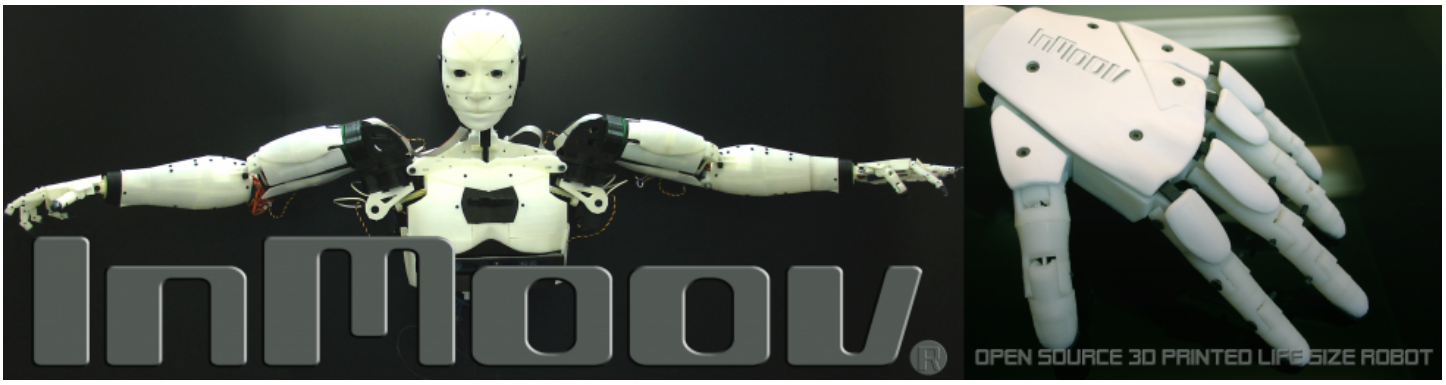
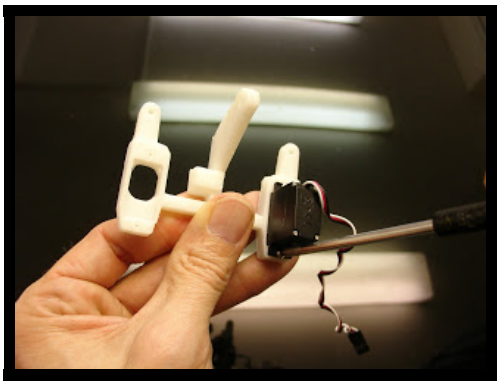


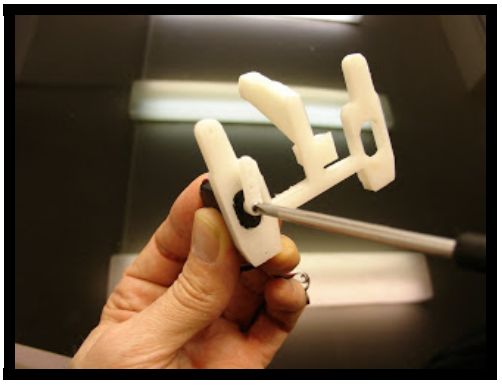
Eye Mechanism

Eye ism Assembly

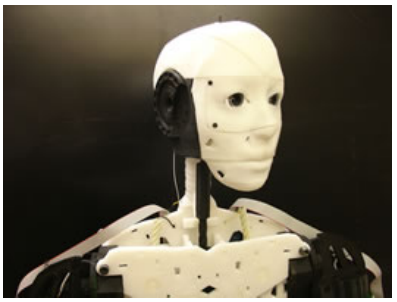
I used 3 ervos from Hobbyking. The two servos mounted for the right/left movement are connect nnector, so they receive the same data and act simulteanously.
Some o s in this tuto are showing parts that might be a bit different than the one you actually s is due to different iterations.



Start by screwing the two servos to EyeSupport. In the tuto I have attached only one, but it is best to have two.



