ECE153B Project proposal   Shoulder massage helper

Overview:
I am planing to use STM board to control shoulder massage helper, basing on control the speed of Robot Arm Clamp Claw. And use joystick to control the strength level of it. I will use the button on LPC board to save the user's using history, and be able to recall the strength changing.

Peripherals:
Robot Arm Clamp Claw
micro servo 9g sf0180motor x2
LPC board
External clamp claw(to massage more area)
Joystick

Software Design
I am going to use I2C to connect the motor to GPIO pins of STM board. The pin would generate PWM signal trigger by interrupts to control the strength. Joystick would be able to change the strength by moving left and right, up and down would be able to recall one changing process, the process's starting and ending are by pressing center.

Goal:
Fully connecting the arm clamp claw to board with low delay.
Increase the upper bound of strength, and can make it as fast as possible.
Modifying the claw to make user's experience more comfortable.
Add more massage function if time available.

All by Joe Yu

https://www.amazon.com/LewanSoul-Controller-Wireless-Software-Tutorials/dp/B074T6DPKX/ref=sr_1_cc_6?s=aps&ie=UTF8&qid=1550196816&sr=1-6-catcorr&keywords=robotic+arm