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Tethered Smart Glasses

Zhe Chen

Shijing Xian

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TETHERED SMART GLASSES

ABSTRACT

A device and system are disclosed for providing a better AR user experience with a phone, using tethered smart glasses. The system includes a display on a glasses form-factor device with a high resolution camera, a USB cable connecting the device with a phone via USB port. The device uses drivers with pluggable components running on the phone and utilizes the phone's battery. The device can be used in different applications like gaming, video chat, live streaming, notifications, advertisement, etc. The advantages of the device are that it accesses the large battery and the CPU and graphics processing powers of the phone that are multiple times higher than typical VR glasses. Also the smart glasses used are lighter, providing a better user experience.

BACKGROUND

In order for a phone to provide a good AR user experience, some views of the physical, real-world environment are taken and the reality is augmented with computer generated sensory inputs. Then the modified reality is shown through a display or sound. The challenge here is that it usually requires users to provide input and receive output in certain specific ways. The AR interface may require users to hold the phone in front of them to take a photo of the reality and display the modified content on the screen. As users will need to hold the phone and focus on the screen while walking or moving, this can be difficult in some scenarios, and users would love a hands-free solution. This disclosure works towards providing a better or easier AR user experience with a phone using tethered smart glass.

DESCRIPTION

A device and system are disclosed for providing a better or easier AR user experience with a phone, using tethered smart glasses. As illustrated in FIG. 1, the system includes a display on a glasses form-factor device with a high resolution camera. A USB cable connects the device with a phone via USB port, and uses drivers with pluggable components running on the phone. The AR device thus has access to the phone's battery for power, which could be as high as 3~4000mA. The disclosed device provides new control methods by utilizing trackpad, button or motion sensor of the phone and can be used in different applications like gaming, video chat, live streaming, notifications, advertisement, etc., to provide AR user experience in different areas.

The advantages of this system are that the tethered smart glasses has a much bigger battery when compared to existing smart glasses devices with a battery size of 300~400mA. Due to larger battery and more heat headroom the CPU and graphics processing power are multiple times higher at a lower cost. In addition, the smart glasses are lighter and simpler since the battery and Soc are removed from the frame, which provides a much better user experience. The longevity of the smart glasses could be greatly extended as it could work as an external accessory.

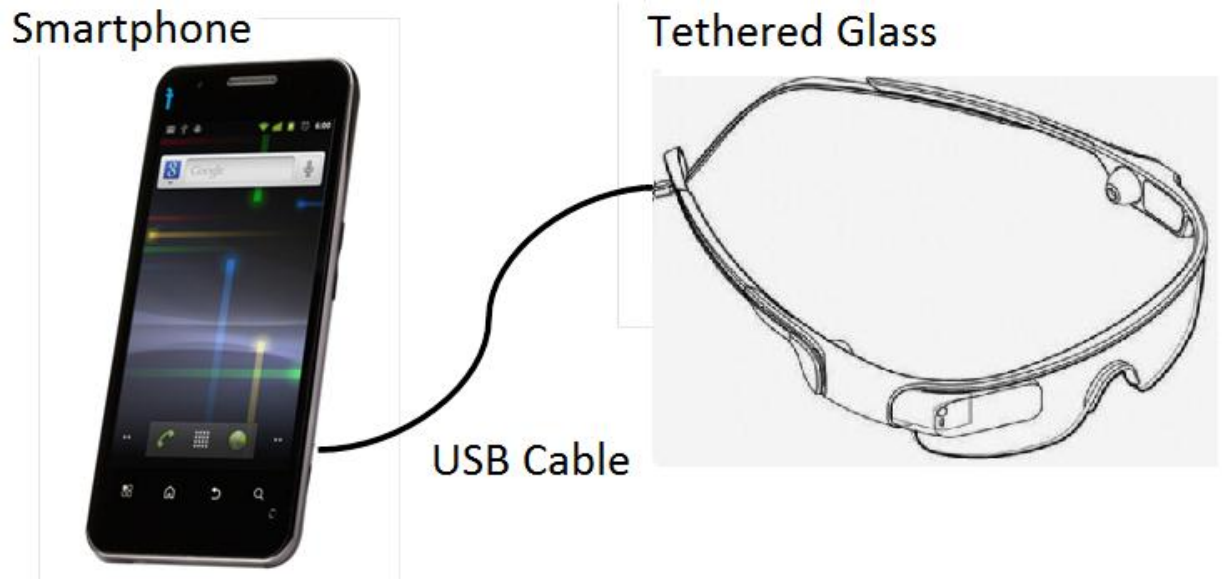


FIG. 1: Tethered smart glasses for augmented reality