Set your servos at 90 degrees using your Arduino.
Attache the actuators of your servos in this position.



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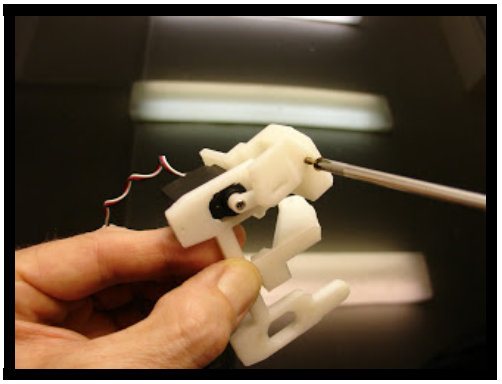
MEMBER ACTIVITIES

Dwayne Williams uploaded a new picture: opencv_fd_1.jpg
17 hours, 49 minutes ago

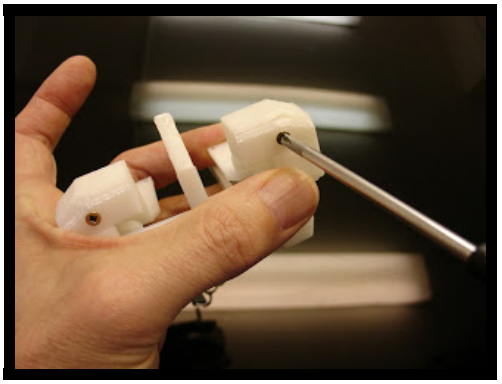
Rob is standing proud as a test bot for Grog.
He is very pleased to be a part of enhancing the Inmoov Nation.

Fred uploaded a new picture: Possible spring for...
1 day, 16 hours ago

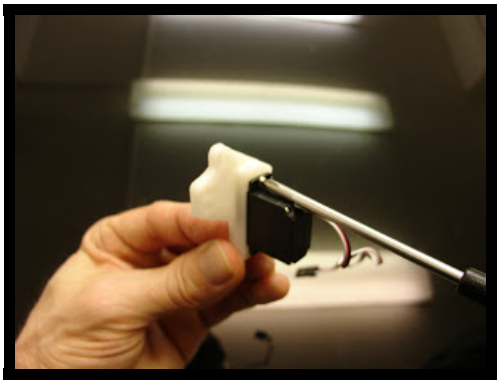
Maybe a possible spring for tendons ?



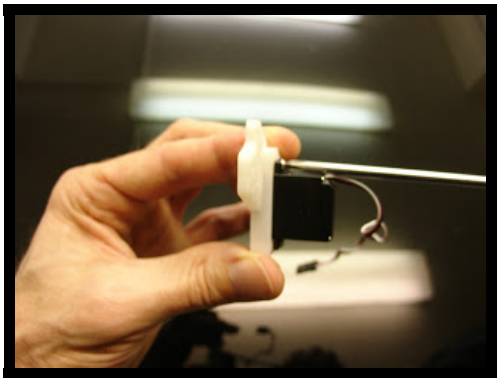
Mount EyeCamera part and make sure it can rotate freely on the screw.

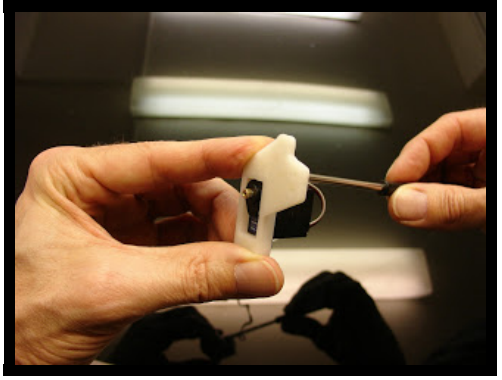


Mount the second EyeCamera part



Now add and screw the third servo to EyeToNose





Your part will look a bit different in length.

