MRSD Individual Lab Report 11

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1. Individual Progress

For this week's progress review, my individual progress can be divided into 3 parts:
(a). Changed the voice in the voice command of "say cheese" and "nice smile" to be my voice (the original voice is horrible according to the TA)
(b). Removed frames of IntraFace and April-tag to speed up the data transfer between multi-masters.
(c). Changed the size of the frame of the Region-of-Interest

1.1 Changed the voice in the voice command of "say cheese" and "nice smile" to be my voice.

(a). Recorded my voice
During last team meeting, the TA said that the original voice command seems to be very horrible. So we decided to use a female's voice instead of the original voice. The most convenient way is to use my voice. So I looked up in the Internet to record my voice online and save to my laptop. Here is the online recorder website: https://www.speakpipe.com/voice-recorder.
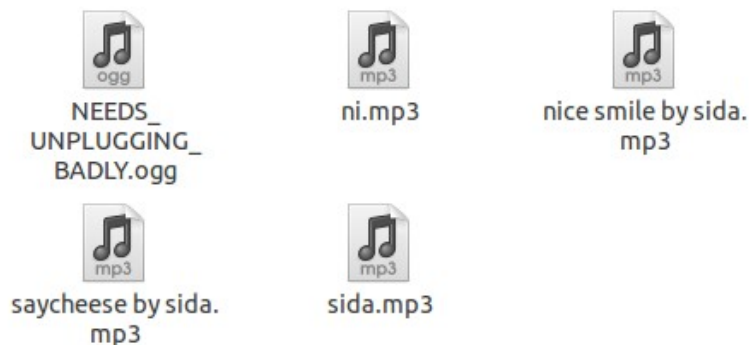
The "saycheese bu sida.mp3" and "nice smile by sida.mp3" is my voice.

(b). Programming
First I defined the SoundClient and named it to be sc:
"sound_play::SoundClient sc;"
And then I used playWave function to play to sound of the new recorded voice.
"sc.playWave("/home/sida/Development/robographers_teamg/src/sound_play/sounds/saycheese by sida.mp3");"
In this way, the voice of the voice command is not so horrible.

1.2 Removed frames of IntraFace and April-tag to speed up the data transfer between multi-masters.

Originally, there are 3 windows in total during the whole detection process.
(a). April-tag frame for human detection
(b). Original IntraFace frame
(c). IntraFace frame of Region-of-Interest

And as data would be transferred between multi-masters, the speed will be highly constrained. So I removed all of the frames to speed up the data transfer.

1.3 Changed the size of the frame of the Region-of-Interest.

As the original size of the Region-of-Interest is too small that the person's face always cannot be detected. So I adjusted the width of Region-of-Interest from 200 to 280. In this way, it will be easier to detect the person's face.

2. Challenges
2.1 The stability of the whole system

There are several unstable factors in the system. In software part, Intraface is not very stable. It may crash after some time. And as the region of the camera can detect the person is limited, there is no guarantee that the person's face is in the camera. Furthermore, sometimes Arduino cannot work and we have to reboot the laptop to start it.

Several factors leads to the unstability of the whole system. And I have to admit that there is some problem of the pipeline when we designed the system. However, as SVE comes soon, we have to improve the probability of the success experiment, and make backup scheme: shoot a video.

3. Team Work

This week, the main progress our team has made is shown as follows:
(a). (Gauri) Integration of detection subsystem
(b). (Jimit, Gauri) Flocking: make the robots run in a specific pattion
(c). (Rohit, Tiffany) pan-tilt unit and face tracking

4. Future Plan

Next week will be SVE, and we will work hard to the integration of the whole system.