

ABSTRACT

Development of Microcontroller Based Train Cross Control System

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Accidents occur in railways often caused by human error factors. It is very common that staffs do not follow standard operating procedures, drowsiness, fatigue, and indiscipline. This research project output of prototype using an Arduino Uno is designated to offer solving those errors. This prototype works by using two ultrasonic sensors as train detector (labelled as A and B), HC-12 module (transmitter and receiver) as a long-range data sender, and lastly Servo motor as a gate driver. The mechanism of operating those sensors starts from A and B detects train coming from the direction of railway gate 1 to 2 and transmit it through a radio signal to the receiver to calculate how much time the gate will be close by the servo. After all of those process is finished, the gate will be open again.

Keywords: *Automatic train doorstop system, Human Error, Microcontroller Arduino Uno*

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