CHAPTER FOUR

DISCUSSION AND RESULT

4.1 Results

4.1.1 Simulation Results

- When the client come to the parking system. A welcome message will appear as illustrated in Figure (4.1) .

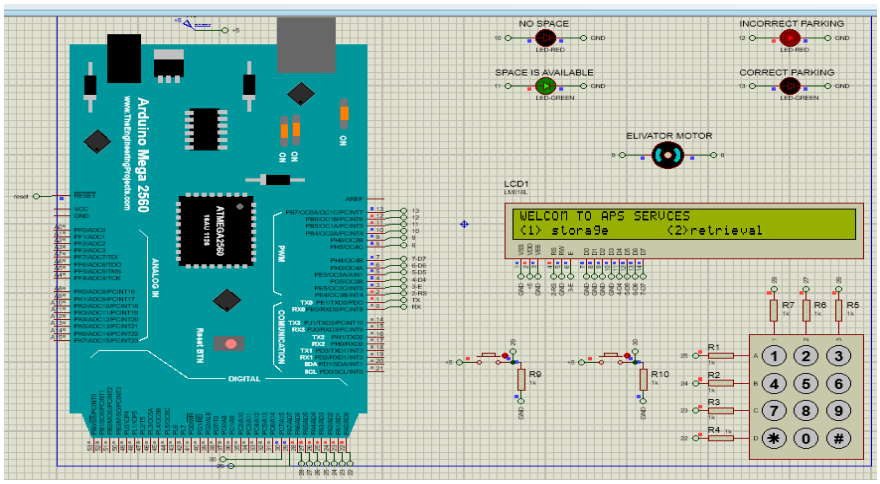

Figure 4.1: First Screen

Two options will appear to the client, storage (park car) and retrieval (get a parked car).

- When the client presses (storage), The system require a password immediately as illustrated in Figure (4.2).

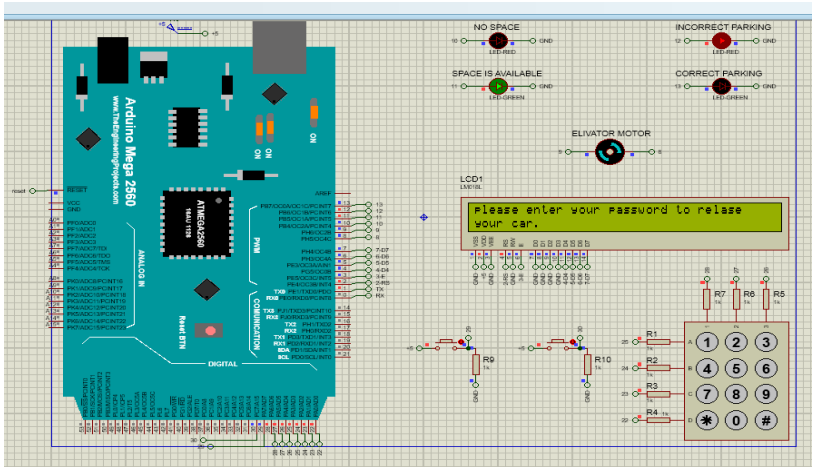

Figure 4.2: Password Requiring

Requiring password to save the car stage and secure the privacy of the client

- Assure parking message will appear as illustrated in Figure (4.3).

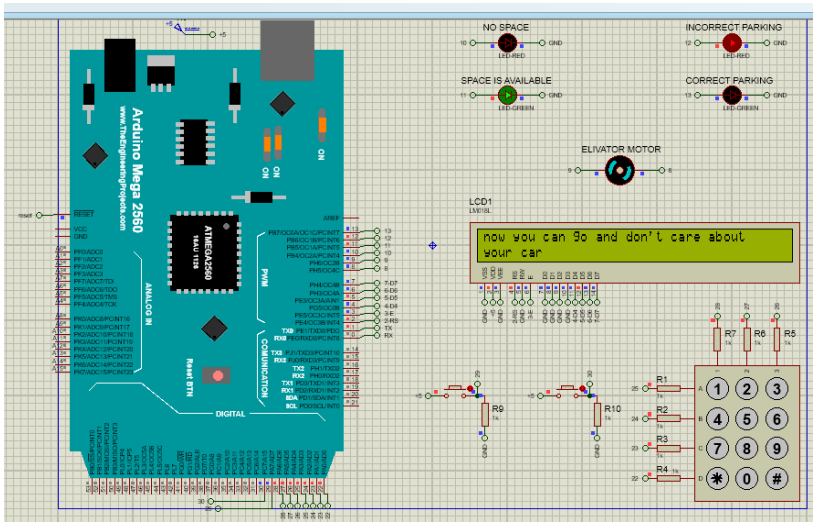

Figure 4.3: Car Parking

System success parking process and allowing client to go.

