Digital Canvas Contribution

Ben Liang

Sprint plan from 4 to 7, sprint 4 was undertaking over the summer, and we have meet up the requirement.

Each sprint requires 2 weeks time to complete.

The issue right now is recording has been delayed a couple of weeks.

So the plan didn’t work out that much

Sprint 4

|  |  |  |
| --- | --- | --- |
| US8 | Create a mask | Critical |
| US9 | Change size of mask | Medium |

Sprint 5

|  |  |
| --- | --- |
| Change position of mask | Medium |

Sprint 6

|  |
| --- |
| Playback interaction |
| Record Interaction |
| Video feed |

Sprint 7

Additional task

‘screen saver mode’

Merging

* Can accurately locate a user’s hands

We kicked off this task at the very early of our time, Semester 2014, we prioritize this task as our top checklist to go through. At first we managed to move the code to a openNI addons based environment, abandoned the old addons. At this point, we create two red spots where the kinect will identify user hands. I created an outline of a body, because I tried to test the reading data function from openNI, however, I didn’t expect that openframework addons gave so convenient code, which has been written. What I need to do is just call that method to the update() and draw() main method.

I created another black canvas to cover the live footage and comment the skeleton code except for the two red dots where is the centre of a hand. I have been told to use the Fbo addons to do so, however, it didn’t work out at the beginning, it because I couldn’t reuse the code, and not quiet understands what was happening, after a couple of trials. And was given some help from matt, the kinect can read sensor data from the hands. However, the depth generator still needs to be taken into consideration.

Status: Done,

Result: Hands detected without any delay

* Masks to the user’s hands the webcam image

I managed to use some example including OFxFbo, ofVideoGrabber and ofpixel, to at least get one of those working. However, as there are many unused code and example code left, I need to have a clean version to start with. So that it takes me couple of hours to doing so, Apart from cleaning up the code, I also left the comment for reminding me what I have done, and what does the code do.

I spent a lot of time on the coordinate, in order to have the rectangle moving left and right. I wasn’t able to test it because Pio has the Kinect over the weekend, I have been researching on the masking related topic, it was quiet hard for me, there are not many support for me online, there is also the biggest challenge for us. So that I need to understand what does the code do rather than the functionality. Sometime. The coordinates will change as we have different size of the screen, it needs to adjust many time.

After adopted the Fbo concept, it needs to have 3 layers. The bottom is the real-time image, middle is the black cover, the top is the masking or I would call canvas layer. In order to open up or moving the mask.

Status: Done

Result: The footage can present audiences and user interaction images

Task contributed: fbo

* Accurately sync image with hand positions

The task is the last and very important part for the masking. Even we can open up the mask, the mask is not as good as synchronizing with the hand movement, it will be a big failure. The first impression of using the system will be low.

So I have spent a lot of time with pio with this task to finalize the masking.

We have spent the entire summer to do one task, however, the progression was low. And we contributed what we meant to do and happy with the result. Thanks to Matt he helps us a lot. Even the plan of our task is not working out. I took a look of what was Matt doing for how accurately matching up the hand positions.

Status: Done

Result: The image and hand goes into the right place

* One hand has size static and centered to hand. Two hands change size and position

Status: Done

The task is now moving the mask. There are couple of ‘if’ statement to ensure one hand interacting, if one hand detected. The red dot will be at the middle of the canvas, user can move around the mask.

What I have done so far was that getting the centre of a rectangle and utilize the videoGrabber and Fbo together to complete the this task.

The biggest issue was how to make the mask staying inside the screen. This task can divide into two tasks.

Outstanding problem

1. Boundary identify
2. Mask resized issue when touch the edge

We compared the code between matt version and ourselves. It was quiet surprised, because we can reuse the code to deal with the outstanding issues as I mentioned.

Result: When one hand interacting, the mask can be moved, and centerize in the middle

Task contributed: one hand interacting, and mask movement

* Records when interacting, and only records if it is longer than 3 seconds

The recording is one of the biggest challenges for me. The task stops me for doing any deeper. Pio and I have no idea how to start with the task, the bug list for the project initially, was having a big issue when using the video recorder. Program freezing and data lost will happen if will use the code. We can’t build from the scratch it is because we didn’t get how to record the interaction. I have spent a long time on doing it which is just too hard for me. The deadline we can catch up, so Matt will take charge for the recording.

Status: Done

Result: If no longer than 3 seconds, the mask will not be recorded.

Task contributed:

**Additional tasks**

* Hints of how a user can interact on screen. Ghost like animation

The task is changed to be a screen saver mode,

This is not real screen saver, but it needs to be intuitive, in order to let user know what is the program do and how to do without any support.

I was understanding wrong by the meaning firstly, so I have looked into the screen saver, it more about changing the content instead.

I created ball object and construct the attributes, what make it happened was that there is two ball bouncing away over the screen.

Pio will continue on his timer class.

Status: Screen saver mode

Result:

Task contributed:

The outstanding issue we are having is time management, and lack of collaborators. As this project started, there is one man got kicked out, and Evan is doing one-year project. And two members left for the rest of the time, Sprint iteration needs to be replanned, the time needs to re-estimate, and C++ learning activity will take lot of time. And two members will do 4 people stuff, which requires us more time and errors we made. The progress is now too slow for us. Even the progress is low, we contribute the best we want. I hope that matt can understand the situation we are having right now. Pio and I will put more hours on within these weeks, and make any possible as we can.