



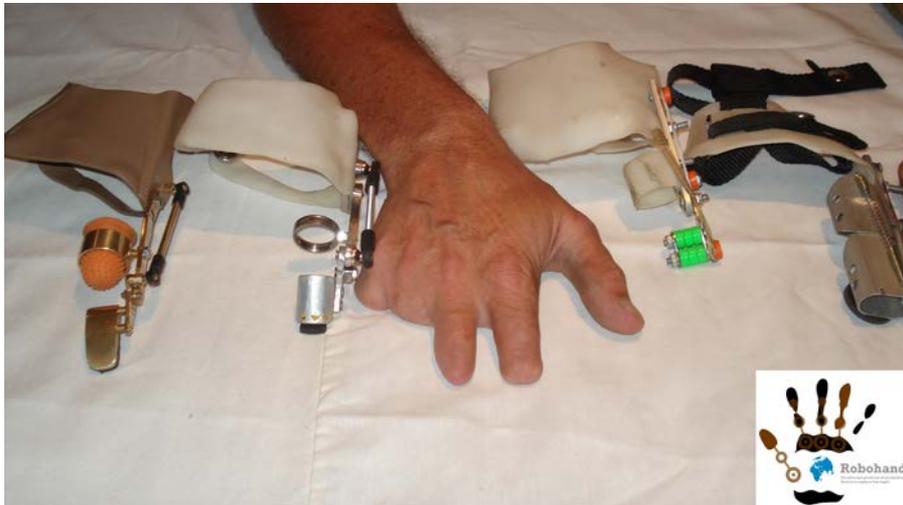
Robohand

Creation and provision of mechanical devices to replace lost digits

Just a South African Guy with an Idea

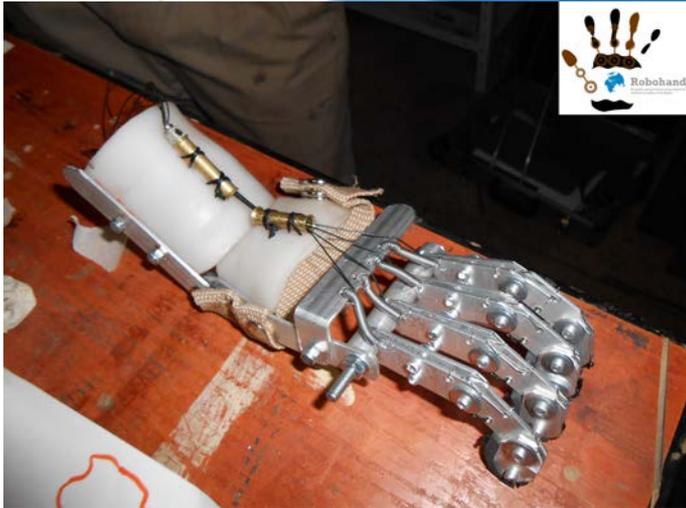


- Robohand started with Richard van As, when he had a woodworking accident in May 2011 severing all his fingers on his right hand. Straight out of hospital, Richard set to work in researching and developing a finger replacement for himself. He discovered after his accident that prosthetics are not affordable for the lay-man, and there are no functioning replacement digits.

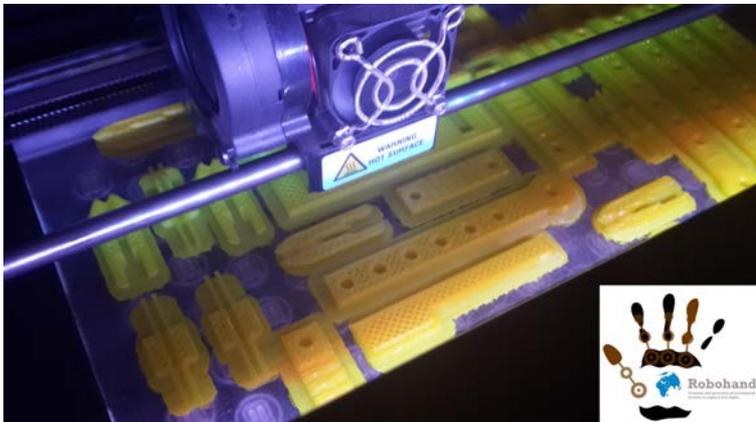


3d Printing

3D printing is the process of extruding layer upon layer of plastic over the same area, building up a 3D composite.



- Robohand turned to 3D printing as a cost effective, quick way of prototyping.
- Robohand discovered the potential of 3D printing and the endless possibilities, we looked at re-creating the aluminum hand in 3D print.
- The first successful prototype was published in January at the end of 2013 with the design being published open source.
- There after Ivan left Robohand and Richard continued with the research and development, refining Robohand while focusing on safety of the device, applying the highest grade materials but keeping the device cost effective.



LBHS's Role

- ◆ We contribute to the project by helping supply the basic parts for each hand.
- ◆ They sent us the file with the hand parts, and we converted it into g-code (the format necessary for 3d printing)
- ◆ After printing and cleaning up the hands, we send them off to Africa where they will be custom fitted to their recipients and retrofitted with the electronics to make them work.



LBHS Multi-Media Design



- ◆ Through this project we have had valuable practice with machine maintenance, using the 3D programs and software, and working with non-profit organizations.
- ◆ Other than the satisfaction we get from knowing that we are helping contribute to a good cause, we also get to experience working in a modern manufacturing environment.

Application

- ▶ Already many companies use 3D printing in their offices and daily lives. It's slowly growing to be a bigger part of a variety of fields. Medical uses include 3d printing casts, and human organs/tissues. Manufacturing can print prototypes, and even food production has started using this technology.
- ▶ The skills we've been learning are setting us up to work in this generation's most groundbreaking technological advances.



3D Printing at LBHS



Robohand isn't the only project we've undertaken at LBHS

- ◆ We've made:
- ◆ Molds for ceramics
- ◆ Mock ups of a wall for visualization in mural design
- ◆ Spare parts for our printer
- ◆ Even customized end pieces for our cross country hurdles.

