

Ex. 1022

US Patent No. 6,404,433 (“Ruff”)

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Ruff et al.

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- (54) **DATA-DRIVEN LAYOUT ENGINE**
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(US)
- (*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.
- (21) Appl. No.: **08/644,360**
- (22) Filed: **May 10, 1996**

Related U.S. Application Data

- (63) Continuation-in-part of application No. 08/242,963, filed on
May 16, 1994, application No. 08/243,368, filed on May 16,
1994, now Pat. No. 5,554,746, and application No. 08/243,
327, filed on May 16, 1994.
- (51) **Int. Cl.⁷** **G06F 15/00**
- (52) **U.S. Cl.** **345/441**
- (58) **Field of Search** 345/432, 433,
345/333, 334, 335, 441

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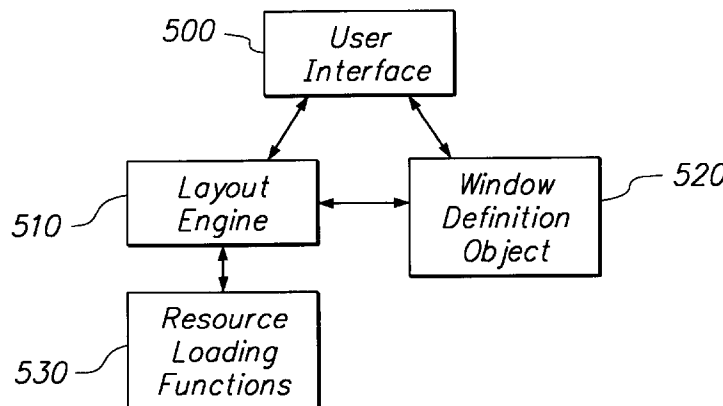
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Mathis, L.L.P.

(57) **ABSTRACT**

Systems and methods for providing a user with increased
flexibility and control over the appearance and behavior of
objects on a user interface are described. Sets of objects can
be grouped into themes to provide a user with a distinct
overall impression of the interface. These themes can be
switched dynamically by switching pointers to drawing
procedures or switching data being supplied to these proce-
dures. To buffer applications from the switchable nature of
graphical user interfaces according to the present invention,
colors and patterns used to implement the interface objects
are abstracted from the interface by, for example, pattern
look-up tables.

54 Claims, 16 Drawing Sheets



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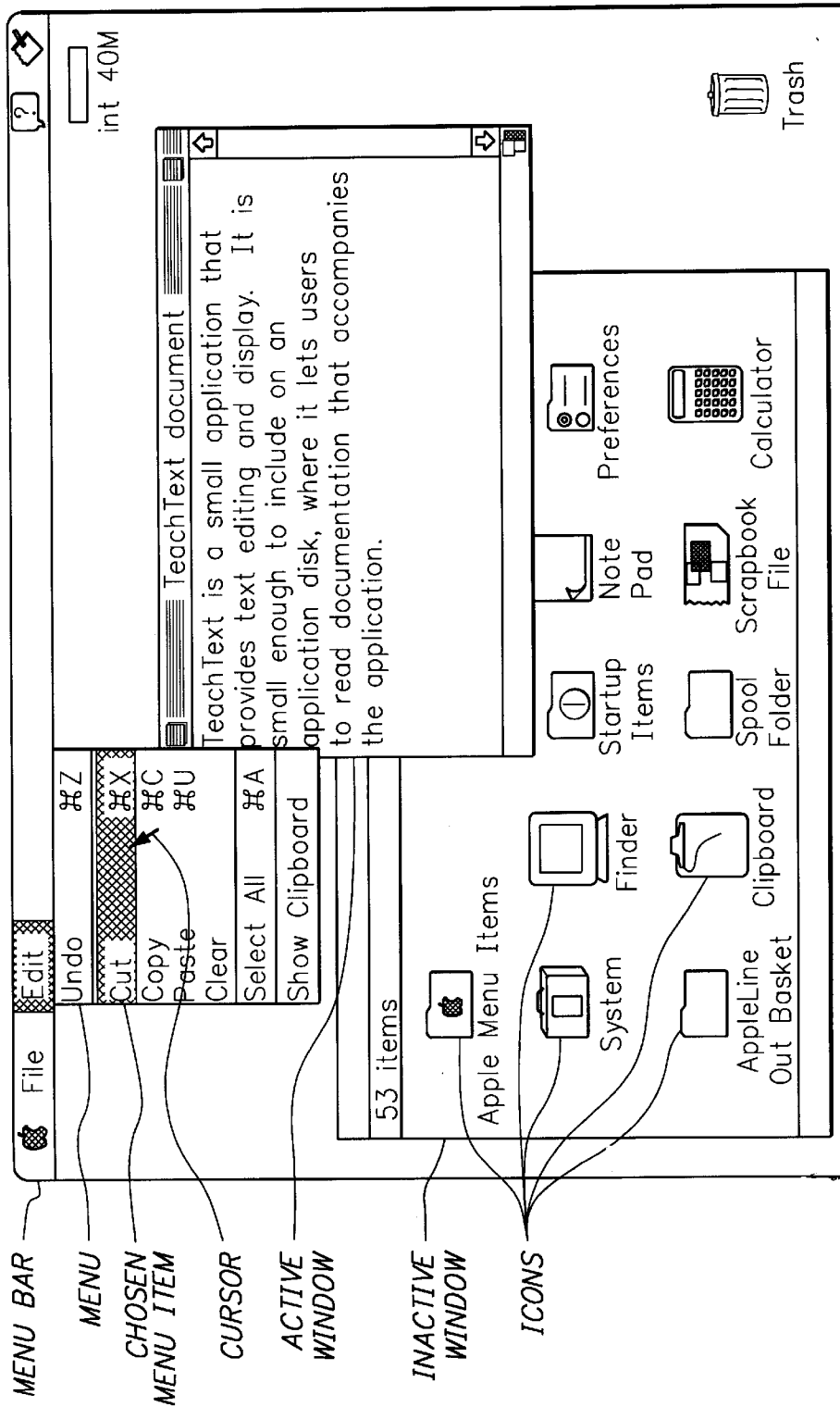


