United States Patent [19]

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[54] **METHOD AND APPARATUS FOR PROVIDING IMPLICIT COMPUTER-IMPLEMENTED ASSISTANCE**

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[51] Int. Cl.^{6} G06F 17/30

[52] U.S. Cl. **395/338**; 395/336

[58] Field of Search 395/155, 156, 395/157, 159, 161, 149, 336, 337, 338, 968, 759, 12, 51, 62; 364/419.08, 419.19, 419.1, 419.14, 419.15, 419.13

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[57] **ABSTRACT**

A method and apparatus for providing computer-assisted implicit and explicit assistance. If no implicit assist actions are desired or indicated, a logical process is initiated to determine whether explicit assistance should be undertaken. If implicit assistance is indicated, a list of action alternatives is displayed for the user. If explicit assistance is desired by the user, particular object(s) from which the assistance may be inferred are entered into an assistance operation. An attempt is made to recognize possible intents expressed by the objects entered into the assistance process. If no user intent is, in fact, recognized, the assist operation is usually terminated. If a possible intent is recognized, the actual intent is hypothesized. A check is further undertaken, to determine whether a hypothesis is in fact available. If no hypothesis is found, the process permits the user to supply a proposed action. If no hypothesis is found and no user action is proposed, assistance efforts terminate. However, if a hypothesis is available, preparations for execution are undertaken. A final inquiry is made as to whether to undertake the hypothesized assist. If the response to an inquiry whether to assist as hypothesized is affirmative, execution of the hypothesized action is undertaken. A pen-based computer preferably implements the indicated functions.
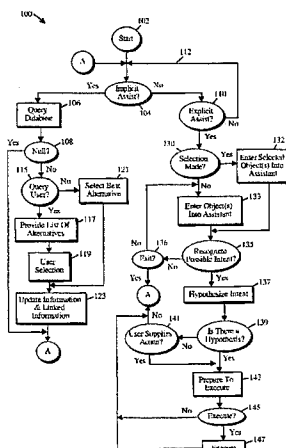
20 Claims, 18 Drawing Sheets

