

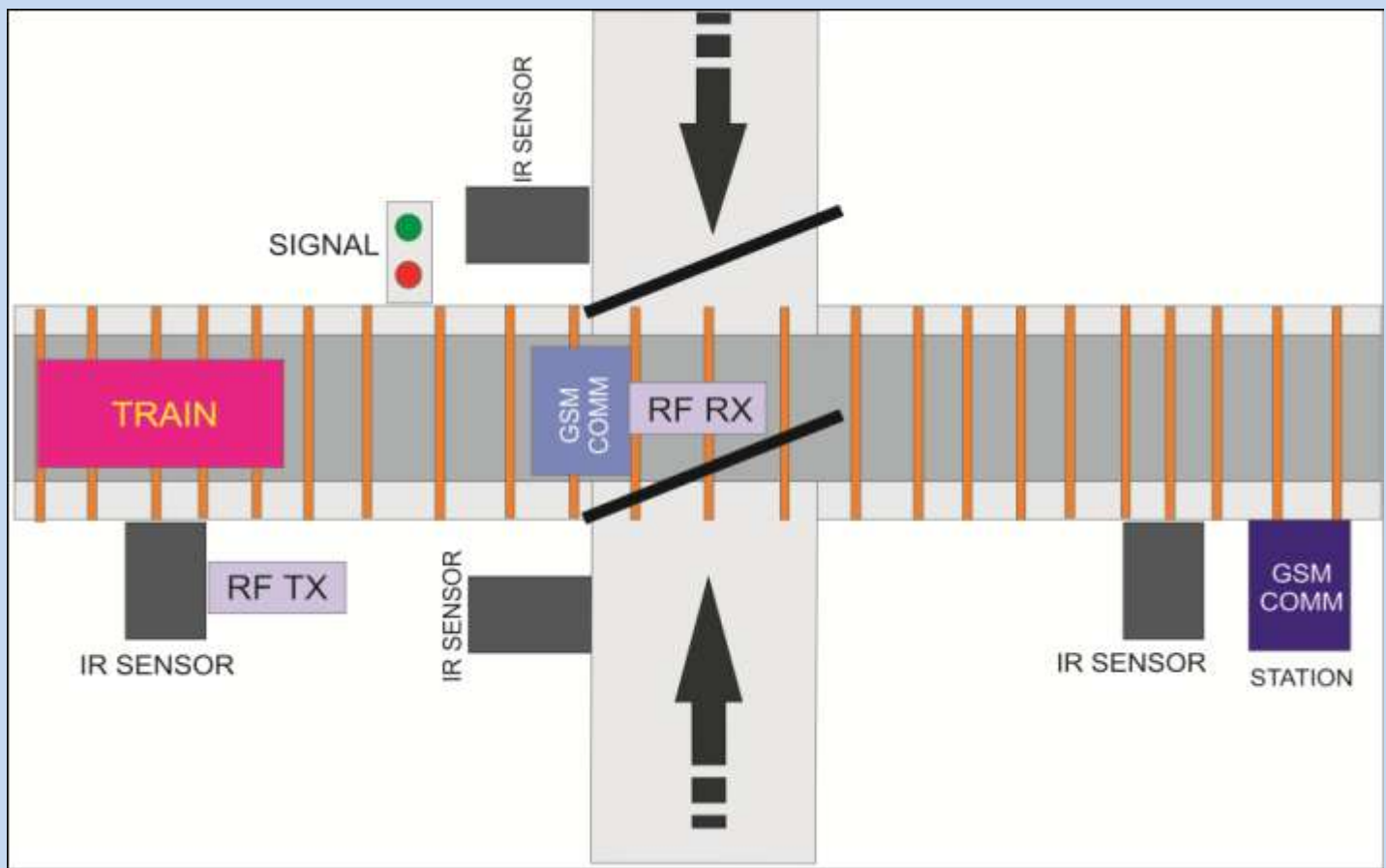
GSM AUTOMATED AND UNMANNED CONTROL SYSTEM OF RAILWAY CROSSING

AIM:

This project takes control over the unmanned railway crossing by giving great preference to the safety of train as well as road vehicles.

