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INVISIBLE DISPLAY MODE

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Invisible Display Mode

Abstract: The perceived visibility of a computer monitor is reduced or eliminated when not in use by imaging the environment behind the monitor and adjusting it based on the head position of the monitor's user.

This disclosure relates to the field of computer monitors.

A technique is disclosed that reduces or eliminates the visibility of a computer monitor when it is not in use.

Computer monitors are getting larger, while in many cases office space is getting smaller. Using multiple monitors in such an environment creates visual clutter and can contribute to a claustrophobic feeling for users. Smaller monitors could be used, but they may not be able to simultaneously display the number of documents the user is accessing in an sufficiently large font size.

According to the present disclosure, a computer monitor implements an "invisible display mode" through the use of a wide angle camera added to the back of a monitor combined with head tracking.

The monitor includes a wide-angle camera (approximately 180 degrees) at the rear which images the environment behind the monitor (e.g. an office wall, etc.). The focal point of view is adjusted to give the impression that the panel is invisible. The invisible display mode is activated when the monitor is not in use.

The monitor also includes a front camera which tracks the head position of the user. Software, typically in the monitor, then continually selects in real time the correct portion of the back of the camera to give the user the illusion of a transparent display. The rear image capture can be a slow, high-resolution image. The head tracking should be very fast to preserve the illusion.

The monitor also includes a sensor to capture the correct white point of the room and calibrates the display in real time to match the white point.

The disclosed technique advantageously provides the sensation of depth and a bigger space in an office or cubicle. The technique could also be applied to windows of an office or home, replacing the windows with monitors of this type.

Disclosed by Alois Bonnet, HP Inc.