Step 7: Testing and Refinement

Table showing different scenarios -

Test Case	Input Conditions	Expected Output	Actual Output	Notes / Refinement
1	Train approaching, no vehicle	Warnings on, gates down, train passes gate up	Warnings on, gates down, train passes gate up	Adding a 3s pre-warning before lowering to lower the chance of a car driving onto the track while lowering the gates casing an obstruction
2	No train, vehicle stuck on track	Keep gates down, alarms on	Keep gates down, alarms on	An alert that contacts the operator of the rail road to resolve the problem with out a catastrophic accident
3	Train approaching, vehicle stuck on track	Train emergency stops, gates stay closed and warning signals continue	Train emergency stops, gates stay closed and warning signals continue	Add a system that allows the train to stop then let the car through without letting others also cross, then close the gate and let the train through and then continue with regular process
4	No train and no car	After sensors check if a train is approaching or a car is crossing. Gate remains open	After sensors check if a train is approaching or a car is crossing. Gate remains open	Couldn't identify any refinement
5	Track sensor fault	Gates default down, alarms on	Gates default down, alarms on	Send an alert to train operators to help resolve the issue and continue operations