

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

In this system an introduction has been given to the parking availability and gate control system, programmable logic controller and human machine interface (HMI). The implementation of the parking availability and gate control system using a PLC.

Firstly, parking availability and gate control system using SIMATICS7-300 PLC has been modeled by writing a program and loaded in CPU315-2 PN/DP using SIMATICS MAEGER software. PLC controls the entrance and exit gate according to the parking status, either a parking slots are a occupied the entrance gate not allow drivers to enter parking or slots aren't a occupied entrance gate allow drivers to enter parking.

Secondly, human machine interface (HMI) software screen has been used for the model of the parking availability and gate control system using SIMATICS7-300 PLC which content main a screen to guide the drivers and show them four main sub screens. The first sub screen is a system status, it illustrates the system at running mode or not and it has two pushbutton to start and stop system. The second sub screen is an entrance and exit gate, it illustrates the entrance and exit gate if they are opened or closed. The third sub screen is a Parking levels and welcome message, it illustrates the welcome message, lev-1full lamp, lev-2full lamp and parking full lamp according to the slots status. Fourth sub screen is a slots status, it illustrates the shapes of cars and green lamps when a car parks in any slot.

Finally, parking availability and gate control system using programmable logic controller (PLC) has been designed and done on a wooden model and implemented software human machine interface (HMI) and interfaced with PLC.

5.2 Recommendations

- The parking availability and gate control system would be useful to further lift to carry cars on parking structure.
- The parking availability and gate control system would be useful to further proximity switches than limit switches in parking structure.