- Retrieving car, if (retrieval) pressed, The system require password which interred at parking process as illustrated in Figure (4.4) .

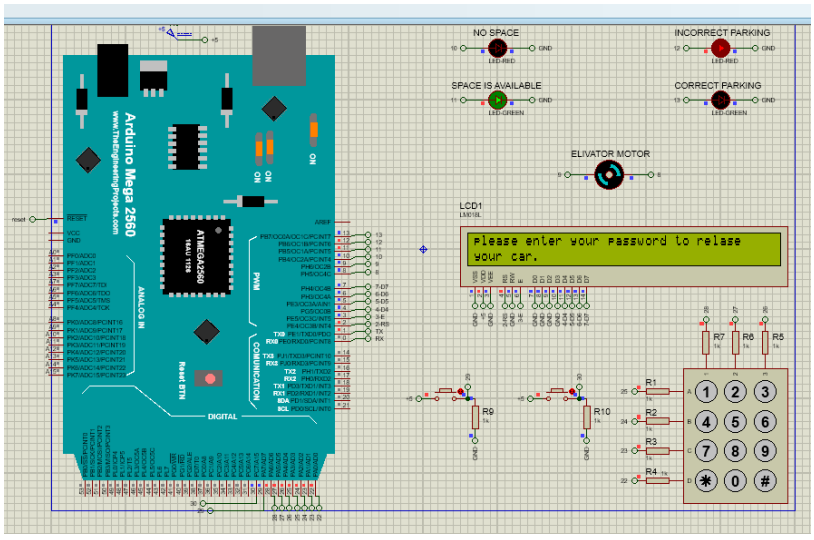

Figure 4.4: Retrieve Password

- If true password interred the system present validation message as illustrated in Figure (4.5).

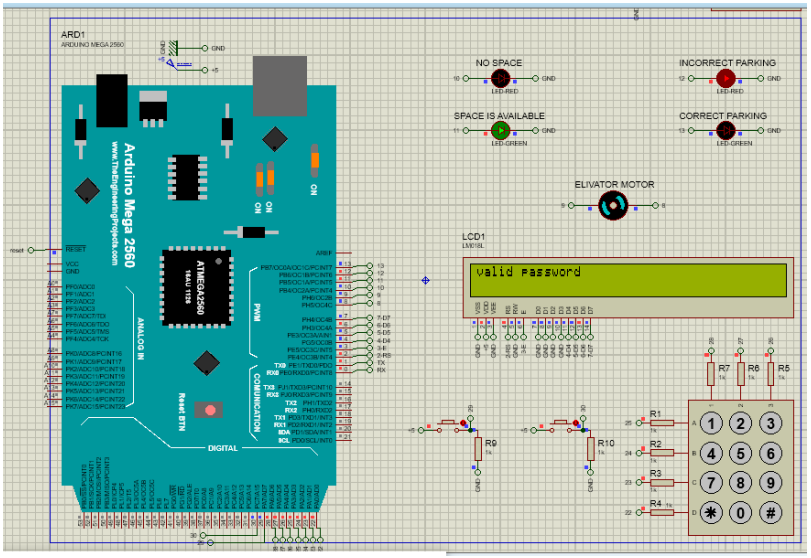

Figure 4.5: Valid Password

- To correct password or exit the system will choose (EXIT) or (RE ENTER) as illustrated in Figure(4.6).

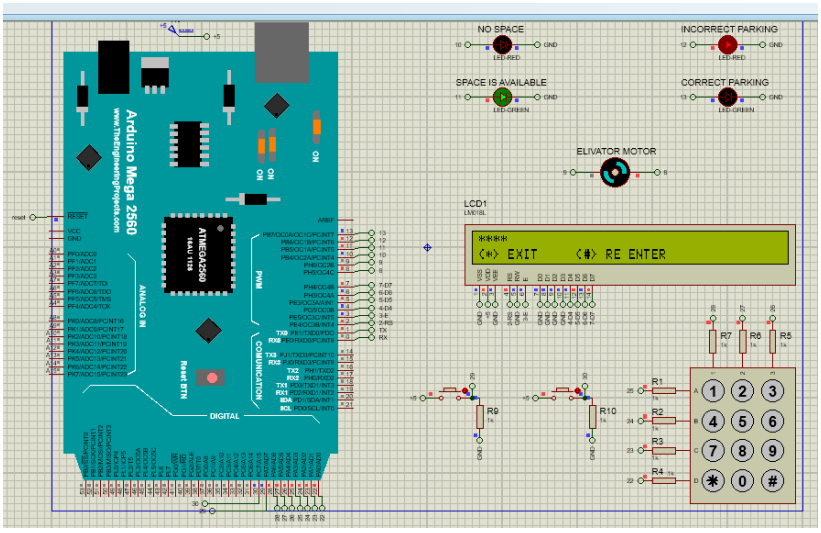

Figure 4.6: Password Correction

- System is getting car when a valid password interred as illustrated in Figure (4.7) .

