

CHAPTER 5

CONCLUSION

5.1 Summary

The Development of Smart Parking System met all of my performance specifications. I am able to successfully guide multiple cars to their designated parking spots using the interfaces capabilities. I achieved my goal of providing a fully and interactive proof of concept design to show people the power and usefulness of this system. The system communicates with the VB.NET interfaces and Microsoft SQL Server database through a connection on the system.

My idea incorporated all the parts of the software system. When integrated properly, my initial software design is a viable way to implement this type of system. The floor interface guiding multiple cars appropriately. The other interface effectively tracked parked vehicles and moving traffic within the garage. Also, I designed a VB.NET Interfaces that is intuitive enough for a first time user to navigate with ease. The program accommodates for physical disabilities, recommends an optimal spot, and also prints return directions on the parking ticket.

There were a number of challenges I had overcome in the design and testing of the Development of Smart Parking System. The first was the actual setup connection between VB.NET interfaces and Microsoft SQL Server database of the model parking garage. The challenge I faced involved connection between Microsoft SQL Server database and the VB.NET program. My original plan was to send the parking spot information in different

interfaces from Microsoft SQL Server database to the VB.NET interfaces. I wanted to send the status of each parking spot (available or unavailable) as a separate interface. I was able to establish consistent and reliable networking results.

The next step for the Development of Smart Parking System is to sell the concept to a leisure mall that would be willing to try it out on a small scale area. A leisure mall like Suria KLCC would be a perfect test leisure mall for the Development of Smart Parking System.

My database can be easily modified for Suria KLCC. I would then have to get a navigation system manufacturer to incorporate the software and interface into their existing system. The, the Development of Smart Parking System will be on its way to becoming a solution to the parking schema.

5.2 Recommendation for future project

There are a number of improvements and modifications that can be made to my design to increase real world practicality and functionality. The symbols used need to have the ability to differentiate between pedestrians and cars. My Development of Smart Parking System garage is so simple that adding more interfaces was unnecessary. With only twelve parking spots in my system, more than five cars moving through the garage at one time would simply produce congestion.

Other improvements would be additional guidance devices such as a return interface with audio or light guidance. Upon the return, either audio playback or a series of LEDs would guide the driver to their vehicle. This was excluded from my original design system due to time constraints. Such an interface could also be integrated with the elevator so that the driver might be taken directly to the appropriate floor.

Any types of sensors that could sense the car from about six feet away could be implemented. Six feet is a more realistic distance between a parked car and its parking meter. Also, more powerful transmitters and receivers to increase the range of operation could also be implemented. Ideally, the parking attendant at his or her station should be able to receive data up to several miles away from the transmitter at the parking space. Finally, the concept of the open space locator could be expanded to include multiple parking meters from multiple parking lots.

This system can clearly be applied to a number of different parking environments: large parking lots, underground parking facilities, stadium parking, airport parking, etc. The system can be easily networked to monitor and control any number of different parking facilities. Furthermore, this information can be made available online for convenient access.

Not only is this system useful and applicable to parking facilities, it can be easily modified to accommodate the needs of hospitals, resorts or conference centers. A similar guidance system could be used to direct patients and doctors to different wings, hotel guests to various attractions, or clients to the proper meeting room.

The Development of Smart Parking system is beneficial wherever frequent searching processes are involved. For example, it can be used anywhere from locating specific products within large industrial warehouses to finding a book at your local library.

5.3 Commercialization Potential

The Development of Smart Parking System business development programs will be leveraged to support complex business planning activities. In this system application research will involve studies of the market and end-users, as well as business planning for venture capital, business organization, and product design.

The Center will provide seed grants where deployment and commercialization are promising. The Center will connect research faculty with private-sector partners and support opportunities to prepare energy-efficiency solutions for the marketplace.

This system has been developed to provide parking attendance with parking information on how to get to. The parking attendance is committed to working towards a sustainable parking floors and the range of parking choices. The parking plan brings together existing and new initiatives which offer a better choice in the way car's owner can parking. This system also easy to use guide providing parking attendance with high quality parking information.

This system also is a new service that tracks cars in real time throughout the mall. It means parking attendance can now find out the arrival time of the next car at every parking spot. She/ He can access this system information via database. The ticket parking is available to the entire car that had been parking in that time. Costing just RM1.00 per hour for one car gives unlimited parking spots parking throughout the mall.

With the demand for car parking ever increasing in the entire mall has invested, in partnership with the Universiti Malaysia Perlis, to develop the web page car parking scheme. Car parking is when car's owner parking a car to work, home or shopping. This web page has many users and I can search for a match just from the Universiti Malaysia Perlis.unimapcarsparking.com is a web enabled matching service operated by leading car parking provider.

Registration is free and easy to complete. There is a useful section on the website and no personal data is released to other car parking members other than a username and the journey details you've added.

Proper planning needs to be done carefully and suspiciously in order to make sure the business that has been planned will be a profitable and long lived business. The opportunity to develop and implement a well-defined business strategy is very valuable to the business owner, their customer and as well as the community. Business plan reviews

visions and strategic focus as adding value to the target market segments, the small business and also the system users in the local.

I had managed to convince administrator and users of websites, I will move one step forward to commercialize my Development of Smart Parking System and try to maintain my product. This application is suitable for parking attendance to manage parking spots in the building.