**BYOB programming and Kinect**

Ami’s project Proposal

**The motivation and background**

I always interested in virtual reality and want to create one. After watching and experiencing all the wonderful projects on Demo Day and talking to Tanya about my interests, I decided to create a little game by using BYOB and Kinect. BYOB (the developed programming language of Scratch) is really cute, powerful and easy to use. It can create many movements and game by simply stick some orders together. Kinect is a kind of machine that can detect the movements of the object like human’s hand or body, and then react according to those movements. I decided to make a little program by using BYOB, and then connect Kinect to that BYOB program and let people move their hands to play the game.

**State-of-art and challenges**

BYOB scratches are really lovely and the things created are very interesting. The biggest challenge is to write a program that can connect the movements detected by Kinect to the actual gaming program. Basically, there are four steps. Firstly, write a program that can replace the mouse by adding x-axis and y-axis created by Kinect. Secondly, connect the Kinect with the BYOB program to replace mouse. Thirdly, write a gaming program by using BYOB to create a simple game that adds difficulty to the user when moving scratches. Lastly, test the program and let users to play!

**Others**

Now I’ve done the first step to use x-axis and y-axis to replace the mouse, which means the user can move the scratch without clicking it. Tanya agrees to lend me the Kinect and we are going to connect it to the BYOB programming soon. (She really helps me a lot! I really appreciate that!!) I’m currently working on the third step to write a gaming program. I have two ideas: either creating a maze or making a music program. Creating a maze requires the detections of all the block scratches on the screen and the reactions of the user scratch when touches those block. It is a little bit complicated to create the maze and make all the detections and reactions, but it would be really interesting to play the game. BYOB has a section of orders to generate sounds. After adding reaction of sounds of each instrument scratch, we can let BYOB to produce sound when touch those instrument. It’s funny and not so difficult to write this code. I’m now writing the maze program and encountering some difficulties to connect all the blocks together to make a path and generating reactions. If I can’t fix it, I’ll give it up and write the music program. If it goes well and I still have time, I’ll write all two programs and let people to play them on my presentation.