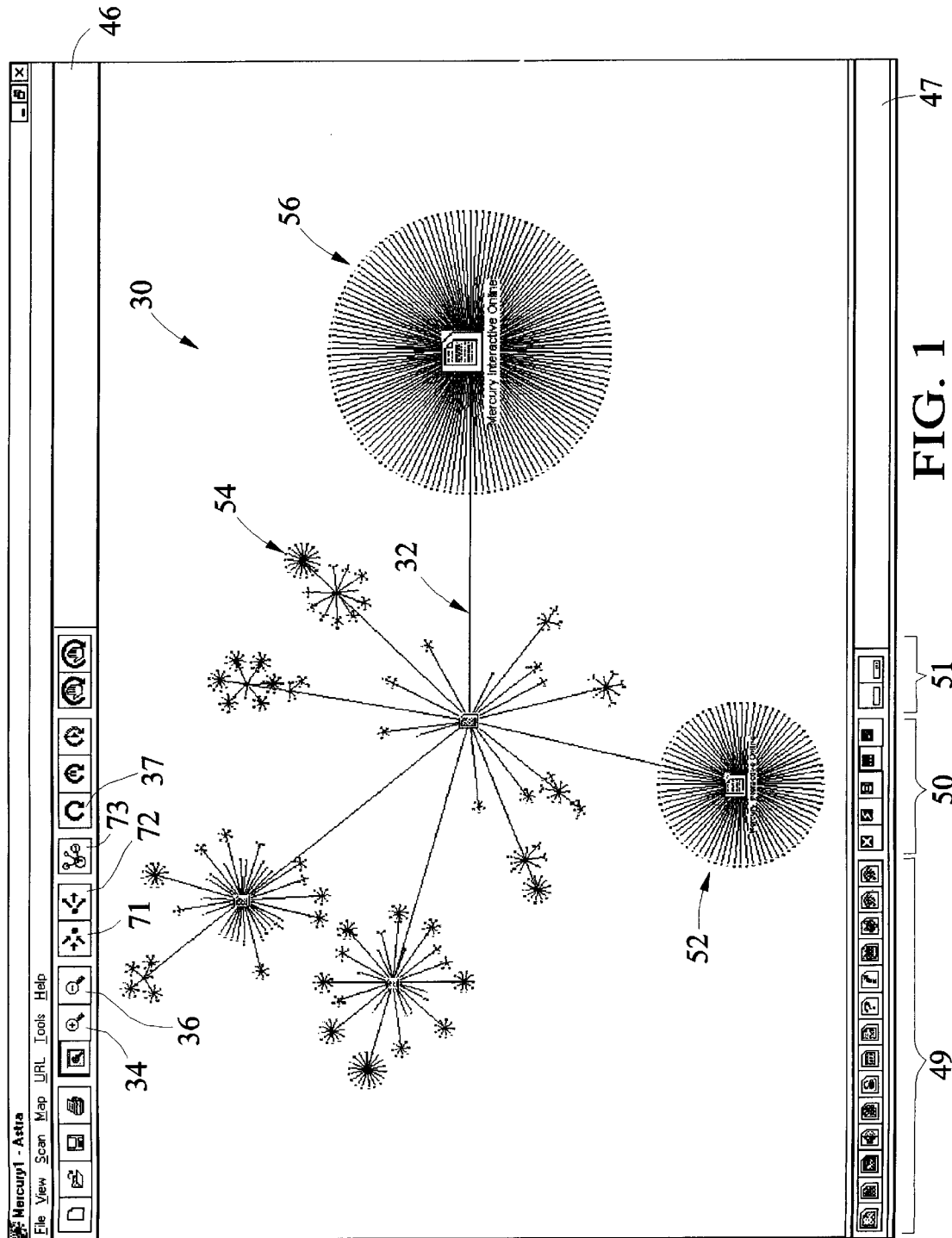


FIG. 1

