Induction:

Our project is to design an Active Prosthetic Device for children with hand disabilities. It should be economy and open source. We cooperate with the ME team. They used 3d printing technology to print the style of the artificial limb, and we are responsible for electrical and control part. This project include 3 subsystems: Toe-to-thumb system: Use the pressure sensor on the toe to collect data, send it to the Arduino via Xbee, and control the movement of the fingers through the motor; Feedback system: According to the data collected by the pressure sensor on the finger, the tightening and loosening of the constricting band is controlled by the servo motor; Power and Logic system: use Arduino to process data and use Quick swap battery pack to provide power. We used to have Muscle sensor subsystem, but we cancel it recently and only use Toe-to-thumb system to achieve control.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Person Primarily Responsible: Xiaohan Liu | | | | |
| ID | Activity/Task | Description | Deliverables | Other People |
| 1 | **Toe-to-Thumb**  **pressure sensor**  **design** |  | | |
| 1.1 | Circuit Design | Design circuit to measure pressure value. | * A circuit with FSR pressure sensor, 10k ohm resistance, and enable to measure pressure. | Lihua |
| 1.2 | Measure test | Observe whether the corresponding pressure value can be displayed on the computer by changing the pressure. | * The measured pressure value can change as the pressure changes. |  |
| **2** | **Website design** |  | | |
| 2.1 | Website outline | List all required subsystems, text descriptions and images | * A folder with all necessary material | Ethan |
| 2.2 | Website HTML design | Put all materials to webpages and temporarily ignore layout. | * Messy web pages that can display all content |  |
| 2.3 | Website layout by CSS | Format web pages with CSS files | * Neat pages that display all content |  |
| 2.4 | Dynamic effect of the webpage by JavaScript | Add a dynamic effect to each person's photo. When the mouse is over the photo, the photo will move down and display the email address in the free space above. | * A dynamic web page with contact information for group members |  |