

Embedded Microcontroller Design Project

Prosthetic Arm

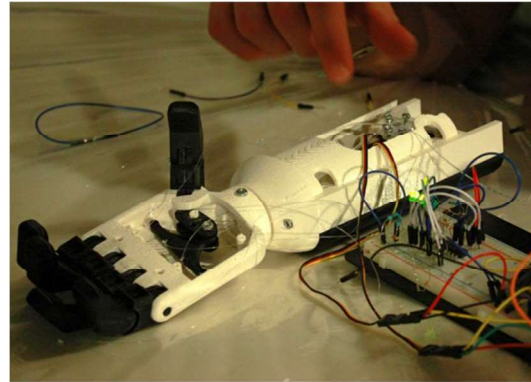
Mission Statement

Using innovative manufacturing technologies to improve the production, customization, and availability of prosthetics devices for children.

Synopsis

The Prosthetic for Kids Project has been broken down into several stages due to its complexity. The long term goal of this project is to create a trustable product capable of being marketed and distributed in America and the world. In order to do so, the design process of this project must follow meticulous analysis and testing to ensure all aspects of the product meet or exceed the market standards. The first stage of the project was developed in spring 2015; during the MET2 session held that year. During this period the team selected was able to create a prosthetic arm that met the requirements of the project. Moreover, a prototype was manufactured to prove the efficacy of the design and the different features that made this project unique. This design became the basis of project; further developments were based on the prototype created in spring 2015.

The second stage of the project (current one) targets the creation of an interface, or socket, to connect users with the prosthetic arm, as well as the optimization of the arm design from stage 1. The socket interface is critical in the success of this project because of two important factors: first, the socket is the part responsible for holding the prosthesis in place; second it allows the user to operate the prosthetic arm. Creating a socket design that does not require complex manufacturing processes and lengthy fitment sessions represents a game-changing achievement for this project and the prosthetics industry.



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