

## **ABSTRACT**

*The railway crossing gate portal is a part that is prone to accidents between trains and public transportation. Accidents that often occur are caused by the negligence of the crossing guard officers or the undisciplined attitude of the drivers. There for,a development is carried out in the railroad crossing portal system which is one ofe the media for security in a railroad crossing. So with this we need an effective and efficoent tool in the application of the railway crossing portal later. The aim of this title is to create a prototype of a railroad automatic portal. Sytsematically the prototype of this oneway automatic portal was designed using a LoRa module with a WSN (Wirelles Sensor Network) system, arduino pro mini, servo motor. The workings of the prototype railroad crossing portal is as follows, the train sends a signal to the crossing gate using the LoRa module which is placed on the train with the WSN system, which sends a remote signal to provide train id data so that the portal detects the arrival of the train. Then, If the train has passed through the portal with the LoRa signal lost, the portal will automatically re open with the LoRa signal loss, then the portal will automatically open again so that the portal only detects the signal sent from the train using the LoRa module. It can be conclude that the prototype of this automatic portal can be used as an automatic portal opening and closing at railroad crossings and minimize accidents.*

*Keywords : Arduino, LoRa Module, Servo Motor, Train.*