

## ABSTRACT

The proposed project is used to provide an automatic railway gate at a level crossing replacing the gates operated by the gatekeeper. It deals with two things. Firstly, it deals with the reduction of time for which the gate is being kept closed, and secondly, to provide safety to the road users by reducing the accidents. By the presently existing system once the train leaves the station, the stationmaster informs the gatekeeper about the arrival of the train through the telephone. Once the gatekeeper receives the information, the closes the gate depending on the timing at which the train arrives. Hence, if the train is late due to certain reasons, then gate remain closed for a long-time causing traffic near the gates. By employing the automatic railway gate control at the level crossing the arrival of the train is detected by the sensor placed near to the gate. Hence, the time for which it is closed is less compared to the manually operated gates and also reduces the human labour. This type of gates can be employed in an unmanned level crossing where the chances of accidents are higher and reliable operation is required. Since, the operation is automatic; error due to manual operation is prevented. Automatic railway gate control is highly economical microcontroller-based arrangement, designed for use in almost all the unmanned level crossings in the country. There are only four ultrasonic sensors in the train detection module and one ultrasonic sensor in stuck detection module. Both, train detection and stuck detection module generate high frequency signal through the ultrasonic sensors and detect the presence of object if the echo is received back by the sensors. Then the controller unit determines whether the obstacle is train or stuck and takes necessary steps by controlling the gate, alarm generator and signal lights.