Sprint Evaluation

What is the progress of your project in this sprint? What goals are achieved? What problems are overcome? If you are updating your plans what are your justifications?

Firstly, we have done research on these subjects: image processing libraries, its features and object detection methods, OpenCV, Text-to-Speech libraries, ultrasonic sensors, Raspberry Pi and its power supply.

OpenCV and Espeak Text-to-Speech were successfully installed into Raspberry Pi and tested. In other words, hardware configuration and system setup are successfully done during this sprint. Raspberry Pi which is the core processor part of hardware is ready to run software.

Basic image processing scripts, such as *color detection* and *optical character recognition on digits*, *corner detection*, are tested on Raspberry Pi to see how Raspberry Pi is performing. Implemented scripts are tested with dummy images.

A usable text-to-speech library is found among several possibilities. Espeak is installed on raspberry pi and it is tested with dummy text file-input. Needed drivers and extra packages are installed and made compatible with Espeak script (python code).

For the purpose of reducing our project's scope and to get some advice about what might be needed specifically , we have arranged a meeting with Altı Nokta Körler Derneği.

There is also updates on project's features and span. It is decided to have additional remote user interaction to device through web in addition to self-contained image processing tool. It is expected that the feature will need a Internet connection, web development. We are planning to have a web interface that provides relatives of blind people to reach them and guide in environment through web when image processing is not enough for the task or there is an emergency.

To summarize, we have achieved all the goals stated in the Startup Document except Camera resolution/performance test since, some hardware components that we have requested from the department, have not arrived yet. In the next iteration, we are planning to work with two Raspberry Pi, in order to accomplish the tasks faster and not to block group members' individual works.

Team evaluation

How well your is team working together? How many meetings did you hold? Are you planning any changes in your cooperation strategy? Which work is completed by which member (in a Gannt chart)?

Until now, each group member has worked harmonically. We have met as a group once or twice a week apart from the weekly meetings with our project assistant Serdar Çiftçi. Also we have started to meet with the project advisor Sibel Tarı every Thursday.

We are planning to meet more often each week, starting from the second iteration. There is no change in our cooperation strategy. We are going to maintain the strategy that project is divided as hardware and

software part and the parts are handled separately, however every group member will be up-to-date and aware of other members' work.

Task	Assigned Member	1st week	2nd week	3rd week
Hardware Configuration and Setup	Okan Altıngövde	X		
Color Detection test on Raspberry PI	Okan Altıngövde		X	
OCR Digit test on Raspberry PI	Okan Altıngövde			X
Text-to-Speech Research	İlkyaz Yasal	X		
Image Processing Research	İlkyaz Yasal		X	X
Text-toSpeech library setup and configuration to Raspberry Pi	İlkyaz Yasal			X
Image Processing Research	Sema Köse	X	X	X
Edge and Color Detection implementation	Sema Köse		X	X
Corner Detection implementation	Sema Köse			X
Ultrasonic Sensor research for Raspberry PI	Mehmet Can Avaroğlu	X		

Backlog Updates

What are your backlog updates?

Power supply issue and camera resolution/performance test are suspended until the feedback of the department to the hardware requirement list.