

Krobohand

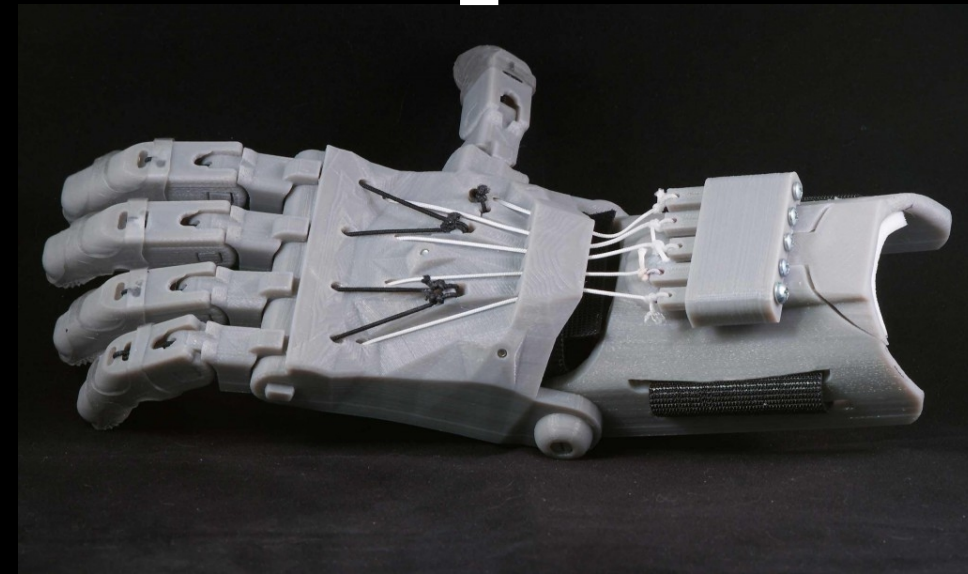
A 3D Printed, Robotic Prosthetic Hand

Background

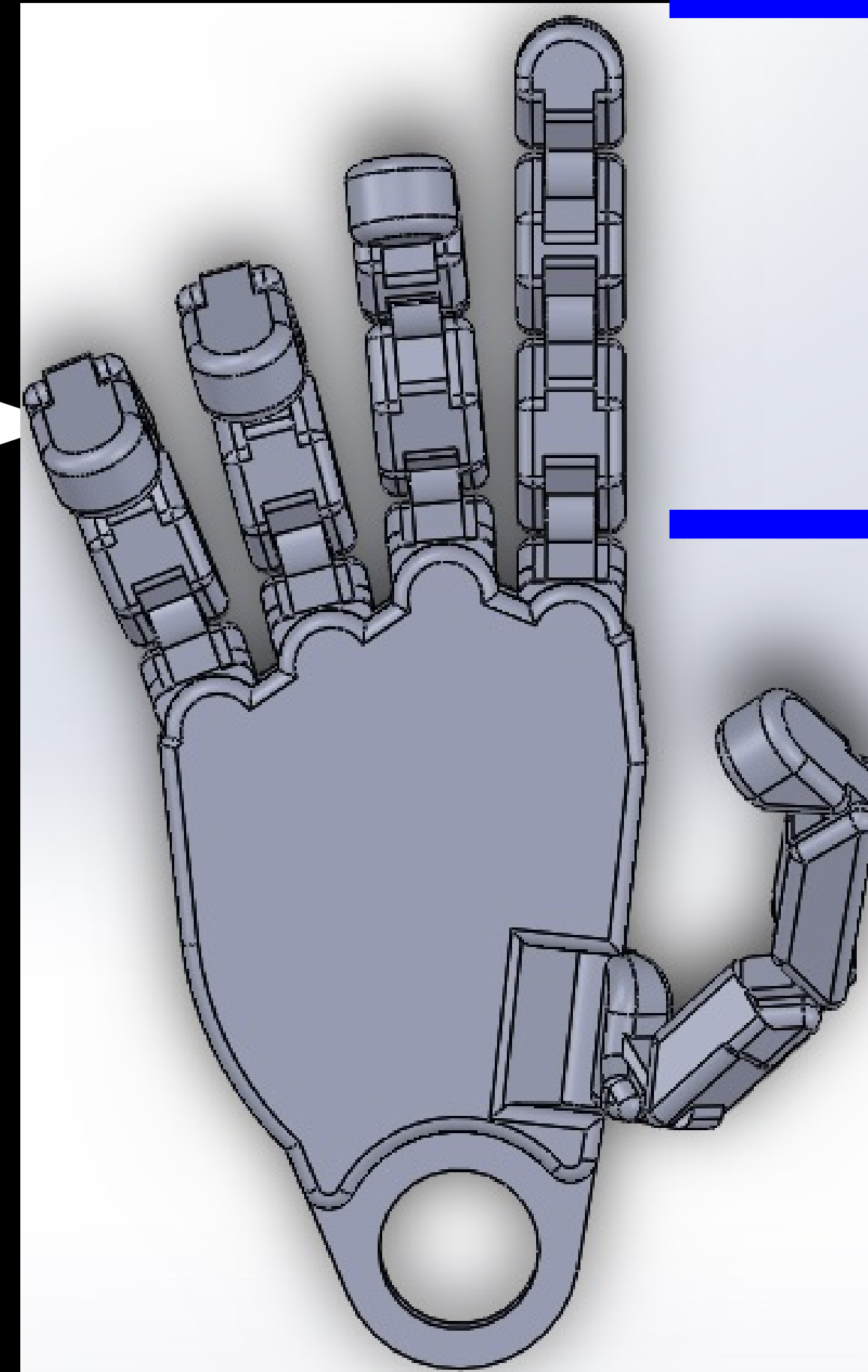
The Krobohand group recognized a significant gap in the upper limb prosthetic industry between cost and functionality of a prosthetic.