Jack Phillips posted an update 2 days, 11 hours ago

Head Connect to Torso. Using EZ Robot for programing interface for now. Printing arms and hands next. Not sure how to post video so here is the link. https://www.youtube.com/watch?v=czMIEDz98804&feature=c4-overview&list=UUNwIfeOZc-u4UbOx3bcqJHQ

Gael Langevin posted an update 2 days, 16 hours ago

To Fred and others:

https://groups.google.com/group/inmoov/attach/151d3d256a4108f0/spring%20tensioner1.jpg?part=4&authuser=0

This is how I see a spring added to the retraction tendon. In this set up we avoid forcing on the servo either way of rotation and it also avoid losing tension in the tendons.

Fred uploaded a new picture: 69.jpg 3 days, 17 hours ago

Fred uploaded a new picture: 71.jpg 3 days, 17 hours ago

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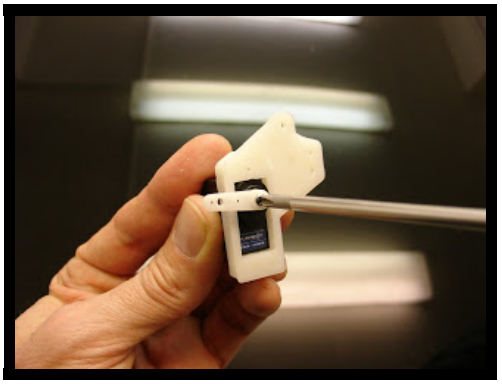
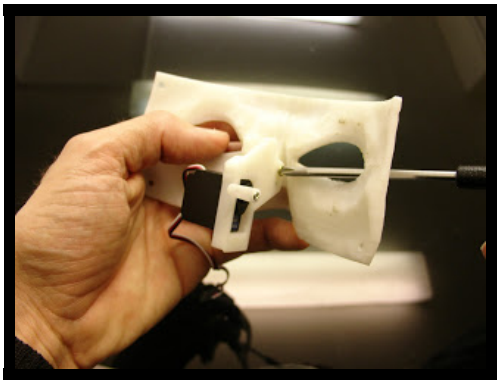
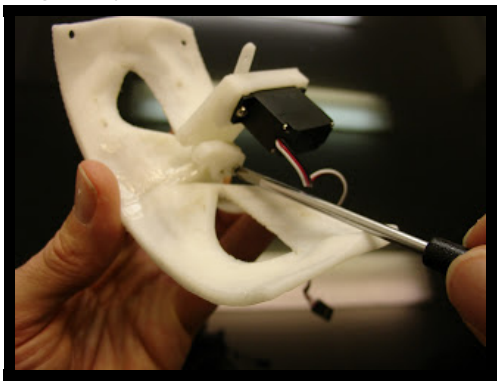


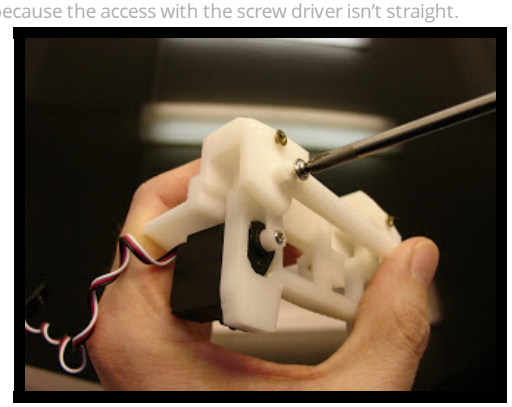
Be sure to have your servo set at 90 degrees and mount the actuator this way.