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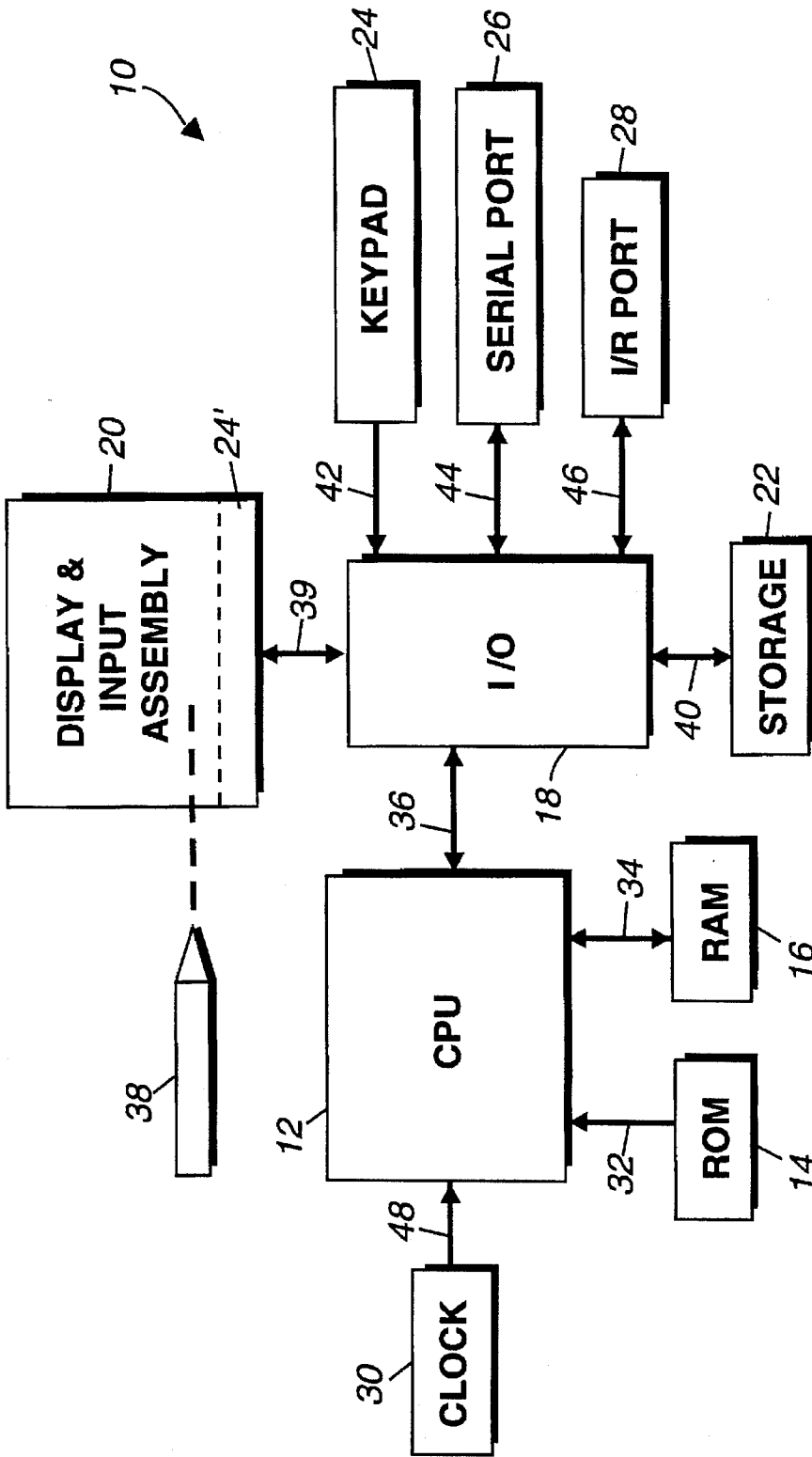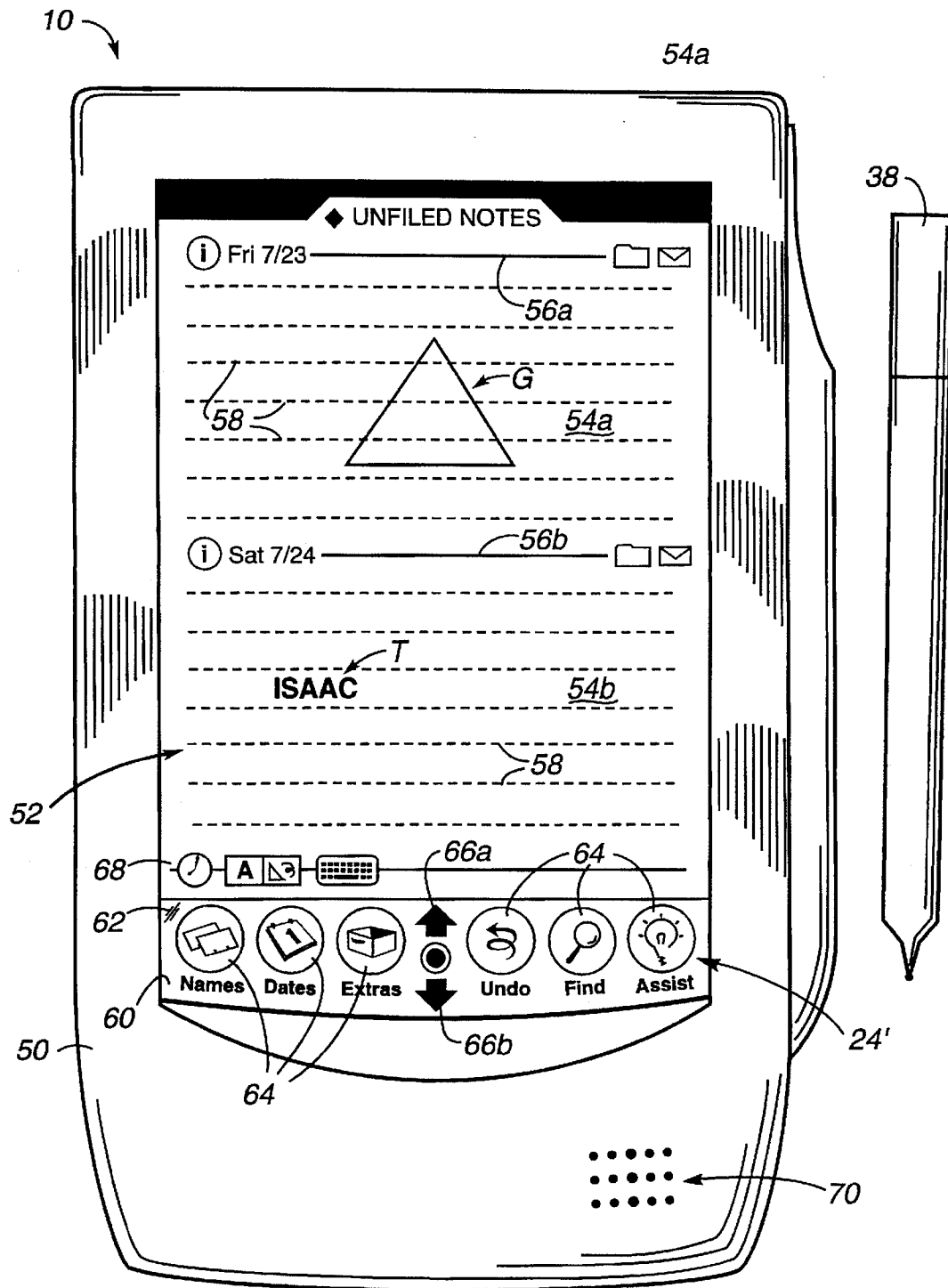