Raptor Hand - \$50

Split Hook - \$10,000



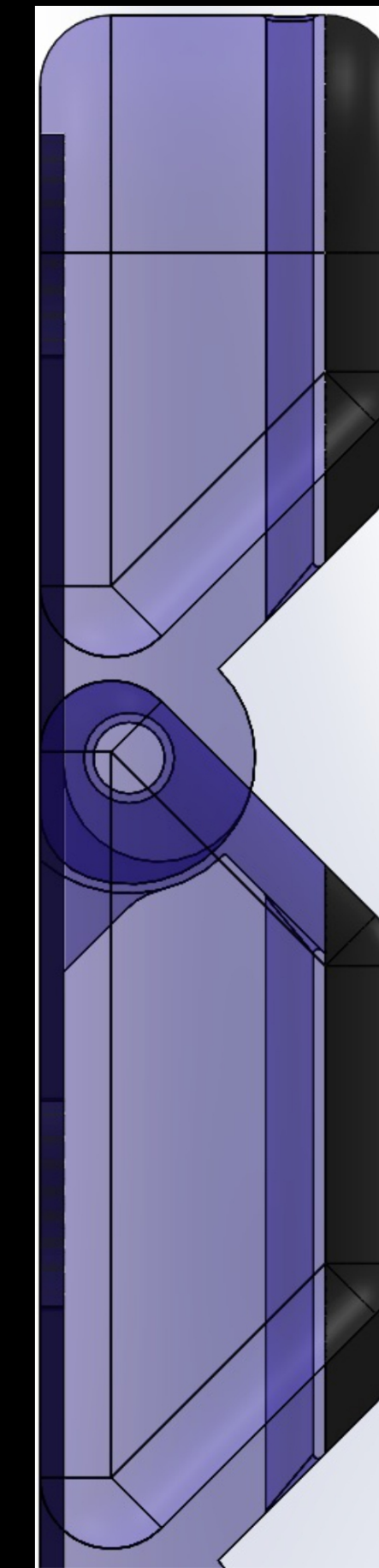
Krobohand - >\$1000



Krobohand Finger Profile



Joint Detail



Design

Krobohand is both cost effective, as well as functionally viable. Fabrication techniques, as well as unique designs yield an innovative upper limb prosthetic.

Innovation

- 1.) Fully 3D Printed Joints, Lateral Joints.
- 2.) Flexible tendon as a stabilizing, restoring force, like the extensor tendon of a human.
- 3.) Grip on palm side printed from same material as the flexible tendon, finger pads.
- 4.) Electromyography for connection between prosthesis and amputee, to be non-invasive.