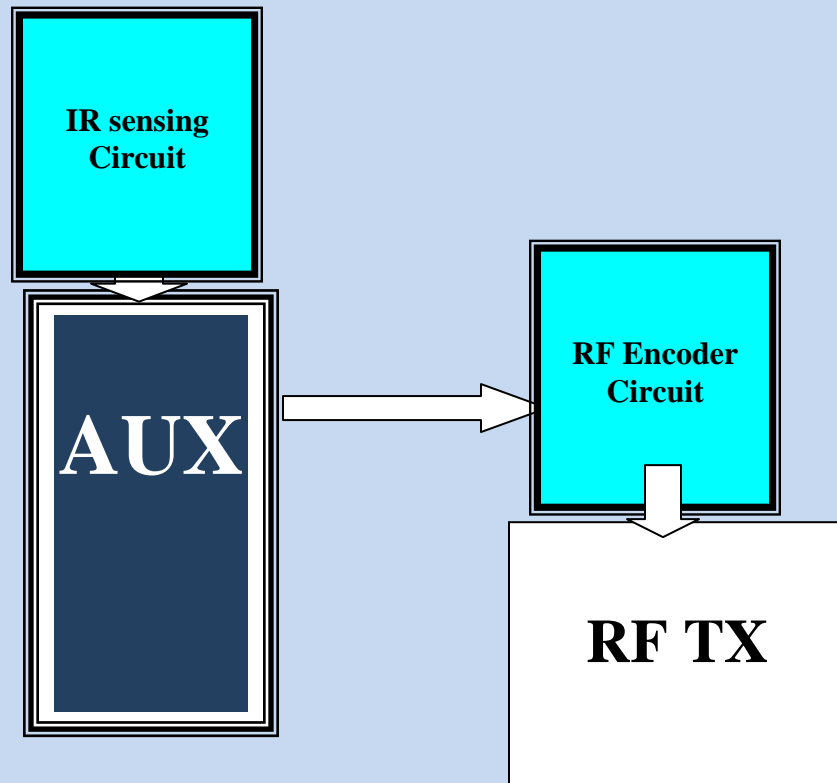
Working principle

The railway gate is opened and closed automatically using microcontroller. The microcontroller is programmed such that it gets the indication of train's arrival and departure through the wireless sensor unit. The sensor unit is a composite unit controlling IR sensor and RF communication. The RF transmitter transmits the encoded sensor signal to microcontroller unit sensor unit when train has trespass the sensor. . The microcontroller unit receives and decoded the transmitted signal. With reference to the signal received the gate is either closed or opened along with an alarm. Whenever the signal received gate IR sensor is activated to check whether any vehicle is there in front of the gate before the gate is closing. If any vehicle is there in front of the gate the train signal will be in RED till the gate is open i.e. the vehicle has crossed the gate, a the signal status is transmitted to the nearest railway station the communication used here is GSM.