FIG. 1 PRIOR ART

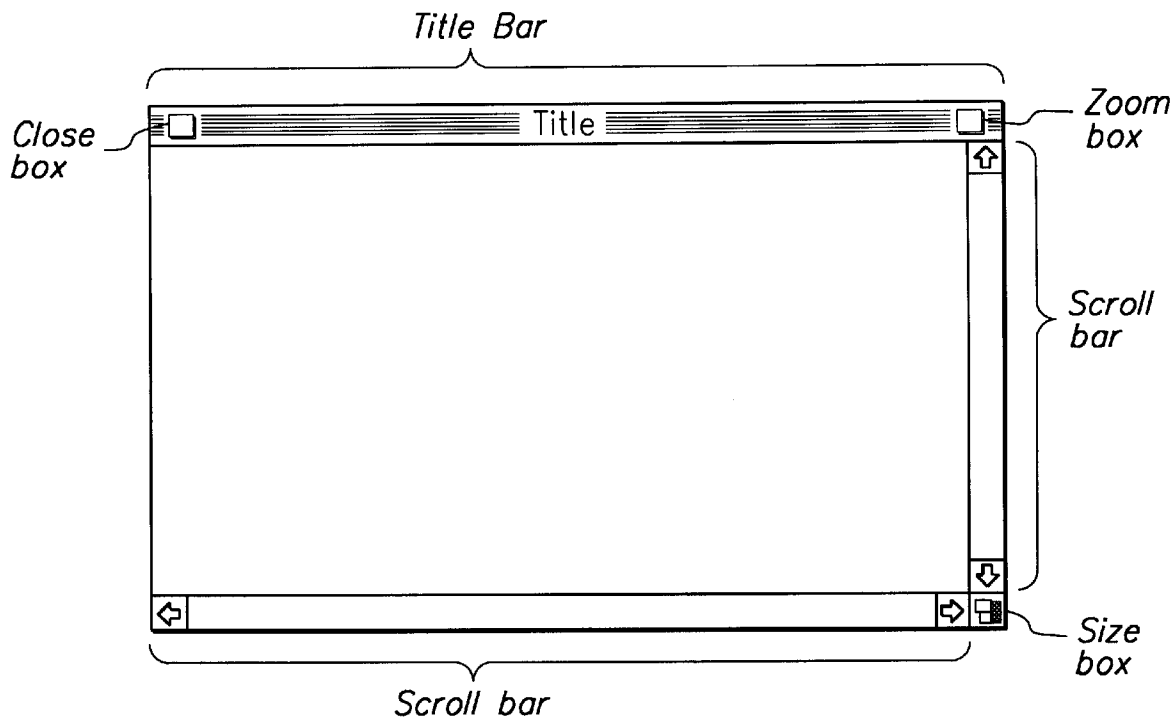


FIG. 2A PRIOR ART

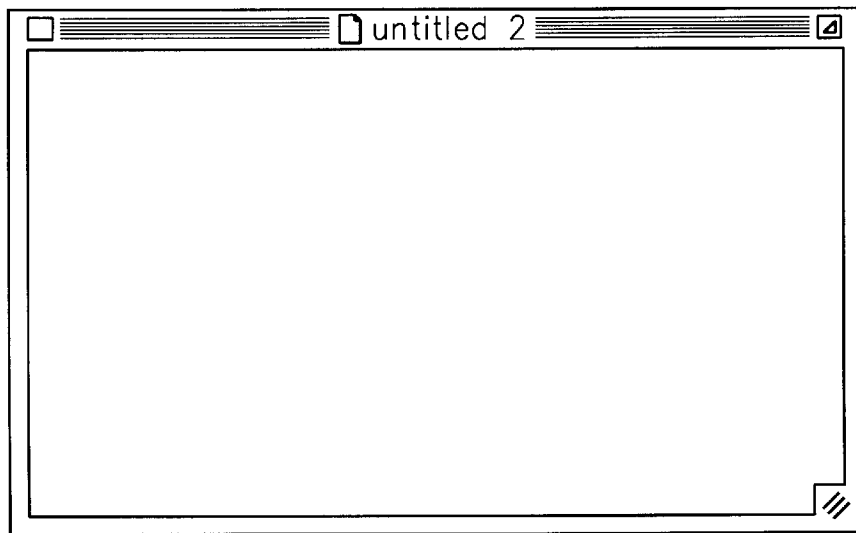


FIG. 2B

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