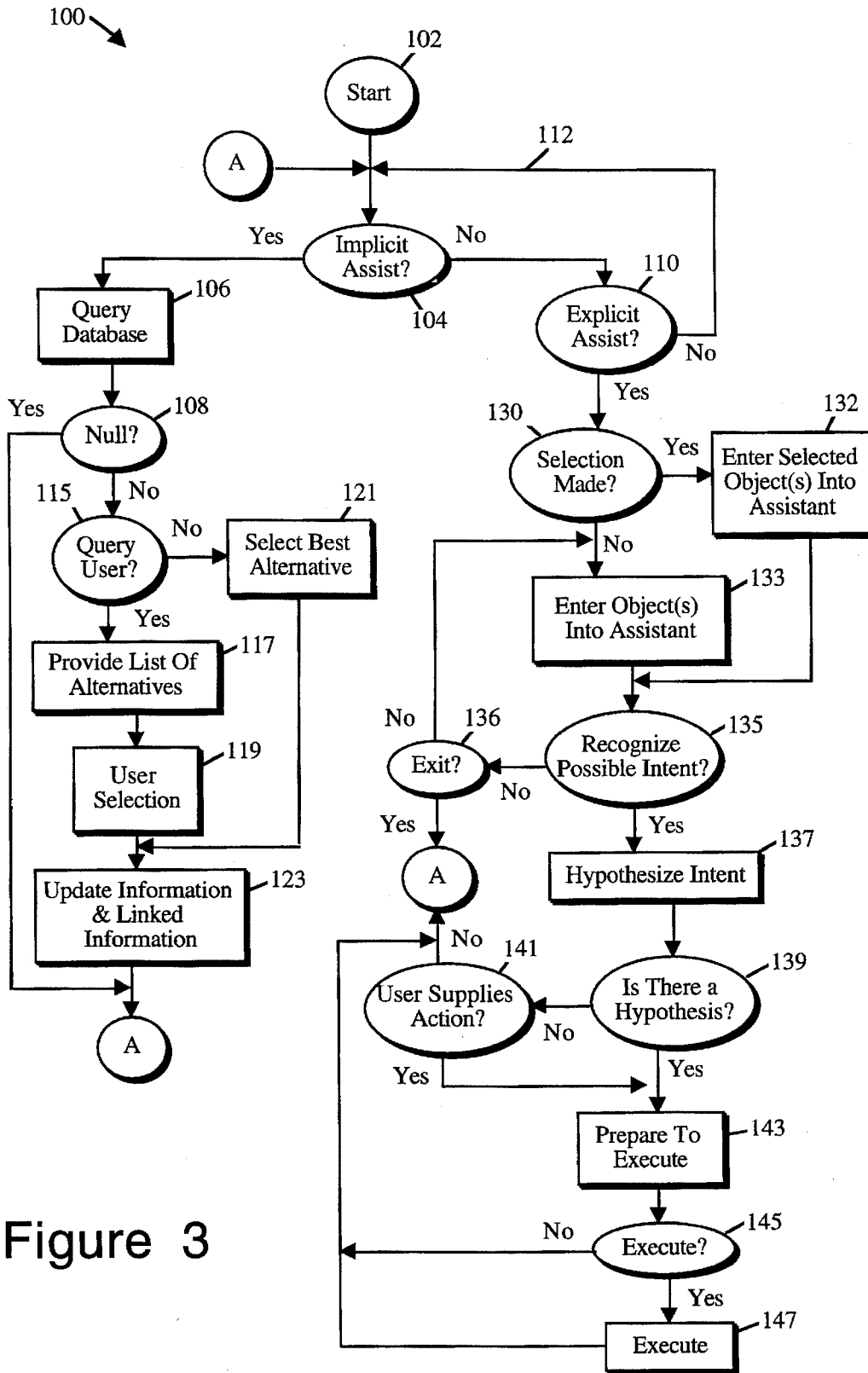
Figure 1

Figure 2

Figure 3

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