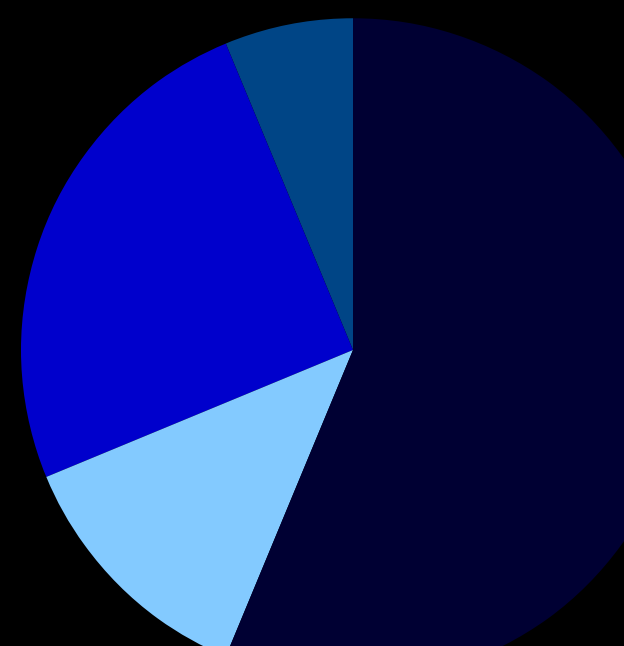
Goal

Bridge the gap in the upper limb prosthesis industry between cost and functionality.

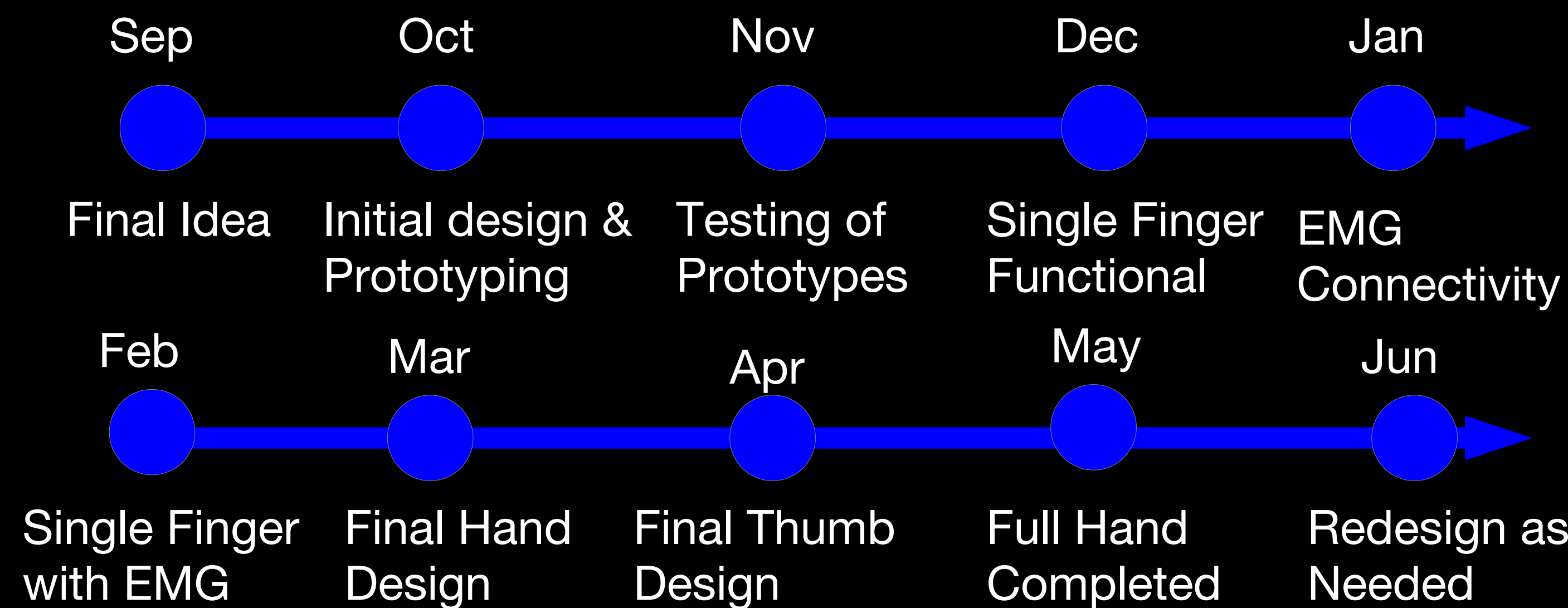
Objectives

- 1.) Fabrication with dual material 3D Printing.
- 2.) Streamline process of connectivity between electromyographic sensors and amputee.
- 3.) Create a sleek, clean, and recognizable upper limb prosthesis.

