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GESTURE AND VOICE THROUGH WIRELESS MICROPHONE DEVICE

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Gesture and Voice Through Wireless Microphone Device

Abstract

This invention is to develop gesture and voice control via wireless microphone device by using IR camera to detect predefined motions and SW voice algorithm that recognize voice commands through Bluetooth to deliver the commands to laptops, monitor, and projectors.

Background

One of the biggest pain points during a business presentation is to switch between pages with the computer while speaking in front of audience.

Speakers either have to setup a remote to progress to next/go back to previous pages, or need to be within reach of their computers for which limit their mobility during presentation.

Some may ask audience to help while away from computers which is not ideal. These scenarios are all distractors to the presenter.

Invention Description

By combining simple gesture control and voice command, presenters can effortlessly navigate through their presentations and focus their minds on the materials and not the setup.

Gesture control can be enabled by using IR camera to detect predefined motions (i.e. hand swipe left to right for page forward, swipe down to exit, holding a fist for pause, etc).

Voice control can also assist with the same set of commands as gesture and more while presenter is away or obstructed from view of the IR camera. This is enabled by SW voice algorithm that recognize voice commands.

In addition, gesture and voice can also be combined to achieve a seamless experience.

Gesture

- IR LED integrated in wireless microphone device to provide illumination for IR camera
- IR camera captures user gesture even in the dark and send from wireless microphone device to computer for processing. SW algorithm identifies user motion which can replace touch panel and provide touch like experience to user.

Voice

- Microphones capture user's voice and send to computer for processing. SW algorithm identifies user voice command and execute accordingly.

Advantages

- Provide a real-time and powerful interaction solution through wireless microphone device.
- Gesture and voice control devices recognize and interpret human body movements and voice, allowing the user to interact with a computer system.

- Have the intuitiveness and enjoyability experience.
- Gesture and voice controls are often the best method for interaction with augmented reality.
- By combining simple gesture control and voice command, presenters can effortlessly navigate through their presentations and focus their minds on the materials and not the setup.
- Gesture control can be enabled by using IR camera to detect predefined motions (i.e. hand swipe left to right for page forward, swipe down to exit, holding a fist for pause, etc.).
- Voice control can also assist with the same set of commands as gesture and more while presenter is away or obstructed from view of the IR camera. This is enabled by SW voice algorithm that recognize voice commands.
- Gesture and voice can also be combined to achieve a seamless experience.

Disclosed by Kuan-Ting Wu/Alan Tam/HH Hsieh/Super Liao, HP Inc.