Project 1 Milestone

Group 7

Tianchi Bi 301137581 tbi@sfu.ca

Joanna Long 301183087 yitingl@sfu.ca

Nancy Lu 301231772 wla92@sfu.ca

Xuan Wang 301149193 xwa59@sfu.ca

Topic of project: Video player remote.

Project Detail:

- Sensors:
    - Rotation sensor: used to adjust the volume of the video
    - Light sensor: used to detect the current room light and adjust the brightness of the screen accordingly
    - Touch sensor: used to stop or play the video
- Inputs:
    - From sensors: int value degree of the rotation sensor, int value brightness from light sensor, boolean value from touch sensor
- Outputs:
    - Sound: the volume of the video sound changes
    - Visual display: the brightness changes, the video plays or stops,
    - Visible in the hardware: a led blinks when touch sensor is activated
- The use of Processing: Processing will be used to create the start screen, and the choose screen which allow users to load different videos, and it will be used to play or stop the video and change the brightness, sound.
- Sequence:
    - Start screen display that tells user this is a video player and user can use the remote to change the sound volume, play or stop the movie, and the brightness changes automatically.
    - User touches the touch sensor to proceed to the choose screen
    - User rotates the rotation sensor to choose one out of three different video that is in the video player.
    - User touches the touch sensor to confirm playing the video they choose
    - Video plays
    - Brightness changes automatically based on the room brightness
    - User can change the sound volume, stop or play the video anytime during the video
    - Led blinks when user touches the touch sensor

Equipment needs:

- A touch sensor(from library)
- A rotation sensor(from library)
- A light sensor(from library)
- A plastic container to hold sensors(purchase)
- A led(purchase)
- An Arduino board(from kit)
- Some wires(from kit)
- A breadboard(from kit)

- Three 270ohm resistors(from kit)
- Tools, such as scissors, glues, markers(purchase)

Task distribution:

- Tianchi Bi: borrow a touch sensor from the library, write processing code for receiving boolean value from touch sensor and play and stop the video, , write processing code to turn on the led when touch sensor is activated build the circuit for touch sensor
- Joanna Long: borrow a rotation sensor from the library, write processing code for receiving rotate value from rotation sensor and make it control the sound volume, build the circuit for rotation sensor
- Nancy Lu: borrow a light sensor from the library, write processing code for receiving brightness value from light sensor and make it control the brightness of the screen, build the circuit for rotation sensor
- Xuan Wang: provide essential equipment other than the sensors, write all the Arduino codes for receiving data from sensors and send them to processing, build the circuit for led, finish the circuit(such as connect all sensors , led and Arduino to the breadboard)