United States Patent [19]

Cordell

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[45] **Date of Patent:** *****Feb. 29, 2000**

[54] **METHOD OF FORMATTING AND DISPLAYING NESTED DOCUMENTS**

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[73] Assignee: **Microsoft Corporation**, Redmond, Wash.

[*] Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

[21] Appl. No.: **08/807,637**

[22] Filed: **Feb. 27, 1997**

[51] **Int. Cl.^{7}** **G06F 17/00; G06F 17/30**

[52] **U.S. Cl.** **395/701; 707/513; 707/515**

[58] **Field of Search** 707/513, 515, 707/516, 517; 395/200.64, 200.57, 701

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[57] **ABSTRACT**

A new reference tag is provided as an extension to the HyperText Markup Language (HTML). The new reference tag allows nesting of HTML and other electronic documents within a main HTML document obtained from a computer network such as the Internet or an intranet while maintaining all the layout and presentation capabilities of HTML in both the main and nested documents. The new reference tag is implemented as a container tag. If a client network applications understands the new reference tag, nested documents are displayed for a user. If the client network application does not understand the new reference tag, then the other HTML information tags contained between the beginning and end of the reference tag (i.e. the reference tag container) are used to display information for a user.
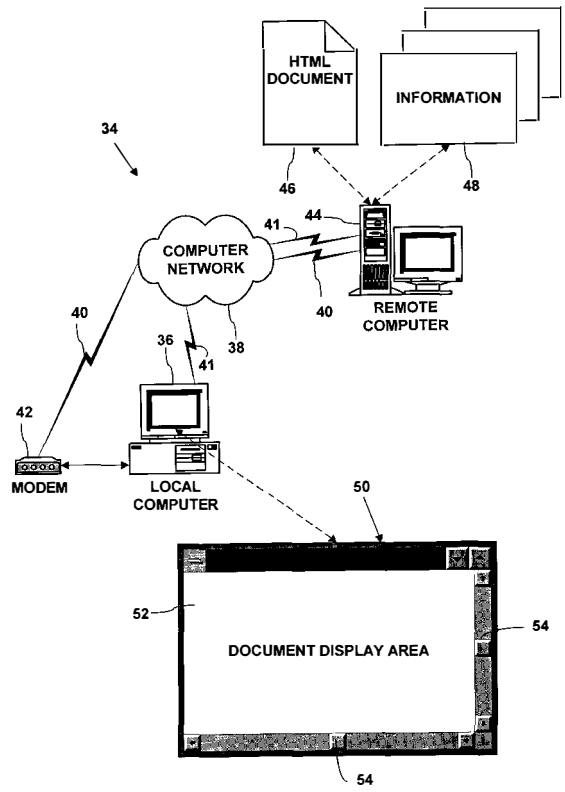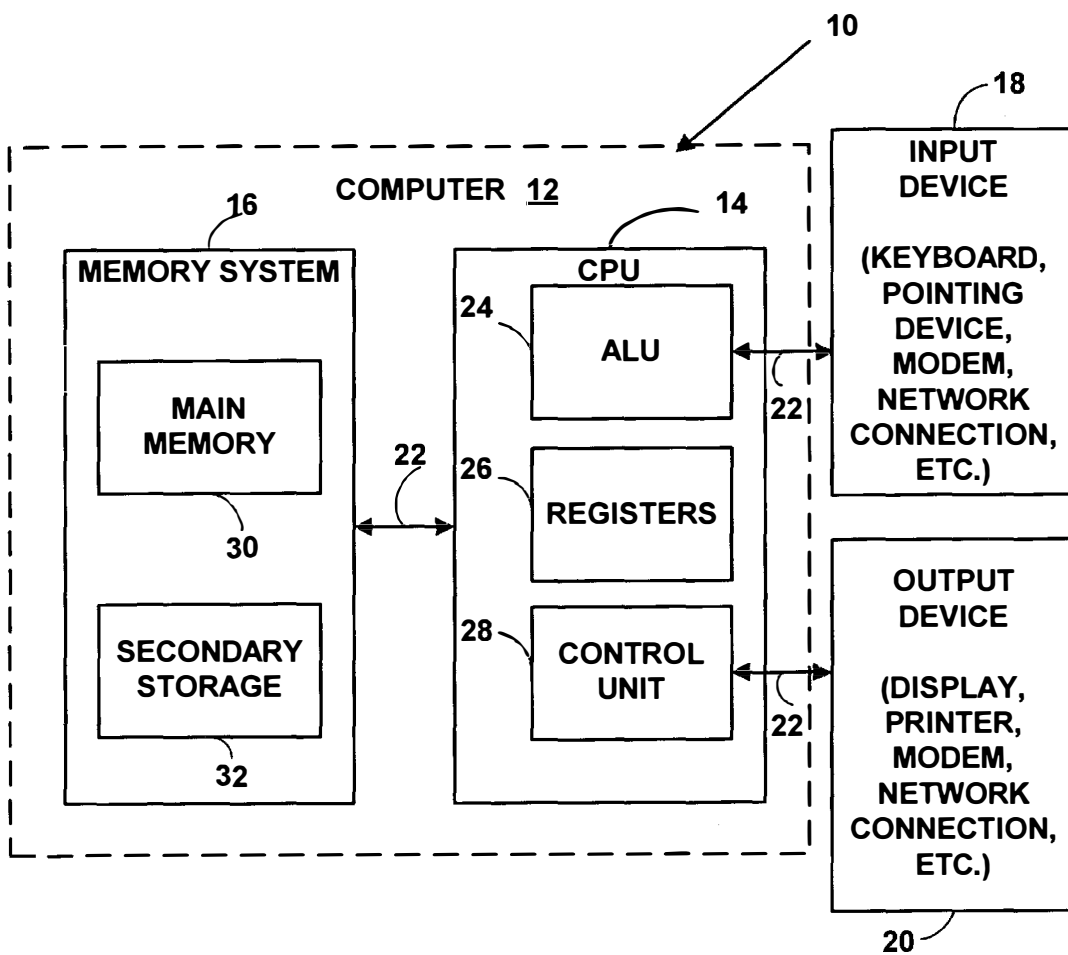
30 Claims, 7 Drawing Sheets

