

Design Development, Fabrication, and Preliminary Specifications of Multi-Fingered Prosthetic Hand

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Abstract : The study has developed the previous design of an artificial anthropomorphic humanoid hand and accustomed it as a prosthetic hand. The main specifications of this design are determined. The development of our previous design involves the main artificial hand's parts and subassemblies, palm, fingers, and thumb. In addition, the study presents an adaptable socket design for a transradial amputee. This hand has 3 fingers and thumb. It is more reliable, cosmetics, modularity, and ease of assembly. Its size and weight are almost as a natural hand. The socket cavity has the capability for different sizes of a transradial amputee. The study implements the developed design by using rapid prototype and specifies its main specifications by using a data glove and finite element method.

Keywords : adaptable socket, prosthetic hand, transradial amputee, data glove

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