AUDIBLE FEEDBACK FOR CAPACITIVE BUTTONS

HP INC
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Abstract: A technique is disclosed that adds audible feedback to capacitive buttons without added hardware cost and with minimal software or firmware rework by modifying firmware code running on the capacitive button controller IC.
This disclosure relates to the field of computers.

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In many cases it is desired for user interface buttons to provide audible feedback. This serves as an acknowledgment that allows a user to know that a button was successfully pressed. Capacitive buttons, however, do not provide such audible feedback. As a result, the user cannot be certain whether a button press was properly detected and received. However, adding a hardware circuit and device to create a click sound would disadvantageously add significant cost to a platform.

According to the present disclosure, audible feedback when a capacitive button is pressed is provided without added hardware and at minimal cost by modifying the firmware code running on the capacitive button controller IC. This technique takes advantage of pre-existing capabilities in the system to generate a click sound under software control. The coding requirements and resources to make the software react properly across multiple unique platforms is avoided by defining a generic "request for a click sound" action that is added to the existing button press routines that manage interactions between the system and the button controller IC in the normal course of operation of the buttons.

This technique also advantageously allows existing platforms without audible button feedback to gain this added capability invention through normal software and firmware upgrade processes for these platforms.

_Disclosed by Christopher Rijken, Rick Pham, and Jeffrey C. Stevens, HP Inc._