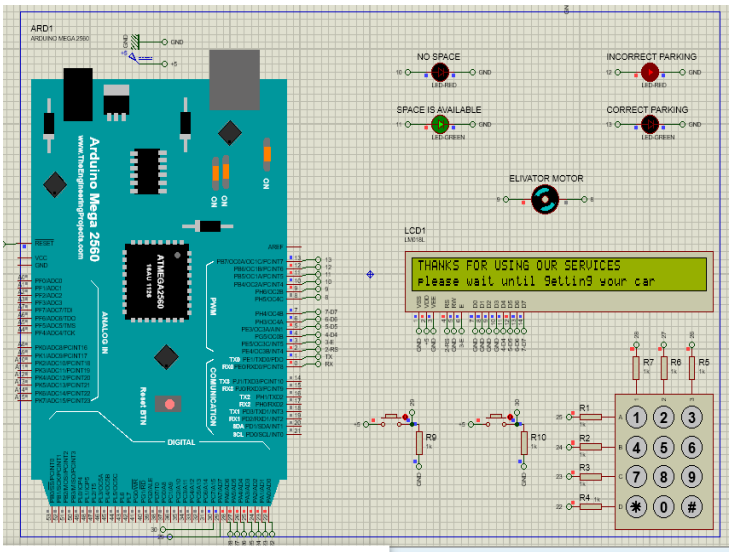

Figure 4.7: Thankful Message

- After car prepared a thankful message appear and an order to take the car as illustrated in Figure (4.8**)** **.**

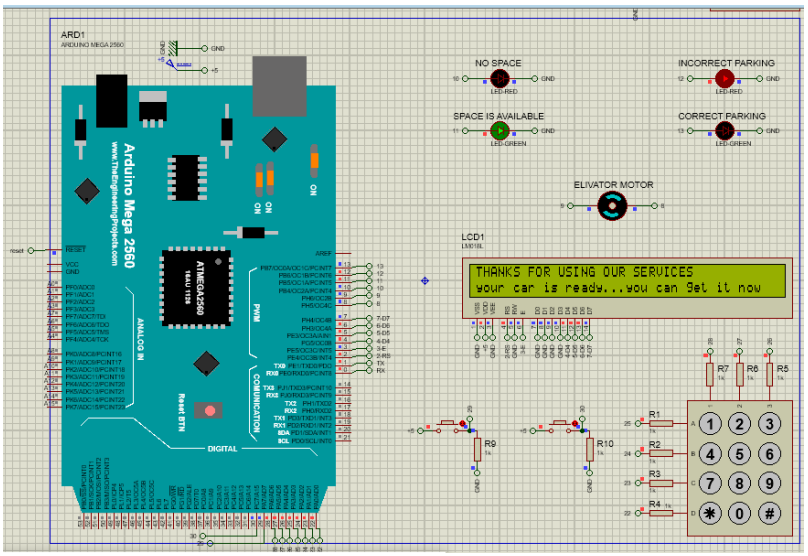

Figure 4.8: Ready Car

- If wrong password interred the client can try again as illustrated in Figure (4.9).

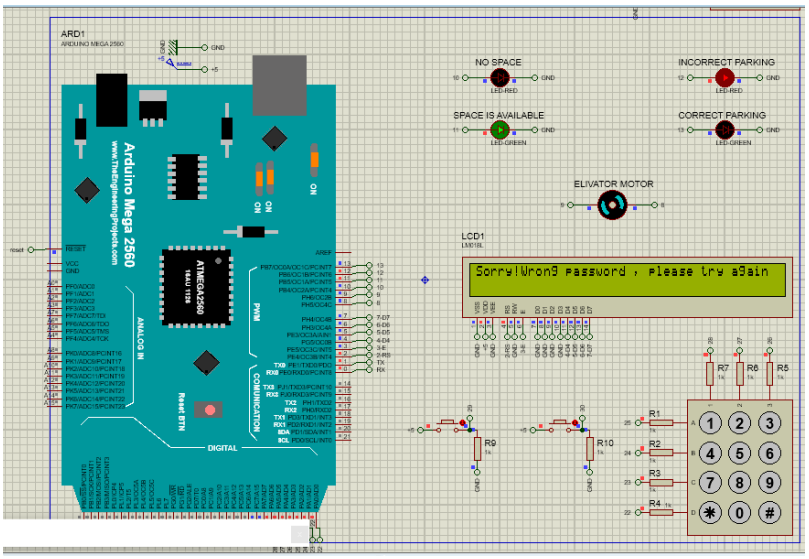

Figure 4.9: Wrong Password

- If the car is not in the correct position the system will turn the red LED on, and a warning message will appears as illustrated in Figure (4.10).

