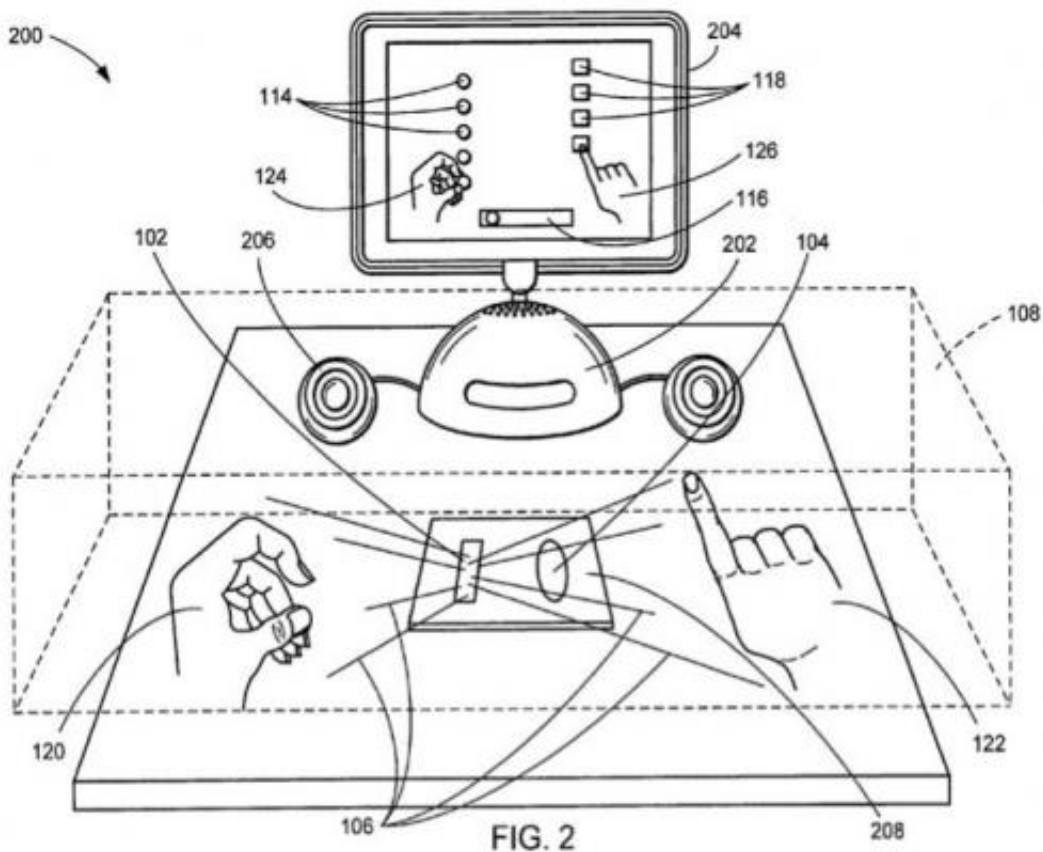


Apple seeks patents for display and noise-out systems

December 11 2011, by Nancy Owano



(PhysOrg.com) -- Apple made patent news this week in two directions, toward a Kinect like system and toward a quest for excellence in sound quality on phones. It's been reported that Apple has filed patent

applications for a 3-D image and display system, and for technology techniques that can deliver significant improvements in the audio quality of portable devices, especially in noise cancellation.

[The application](#) for a 3-D image and display system has drawn comments that sounds as if Apple is trying to catch up with the success of Microsoft's Kinect, though time will tell what Apple specifically has in store.

Apple filed the [patent application](#) in August for this 3-D motion tracking system that can respond to hand and finger movements.

According to [Apple Insider](#), Apple wants to explore an "entirely new way" for users to work on their Mac, with a new system allowing users to perform gestures with their hands in a three-dimensional space.

The patent notes the need for "uncomplicated, economical, yet highly effective 3D input devices for computers."

These devices need to be able to optically sense object or human positions, orientations, and/or motions, according to the patent application. In consideration of costs and convenience, it said, the devices need to be compact and able to fit into a small unit. They also need to be versatile, enough to work with a range of conventional consumer appliances.

The Apple patent application is a further sign, say observers, that computer users are being guided toward a future dominated by natural user interfaces. Futurists are certain that gestures and speech will surpass keyboard and mouse as ways to control computing devices.

The [other patent filings](#) are drawing special attention in light of the ubiquity of iPhones. The filings indicate that Apple is taking sound

quality in phone calls to the next level, with technology that links [noise cancellation](#) with voice recognition.

Apple wants to improve the [sound quality](#) of a voice even when the user's voice is fighting to be heard clearly on a call where there is shouting all around. This would be a step up in succeeding to do so, from other noise cancellation techniques that seek to filter out types of ambient noise such as machine sounds. The Apple approach is more like the inside out rather than outside in.

Apple's technique will analyze all aspects of the user's voice and filter out the rest. Apple's system would identify the user's voice using metrics such as average frequency and range, common speech sounds, and dynamic range. It could then recognize what part of the sound it needs to amplify and what it should cancel.

The "Siri factor" may help explain Apple's focus on sound improvements, as Apple wants to see further inroads in voice recognition. What is evident is that four [patent](#) applications relating to sound improvements were discovered by [Apple Insider](#). The patents are User-Specific Noise Suppression for Voice Quality Improvements, Active Noise Cancellation Decisions in a Portable Audio Device, User Interface Tone Echo Cancellation, and System and Method for Removing TDMA Audio Noise.

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