Sign Language Robotic Hand

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The purpose of this project was to design a robotic hand for the deaf that area one hand amputee. The problem consisted of correctly doing American Sign Language. The criteria were to execute the American Sign Language alphabet except letters J and Z and to grip a can. The final prototype was done by making three inch long fingers connected by fishing line to the servo motors. Tests were done by measuring the angle of each digit of the formed letter. The final prototype had letters B, D, F, G, H, I, K, L, M, N, O,P, Q, R, U, V, W, X, and Y. The can grip was 64.3% accurate. The base joints of the last prototype were 40% accurate, middle joints were 84%, and the top joints were 78% accurate. Overall, the last prototype had a passing grade of 72%. If this experiment was to be done again, 360 rotational servo motors would replace the 180 rotational servo motors, and more clearance for the servo motors would be provided.

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