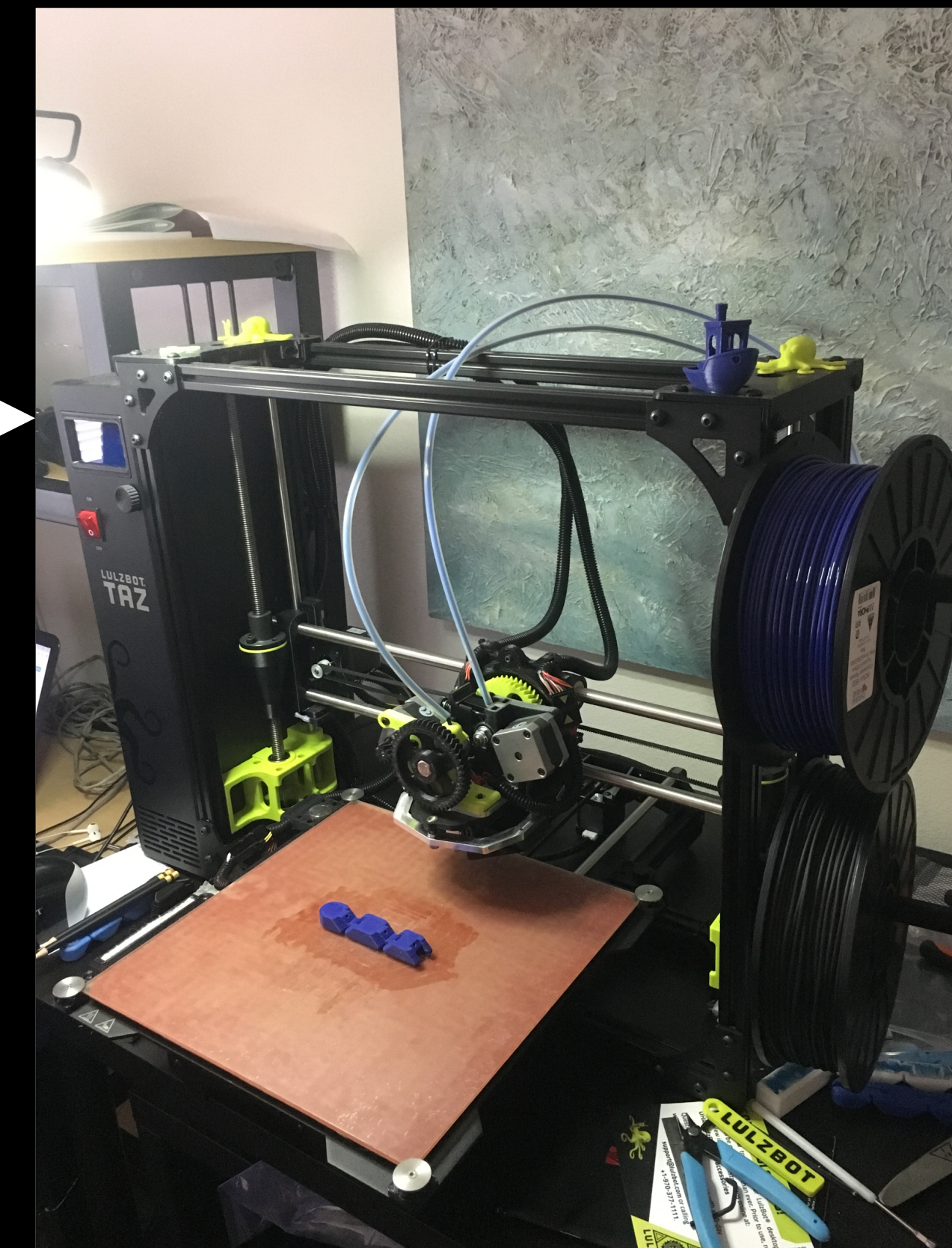
Budget - \$800 Total Cost



Timeline: 2016-2017



Krobohand Workstation



The Team

- Ethan Kirkley
- Zepoor Khechadorian
- Advisor: Dr. Reinkensmeyer
- Cameron Hunt
- Kevin Wong