Automatic street light to save electricity

ABSTRACT

The main aim of this project is to utilize the application of the Arduino board to control the intensity of street light. As the traffic decreases slowly during late-night hours, the intensity gets reduced progressively till morning to save energy and so, the street lights switch on at the dusk and then switch off at the dawn, automatically. The process repeats every day. White Light Emitting Diodes (LED) replaces conventional HID lamps in street lighting system to include dimming feature. The intensity is not possible to be controlled by the high intensity discharge (HID) lamp which is generally used in urban street lights. LED lights are the future of lighting, because of their low energy consumption and long life. LED lights are fast replacing conventional lights because intensity control is possible by the pulse width modulation.[1] This proposed system uses an Arduino board and a rectified-power supply. String of LED are interfaced to the Arduino board with a MOSFET device. The intensity control of the LED light is possible by varying duty cycle from a DC source. A programmed Ardunio board is engaged to provide different intensities at different times of the night using PWM technique. This project is also enhanced by integrating the LDR to follow the switching operation precisely.