VIRTUAL ASSISTANCE FOR HOSPITALIZED PERSON

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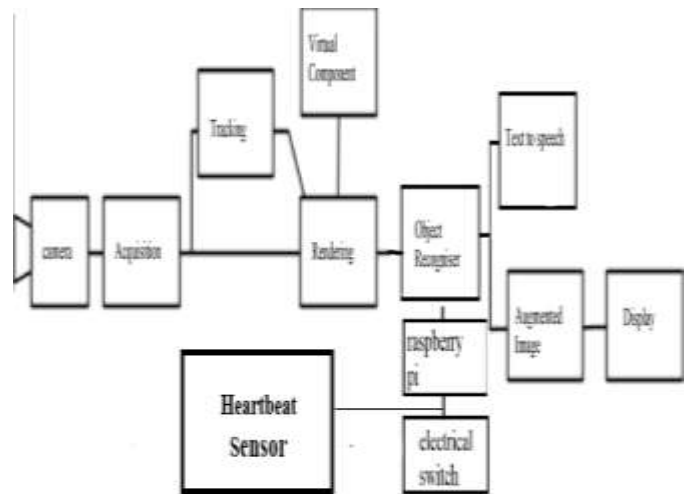[1]Plot no. 5, 2nd cross, St Govindaswammy Nagar, Madipakkam, Chennai-91
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Abstract:- *Now a days, people have smart phones with them all the time. It makes sense that it's the inevitable future interface. As the human life is heading towards busy schedule it becomes necessary to automate ourselves. Human error is something that cannot be completely erased. With the advent of technology the use of smart devices, laptops, is increasing widely also people are getting more conversant with these technologically advancing gadgets .AR also plays a major role in developing the concept of smart city. Thus the augmented reality (AR) with virtual buttons, Internet of Things and voice assistant like Siri, google assistant, etc. We can control and handle different types of appliances using various applications. One of them is AR which has recently evolved for the automation of various electrical appliances.*
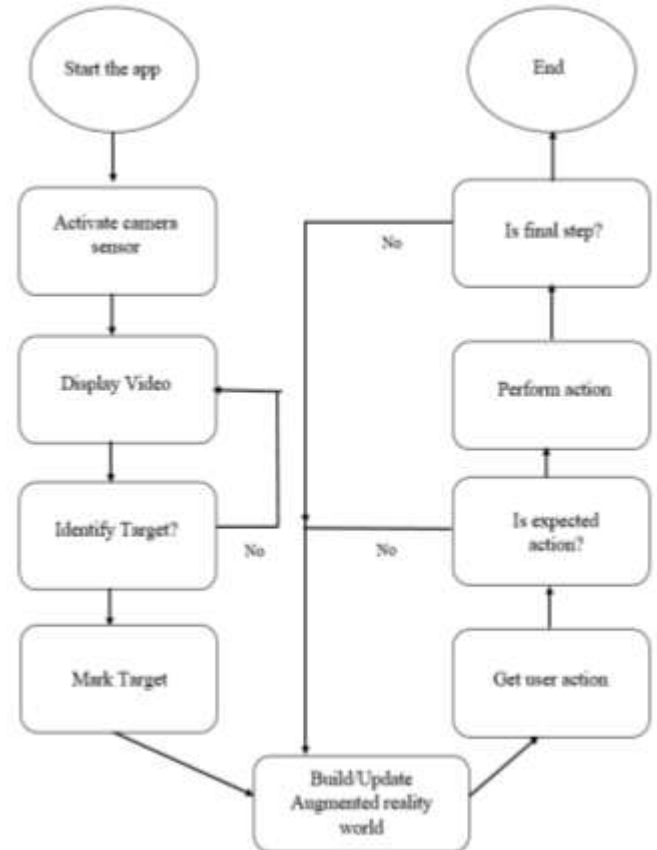
Virtual Assistant: A virtual assistant or intelligent personal assistant is a software agent that can perform tasks or services for an individual based on verbal commands. Users can ask their assistants questions, control home automation devices and media playback via voice, and manage other basic tasks such as email, to-do lists, and calendars with verbal commands. Text (online chat), especially in an instant messaging app or other app. Voice, for example with Amazon Alexa on the Amazon Echo device, Siri on an iPhone, or Google Assistance on Google-enabled/Android mobile devices. The earliest virtual assistants, which applied speech recognition software were automated attendant and medical digital dictation software. In the 1990s digital speech recognition technology became a feature of computer with Microsoft, IBM, Philips and Lernout & Hauspie fighting for customers. Much later the market launch of the first smartphone IBM Simon in 1994 laid the foundation for smart virtual assistants as we know them today.

Augmented Reality: Unlike virtual reality, where manufacturers have generally been building toward a single form factor (a headset that covers the head/eyes, headphones, and a pair of controllers), and augmented reality is still trying to find the form factor that suits it best. From glasses to headsets, from large tablets to mobile phones to projectors and heads-up displays (HUDs), augmented reality is available today in a number of different forms. Applications such as Instagram, Pokémon Go, etc., have all offered rudimentary forms of augmented reality for some time now, though most users may not have realized it. Every time you found yourself adding bunny ears to your image on Snapchat or found Pikachu cavorting in your local park, you were using a primitive form of augmented reality on mobile. AR provides surgeons with patient monitoring data, and allows patient imaging records, including functional videos, to be accessed and overlaid. AR can enhance viewing a fetus inside a mother's womb.

Working: To make out this idea we have used raspberry pi to control the relays. To develop the android app we used vuforia for augmented reality and google voice assistant with the help of ifttt api. An android app will show a virtual button whenever the user sees the light bulb or some other smart control objects then with blink of a human eye they can turn on or off the electrical devices. Along with this we have included heartbeat sensor to monitor the patients pulse rate and we've also designed to display the patients' general report (Name, Age, Gender, Blood group, Blood Pressure, Weight, and Height). The heartbeat sensor is connected to raspberry pi and A/D converter, the value is stored in the cloud. During the monitoring of the patient the data from the cloud is displayed in the VR. It helps the disabled person to switch on and off smart things around them without the help of others. The interactive google assistant along with the AR will change the user's mind of feeling lonely and boring when they are bedridden. The AR view makes the user to interface with the head movement. This helps the sick person to feel like normal with the google assistant and TTS. As soon as the user points smart device towards the electrical equipment system will show a virtual pop-up switch which has two options (ON/OFF). The app then sends the input data to the system. Controller will sense the data and then take appropriate decision like turning on or off the relays, giving appropriate heartbeat rate and transmitting the data. It also continuously measures the safety parameters. In our system we use raspberry pi.

Working platforms: For this we have used unity platform, particle cloud, raspberry pi and another option is google voice assistant.

Future Implementations:

1. The size of the VR box will be reduced to make it more compact for the person using. 2. Our VR expands to various medical disciplines like dentistry, psychotherapy, surgery, rehabilitation. 3. We will update this product to provide immersive training options for young doctors, such as virtually rendered operating rooms running different simulations of real-life scenarios. 4. VR for pain distraction will be implemented, this can be done by validating the effectiveness of showing the parts of the brain that are active in pain reception are modified by using VR as a distraction for pain.

Conclusion: To help the disabled person to overcome the difficulties they face. They may need others to help them to do their daily activities. In order to overcome this issue we have designed a virtual assistive system that can help them to control things around them in an interactive manner. It helps the disabled person to switch on and off smart things around them without help of other people. The interactive

google assistance along with AR will change the user's mind of feeling lonely and boring when they are bedridden. The AR view make the user to interface with the heads movement. This helps the sick people to feel like normal people with the google assistant and Text To Switch (TTS).

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