



Written progress report for blind spot monitoring and parking assisting device Safe Direction™

Introduction

Car sense's Safe Direction is a blind spot and parking assistance system that can be easily installed and removed from any model of cars. It has eight sensors in total for front and back of the car for parking assistance, four sensors in total along side of the car for blind spot assistance. Safe Direction offers necessary LED and buzzer warning for the driver while cruising and parking.

Schedule

ID	0	Task Name	Duration	Start	Finish	December	January	February	March	April
1		Reasearch	10 days	Thu 1/9/14	Wed 1/22/14					
2		Prposal	1 day	Mon 1/20/14	Mon 1/20/14					
3		Parts ordering and collection	6 days?	Thu 1/23/14	Wed 1/29/14					
4		Parking assisting detection syst	40 days?	Thu 1/23/14	Sat 3/15/14					
5		Blind spot monitoring system	40 days?	Thu 1/23/14	Sat 3/15/14					
6		Controlling system	40 days?	Thu 1/23/14	Sat 3/15/14					
7		Functional specification due	1 day?	Mon 2/17/14	Mon 2/17/14					
8		Design specification due	1 day?	Mon 3/10/14	Mon 3/10/14					
9		Intergration	8 days?	Sun 3/16/14	Tue 3/25/14					
10		Testing	5 days?	Wed 3/26/14	Tue 4/1/14					
11		Progress report due	1 day?	Mon 3/24/14	Mon 3/24/14					
12		Demo	10 days?	Wed 4/2/14	Tue 4/15/14					

From our original schedule gantt chart above, we can observe that we have planned to finish our parking assistance detection system, blind spot monitoring system, and controlling system on March 15th. Adopting the feedback from the proposal, we have speed up on those areas and finished fifteen days in advance to give more time on integration and testing. When we tried to integrate and test individual modules, it has consumed a considerable amount of time to achieve. Overall, we are not far behind our original schedule and we believe we can finish the project on time.

Financial

CarSense is currently well within the budget of \$530 outlined in the proposal document. In fact we have spent about three quarters of the budget and have practically purchased all of the necessary parts. Unfortunately as mentioned in the oral progress report we did not manage to get ESSEF funding, even though we plan to apply for the Wighton fund. Therefore we have planed and managed to secure all of the necessary components online at a very cheap price for the proof of concept. We also managed to contact Linx Technologies in the United States and successfully acquired a free RF transceiver development kit from them for a student project which we explained to them in detail and they were very cooperative and friendly. The Transceiver kit on its own costs \$150 on the market. Finally as a contingency



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plan, CarSense members have agreed to divide the cost of this project between the 5 members in case we do not manage to obtain any funding.

Progress

During the first two weeks of the semester, Safe direction team was formed and then started the researching and planning phase. By the third week of the semester, Safe direction team allocated the project parts and since then has been working on the completion of the planned phases as scheduled. The team has been regularly meeting for two to three times a week in order to maintain the scheduled plan and also to collectively work on the project's documentation which so far has included the submission of: project proposal, functional specifications and design specifications.

The team was simultaneously working on the parking assisting and the blind spot monitoring systems as the two systems involved common components and common functionalities. After completion of the two systems by mid February, the team started working on the control unit which processes data received wirelessly from the two systems and then notifies the user accordingly. The team work on the control unit included establishing the wireless connection between the two systems and the control unit. By early March, work on the three main sub systems of Safe Direction (i.e. parking assisting system, blind spot monitoring systems and control unit) was completed and the team started the integration and testing phase.

The three systems were integrated successfully and the testing is in process at the mean time. Safe Direction team believes the product shall be ready for successful demo as scheduled on April 23rd.

Conclusion

The Car Sense team has followed the original schedule closely and we are currently doing testing on the integrated system and exploring further improvements on the system. Following the current trend, we are expecting to complete the project and provide the demo of the proof of concept model on the scheduled demo date.