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Home Automation Application using Raspberry Pi 3 and Windows 10 IoT

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In the present situation demand for electricity stack, up with population growth, is one of the major challenges all over the world. Inadequate amounts of electricity create an awareness to conserve energy in all viable methods. As a result, we made an appliance to minimize the energy wastage by the concern of Smart Home. Home automation refers to controlling home appliances and domestic features by local networking or remote control. The devices' respective apps in smart homes allow users to track energy usage over time. They can also get an estimate of how much they are paying for whatever they have plugged in. By and by, this will have an impact on consumer behaviour and will help people to be more energy conscious and, in the long run, responsible. Apart from that, the current commercial home automation systems are general, and they have not been specifically designed for the Sri Lankan contest. So, we designed a smart home automation system with the sense of Sri Lankan electricity tariffs and practices. This scheme involves the design and construction of individual control home appliances using Raspberry Pi 3, Arduino, and Windows 10 IoT core. This combination can implement the primary home automation functions by using numerous sensors, and with that it will deliver suggestions and illustrate the process of the electricity tariff system to the users. With this attempt, the consumer can reach optimum power consumption.

Keywords: *raspberry Pi, arduino, smart home automation, power measurement, IoT*