



KALINGA INSTITUTE OF INDUSTRIAL TECHNOLOGY (KIIT)

Deemed to be University U/S 3 of the UGC Act, 1956

THE PROBLEM.

More than 21,906,769 (2.1%) people of the total population in India is disabled [1]. Among these people 6,105,477 (27.87%) are disabled by Movement. More than half of the disability in movement caused by upper body amputees. We are working on a device to sense the electrical signals generated in the the contraction of the muscles and respond to it by activating the actuators of the robotic arm

SOLUTION

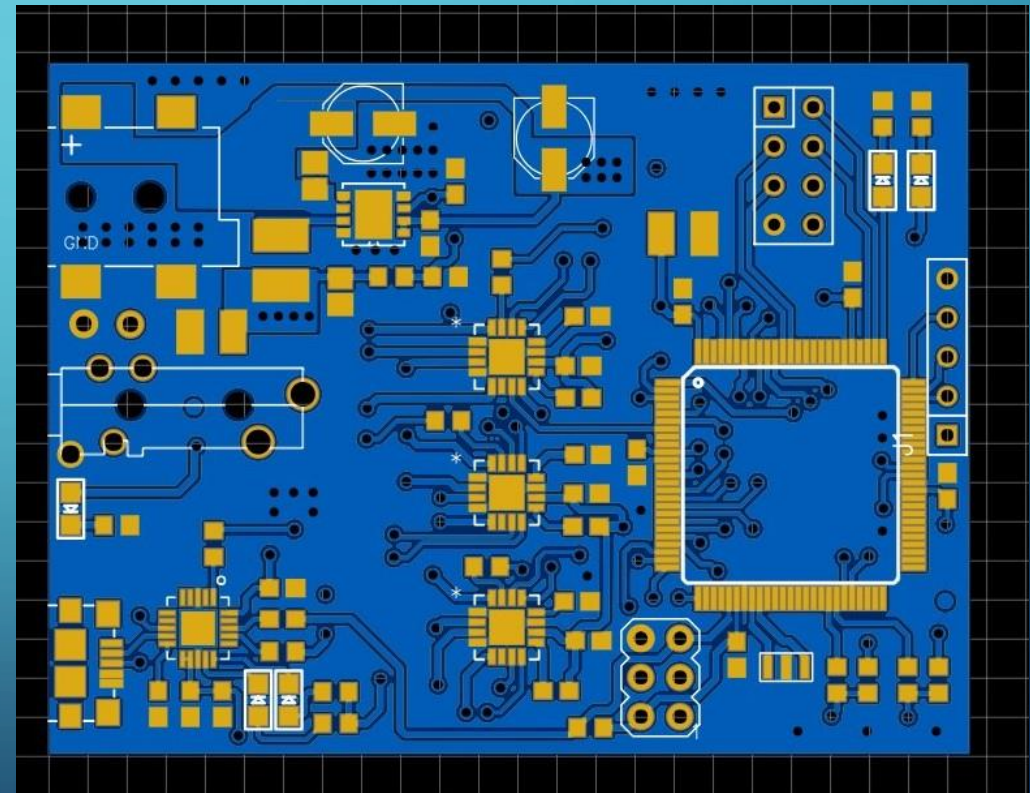
The Bionic Arm is a myoelectric prostheses. When a patients intentionally flexes specific muscles in their residual limb, EMG electrodes within the bionic arm detect tiny electrical signals, allowing them to activate different grips with precise, proportional control. This can enable the patients to hold, grasp or even with some practice even writing and painting. This could be a life changer for the patients.



THE BIONIC ARM 3D DESIGN



3D Design

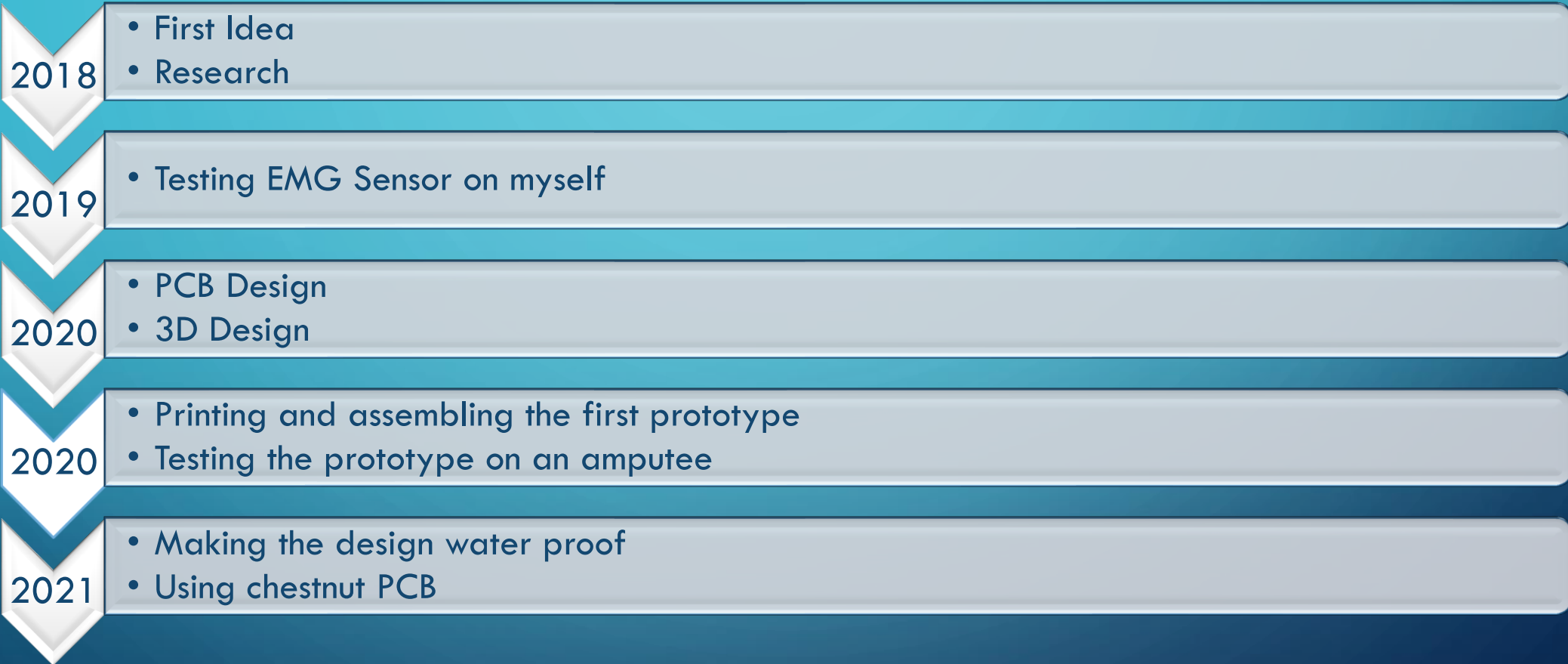


PCB Design

FEATURES OF THE ARM

- Easy to use
- Light weight
- Easy to wear and open
- Non - invasive
- Customizable
- Current design is spill-proof
- Affordable (comparing to other competitors)

TIMELINE



PROCEDURE FOR PROTOTYPE

- Printing the PCB and soldering the components on it
- Printing the 3D design and assembling the parts
- Assembling and testing the prototype for cooling in the circuits and performance issues.

WHAT WE NEED

- A experienced 3D designer
- A PCB Designer
- Funds for Printing and purchasing raw materials

MARKET ANALYSIS

- The marketing of this products is targeted to middle class to upperclass Indian or overseas amputees
- The product is estimated to costs from 12000 – 25000 INR.