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(54) Title: LOW-LATENCY VISUAL RESPONSE TO INPUT VIA PRE-GENERATION OF ALTERNATIVE GRAPHICAL REPRESENTATIONS OF APPLICATION ELEMENTS AND INPUT HANDLING ON A GRAPHICAL PROCESSING UNIT

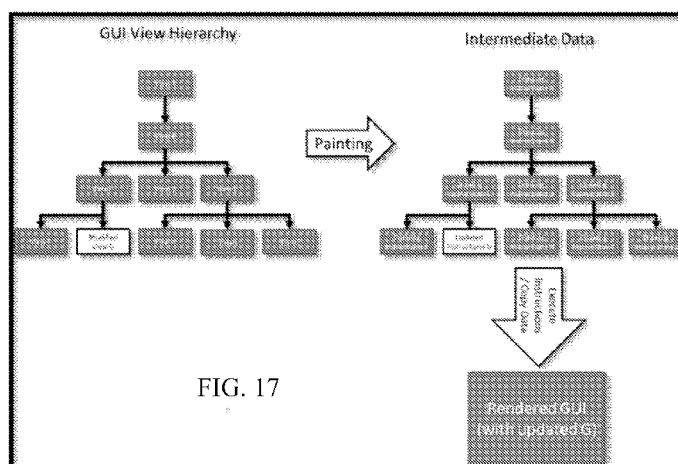


FIG. 17

(57) **Abstract:** A method for providing a visual response to input with reduced latency in a computing device includes computing alternative sets of intermediate data for a first graphical user interface element, each alternative set of intermediate data comprising data useful to produce a visual representation of the graphical user interface element. The plurality of alternative sets of intermediate data and a set of intermediate data for a second graphical user interface element are stored in memory. The method creates an index identifying a first one of the plurality of alternative sets of intermediate data for the first graphical user interface element to use in forming a final pixel image. The index, the first set of alternative intermediate data for the graphical user interface element, and the intermediate data for the second graphical user interface element are used to create a first final pixel image for display to a user, the first final pixel image including the first and second graphical user interface elements. In response to user input, the index is modified to include an identification of a second one of the plurality of alternative sets of intermediate data for the first graphical user interface element, and the modified index is used to create a final pixel image for display to a user.