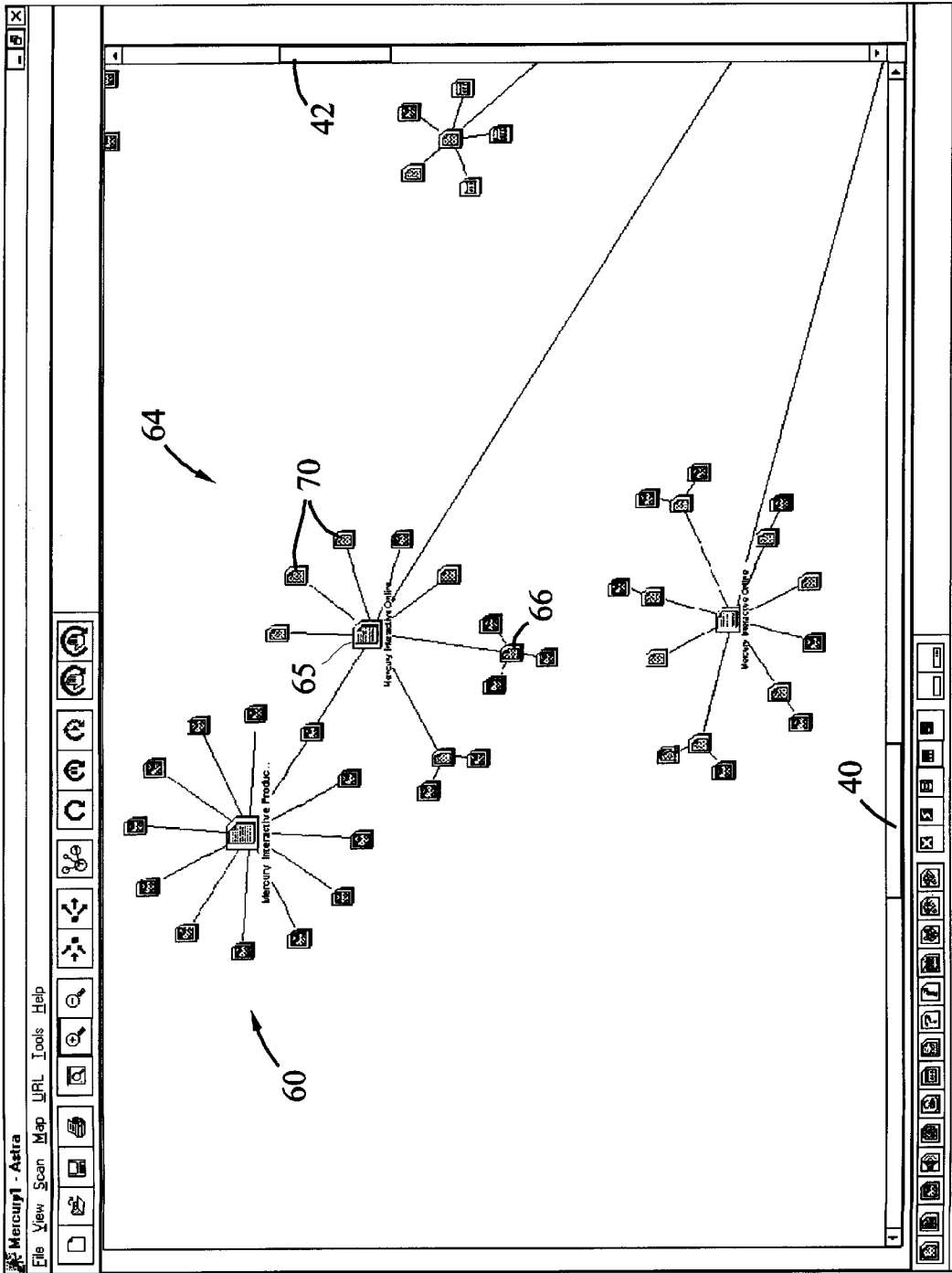


FIG. 2

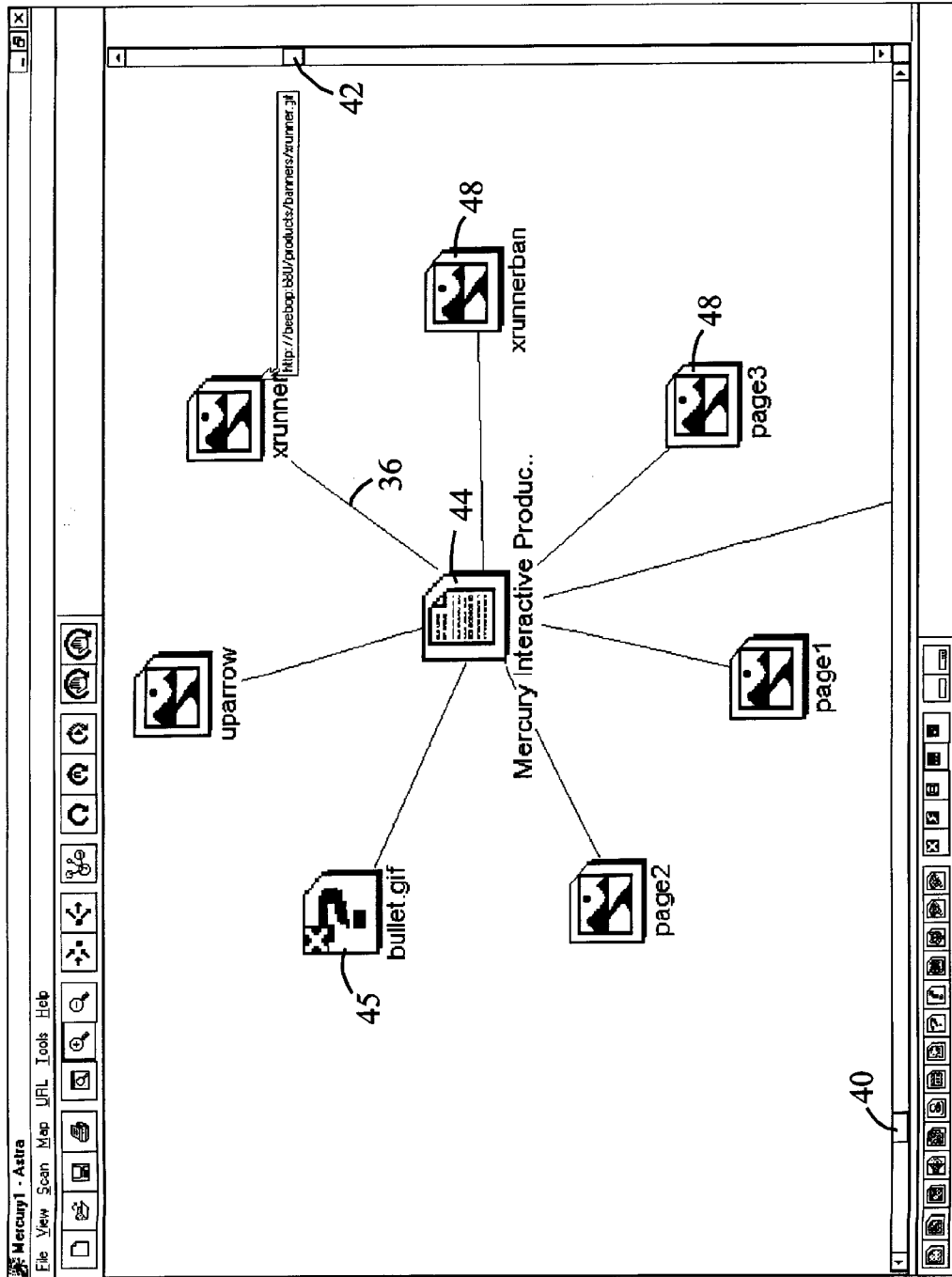


FIG. 3

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