

Robot Hand (End Effector)

Instructions

1. Place your hand with fingers spread on the smooth side of a Styrofoam food tray. Use a marker pen to trace your hand.
2. Cover the tracing of your hand with duct tape and press it smooth.
3. Trace your hand again on the duct tape and cut it out with scissors.
4. Turn the hand over and score the Styroamo on each finger with the point of a ballpoint pen where the knuckles should be. Bend each joint gently, the Styrofoam "pops." The tape on the other side becomes the hinge on the knuckle. Also make a wrist joint.
5. Glue short lengths of straw on palm side of hand where indicated on a diagram.
6. Knot 5 pieces of string on one end and glue knots to fingertips. Run the other end of the strings through the straws as shown.
7. Glue a paint stick to the forearm.
8. Glue pieces of rubber bands across each knuckle joint on the Styrofoam side to serve as muscles and tendons. The rubber bands must be stretched enough so that all the fingers on the hand will open automatically.
9. Work the hand by pulling on the strings.



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