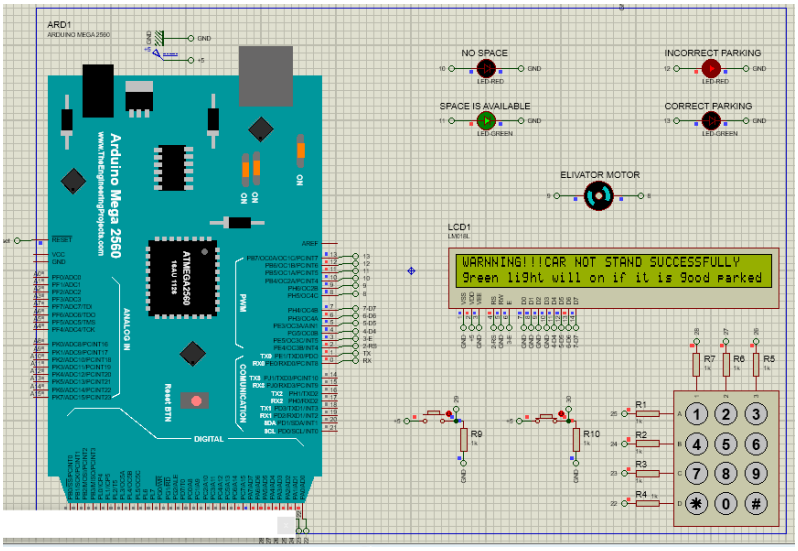

Figure 4.10: Wrong Car Position

- When a used password from other client interred, another password is required as illustrated in Figure(4.11) .

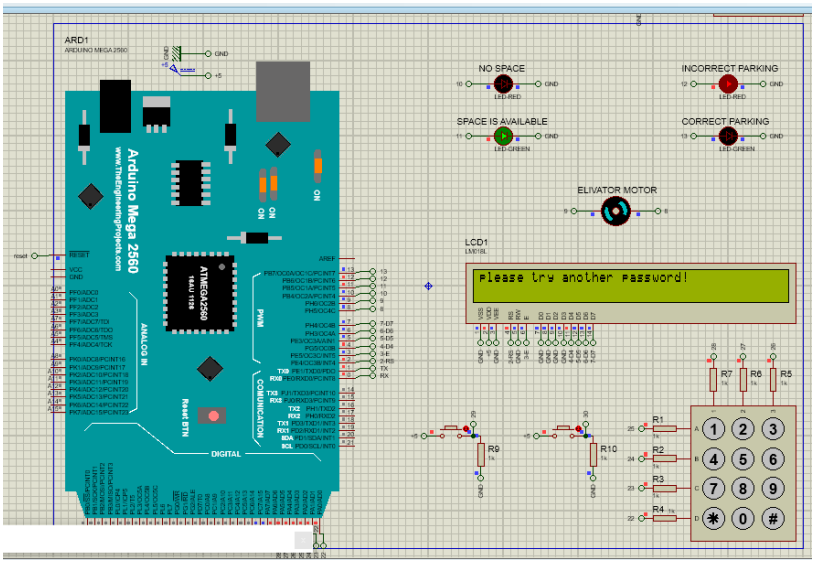

Figure 4.11: Used Password

4.2 Discussion Points

4.2.1 Research time

In this system, the time that spends in finding parking is reduced, in traditional parking, a driver spends long time to find garage, and here we have a signal led which show the availability of empty slots.

4.2.2 Cost

More cost of this system, because it needs electrical power to operate motor, LEDs lighting, LCD operation. Also we need mechanical power to move the chain which controls the stages according to Arduino orders. All of this are considered as economically high and additional costs, but there is differences between buildings, Iron building is less cost than an armed building .Lack of need for lights and LEDs (4 LEDs)

4.2.3 System Space

Unusually this system need vertical space to contain cars, all of parking systems have a space problem even automated or traditional, here we use (two cars) area to park 16 cars. Very high efficient in parking space utilization.

4.2.4 Safety

A high security and safety services are presented in this system, secure from thieves at parking interval and safety from damaging and accidents during interring or getting out the car.