

Prosthetic Limb

1.Introduction

Our idea is to make a prosthetic limb having an extraordinary light weight and a very comfortable design. The benefit in our design is the grid like structure that will be 3D printed making it durable and also light weight. The size of our product is also considerably small making it easy to manufacture and the less requirement of materials makes the product very less costly considering other fully solid prosthetic limbs usually available.

The conceptual design is given below:



Fig. 1. Upper portion of the limb



Fig 2. Lower portion of the limb

2.Description of the model

As we can see in the picture the part from the knee portion to the ankle will be a unique grid like structure. This portion is required to be 3-D printed by a very durable material making it durable as well as light weight. The lower portion of the limb will be a simple foot like structure that will be assembled with the upper section making it a complete limb like structure. The complete assembly will roughly look like this.



3.Benifits of this product design

By implementing 3-D printing in making the product we can achieve the following advantages:

- The weight of the product is very less comparing to other completely solid products
- The durability will be very good by using suitable materials.
- The cost of the product will be less as the use of material is considerably reduced.
- The comfort will be relatively more in comparison to other products.

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