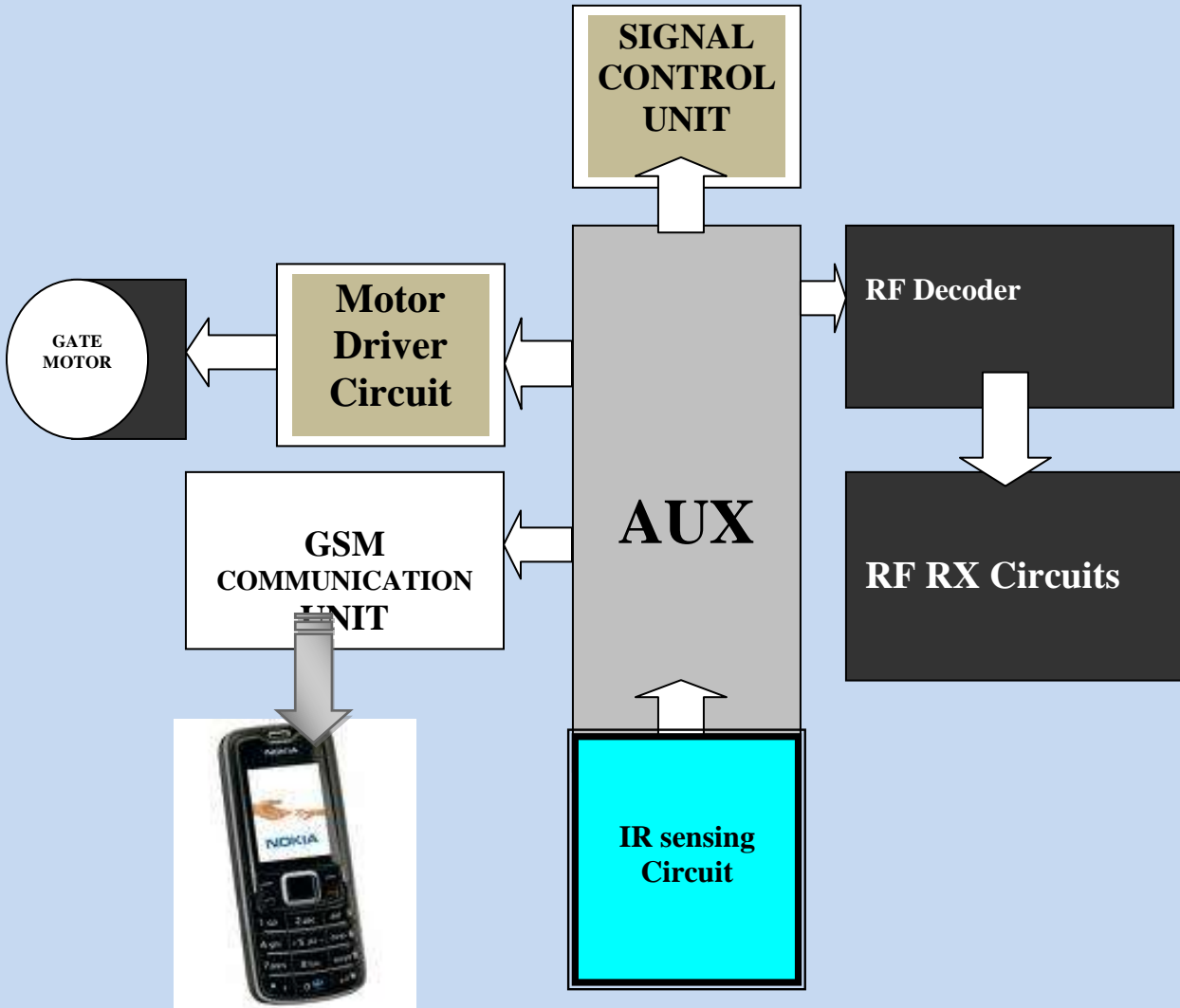


Circuit Block Diagram:

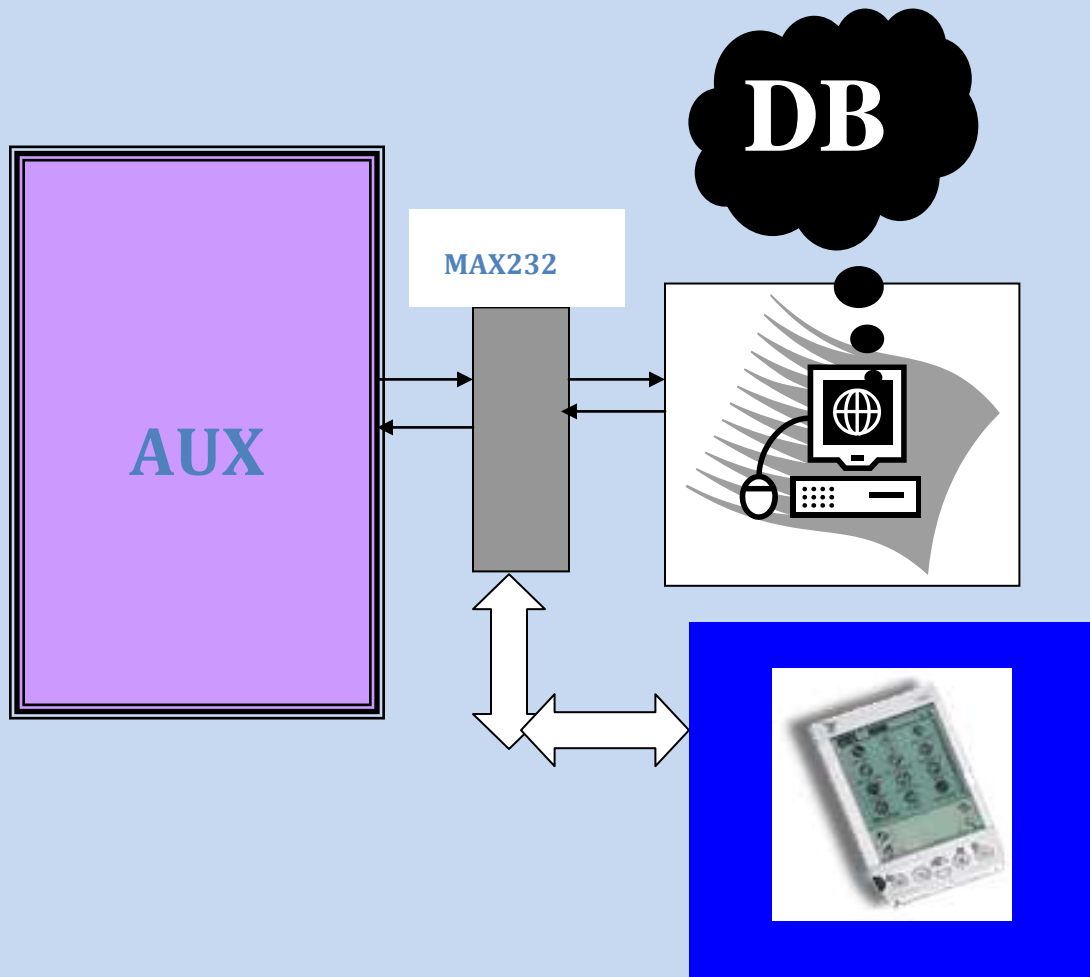
Sensor unit:



Gate Unit:



Station unit:



2. Overview of Projects

- 1) RF Frame Format
- 2) GSM Protocol
- 3) IR sensing
- 4) Control drivers