FIG. 1

FIG. 2

FIG. 3

```
        ┌──────────────┐
        │    START     │
        └──────┬───────┘
               │              56
               ▼
        ┌──────────────┐
        │  INSERT A    │
        │ REFERENCE TAG│
        │  FOR NESTED  │       58
        │  ELECTRONIC  │
        │ DOCUMENT(S)  │
        │    TO BE     │
        │  DISPLAYED   │
        │ WITHIN A MAIN│
        │  DOCUMENT    │
        └──────┬───────┘
               │
               ▼
        ┌──────────────┐
        │  SPECIFY THE │
        │DISPLAY LAYOUT│       60
        │ OF THE NESTED│
        │  ELECTRONIC  │
        │ DOCUMENT(S)  │
        │   WITH THE   │
        │ REFERENCE TAG│
        └──────┬───────┘
               │
               ▼
        ┌──────────────┐
        │  SPECIFY THE │
        │   DISPLAY    │
        │  TECHNIQUES  │       62
        │   USED FOR   │
        │DISPLAYING THE│
        │    NESTED    │
        │ DOCUMENT(S)  │
        │   WITH THE   │
        │ REFERENCE TAG│
        └──────┬───────┘
               │
               ▼
        ┌──────────────┐
        │     END      │
        └──────────────┘
```

