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ABSTRACT

Internet of Things (IoT) has acquired significant recognition and progress in recent years. IoT has enabled the integration of physical devices to create an ecosystem with improved efficiency, accuracy and economic benefit in addition to reduced human intervention. Sophisticated sensors and chips are embedded in physical devices which securely communicate with an Internet of Things platform. The platform runs analytics on the data after which the most valuable data is shared with applications that address industry-specific needs.

One such research area includes vehicle guiding, wherein a locomotive is completely manoeuvred through an interface connected to the internet. A prototype of a fully steerable car through the commands issued by the user on an interface has been described. IoT allows the car to be controlled remotely, however, the prerequisite condition is a stable internet connection. The Raspberry Pi 3B+ has been used as the main controller in the prototype build. Also included is an H-Bridge Motor Driver Integrated Circuit to facilitate easy and independent control of two motors each in either direction. A webpage or a mobile application can be used as an aforementioned user interface. In this research, the compatibility of WebIOPi with Raspberry Pi has resulted in its utilization as a webpage user interface on a mobile handset.

Keywords: Internet of Things, Raspberry Pi, Vehicle Guiding System, H bridge motor driver