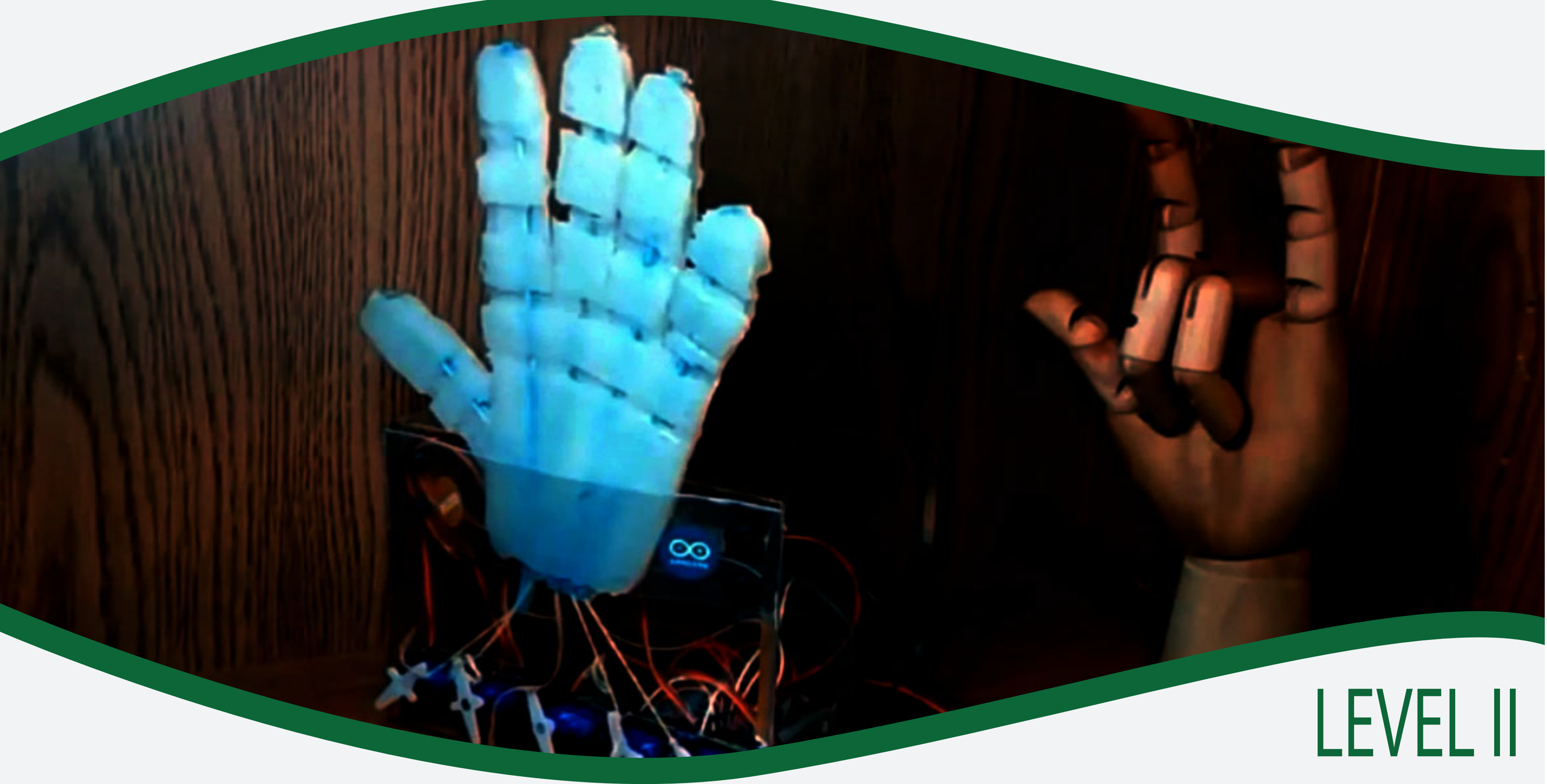


THE ROBOT HAND



LEVEL II

INTRODUCTION

Engineering is the application of science and math to solve problems. Engineers figure out how things work and find practical uses for scientific discoveries. The presented problem in this project is to create a synthetic hand that moves using the same application as human hands use. This creation of a new technology enables people with disabilities to regain their movement and capabilities.

HOW IT WORKS

Science - The process of observing how humans move their bodies and hands. Our muscles contract and relax antagonistically. Our bones provide support for movement.

Technology is not just a factor of electronics, but materials and modifications used to achieve a task, such as a lever to accomplish tasks

Engineering - observing and adapting to create a prototype In the robotic arm just like a human hand is going to have two muscles on the fingers, one side of the finger made of material that bends but is able to regain its original shape after there is no more force applied on the material

Math - calculations to make precise movements
The Arduino micro-controller will need Math in its Programming because the angles of the movement of the fingers on the hand will have to be very precise to make it look and feel like a real hand. The movements have to be smooth so the programs will have to be tweaked a bit.

FUTURE APPLICATION

Bio-medical engineering is a field that requires all disciplines of STEM to create an end product that can benefit the human population. It is observing surrounding and making an adaptation of something. How do you think helicopters were invented?

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HISTORY MYOLOGY

The Study of Muscles is called Myology. It had first started during the Renaissance with intellectuals like Leonardo Da Vinci, and Andreas Vesalius. Although, people had discovered where muscles were located and how skeletal systems worked by about 1500's, the ideology of how muscles contracted and extracted came in 1900's.

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WEBSITE



VIDEO