FIG. 4

64

```
        ┌─────────────┐
        │    START    │
        └──────┬──────┘
               │
    ┌──────────▼──────────┐
    │   PARSE THE MAIN    │
    │   DOCUMENT WITH     │
    │    THE CLIENT       │  66
    │     NETWORK         │
    │   APPLICATION       │
    └──────────┬──────────┘
               │
           68  ▼
      ╱─────────────────╲                      ╱─────────────╲
     ╱    REFERENCE       ╲       NO           ╱     DONE       ╲   74
    ╱ TAG TO A NESTED       ╲ ──────────────► ╱   PARSING?       ╲
     ╲    DOCUMENT?        ╱                   ╲                 ╱
      ╲─────────────────╱                      ╲─────────────╱
            │ YES                                    │ YES
        70  ▼                                        ▼
    ┌───────────────────┐                    ┌─────────────┐
    │    DETERMINE      │                     │     END     │
    │  DISPLAY LAYOUT   │                     └─────────────┘
    │   INFORMATION     │
    │   AND DISPLAY     │
    │   TECHNIQUES      │
    │    FOR THE        │
    │    NESTED         │
    │  DOCUMENT(S)      │
    │   FROM THE        │
    │  REFERENCE TAG    │
    └──────────┬────────┘
               │
           72  ▼
    ┌───────────────────┐
    │   DISPLAY THE     │
    │    NESTED         │
    │  DOCUMENT(S)      │
    │ WITHIN THE MAIN   │
    │    DOCUMENT       │
    └───────────────────┘
```
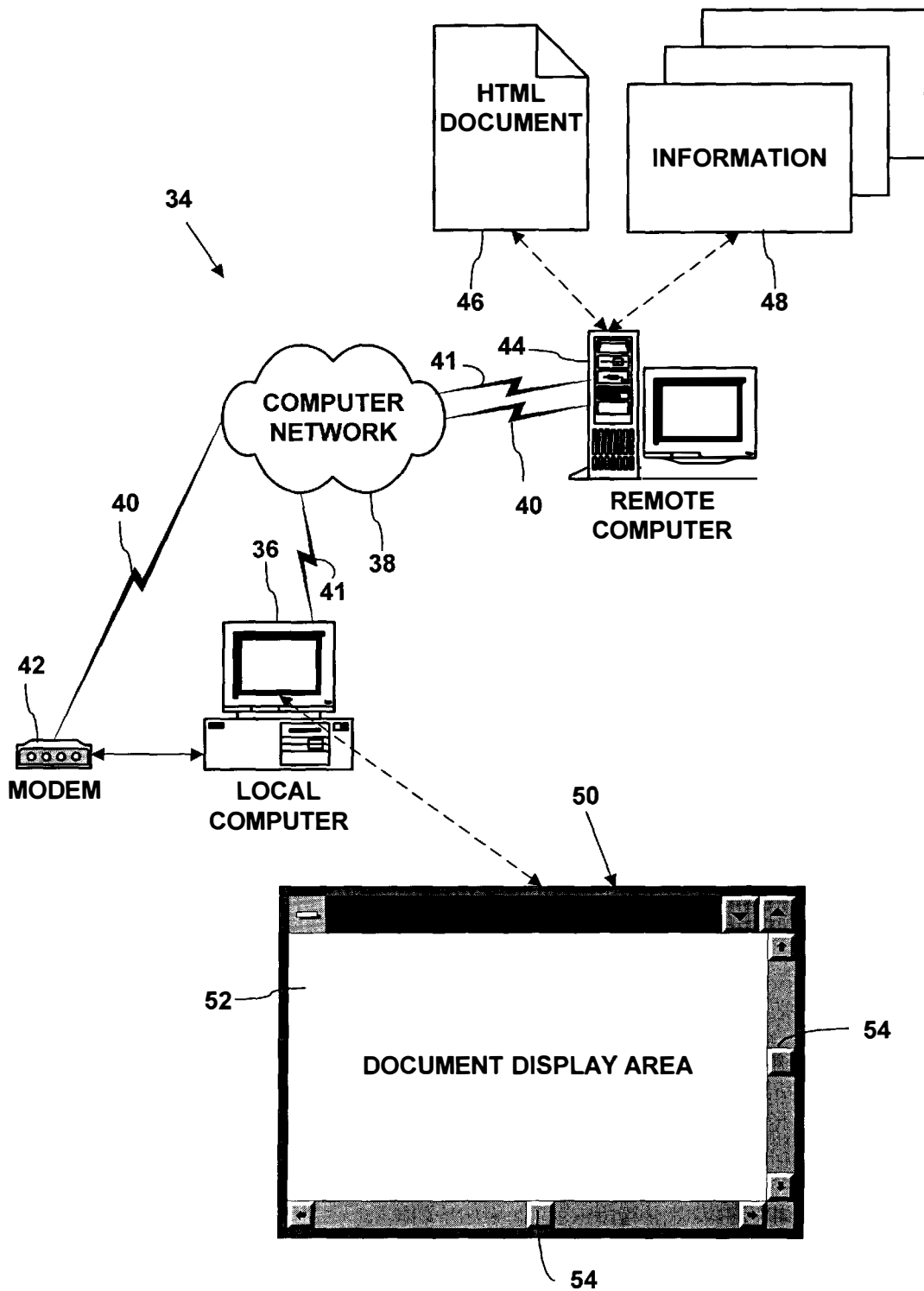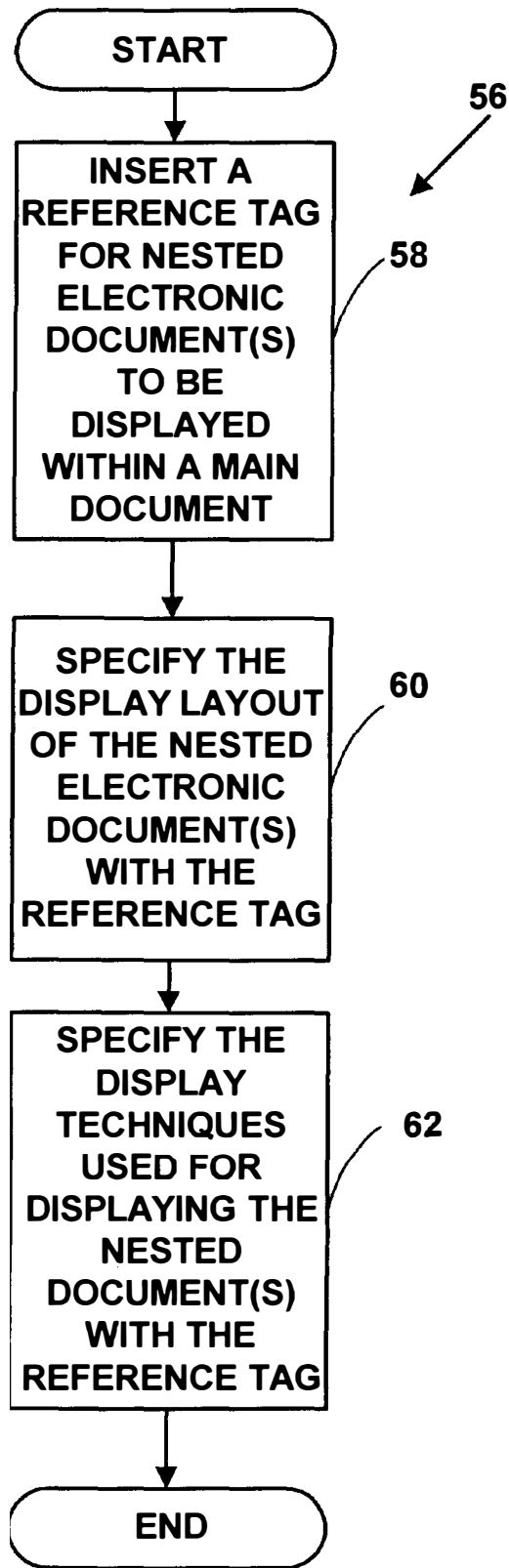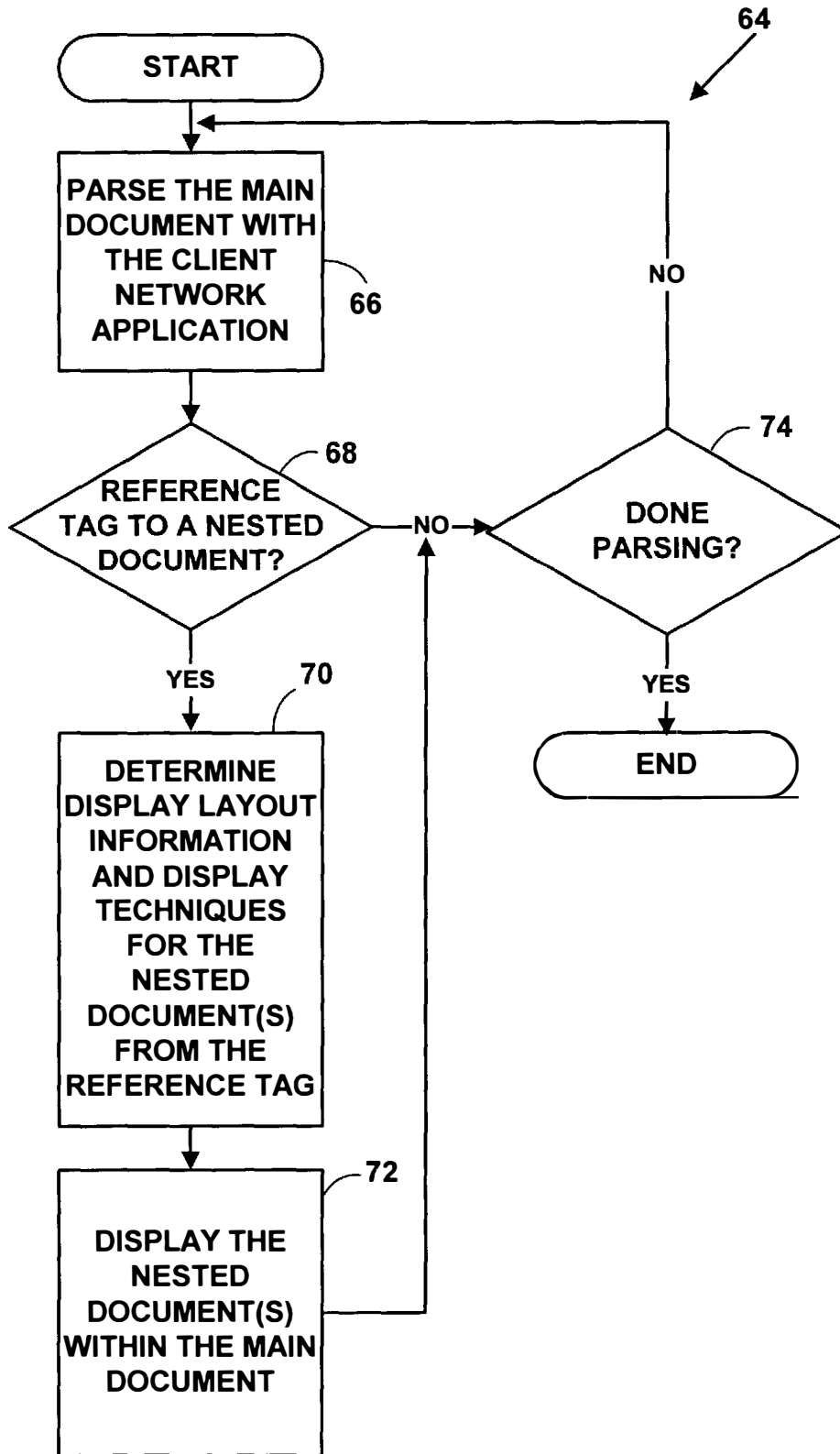
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