# Intelligent Auto-parking System

***Project Summary by Group 2-1***

The auto-parking system is an advanced and intelligent system which can achieve auto-parking and auto-leaving. It will save a lot of time and effort for car drivers since the auto system can do better job than human being in shorter time. The system consists of the following three parts, the intelligent car, the ground station and a graphic user interface.

**Intelligent car**

Equipped with 6 infrared distance sensors, the intelligent car can search for suitable parking slots automatically. Once an available slot is found, it is able to park into the slot. Two parking modes are possible, either parallel parking or vertical parking. The intelligent car is also able to move out of the parking slot and drive itself to the car park exit if a leaving request is received.

**Ground Station**

The control panel in the ground station is used by the operator to monitor the whole car park. Once a parking request is sent by car through RF, the operator will grant permission by pressing the 'START' button. During the whole parking process, the car status will be updated on the LCD on the control panel. In case of an emergency, an alert will be sounded. Once the case is properly handled, the operator can manually disable the alert.

**Graphical User Interface**

The GUI here updates the status of the entire car park. Besides, displaying the car status, (searching, parking, turning, etc) it also displays the position of the car once it is parked or in case of emergency. More importantly, the computer communicates with the car owner through SMS. The car owner will receive a message informing him of the slot his car is parked in. the car owner can also send a message to let the car go to the exit automatically.