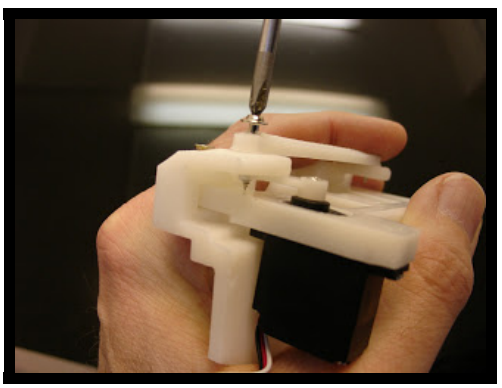
Attach EyeToNose to the EyeGlass part



This is a bit difficult because the access with the screw driver isn't straight.



Now fix EyeMoverSide through EyeCamera to the actuator of the servo



New wiring design for the hand

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Tom on Hand and Forarm

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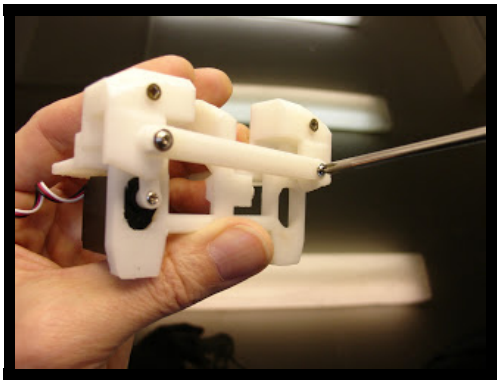
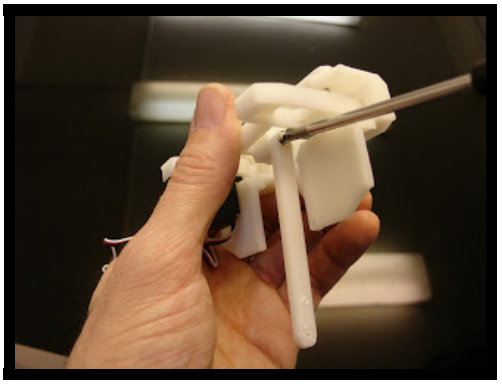
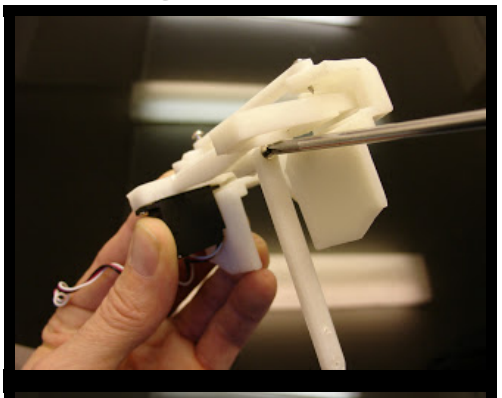
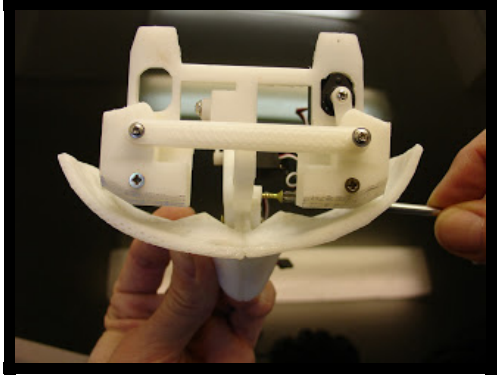


Repeat this on bothe eyes.

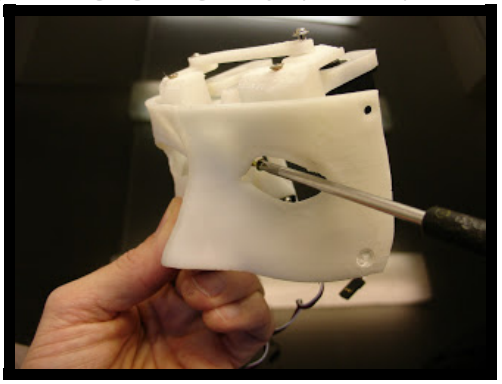


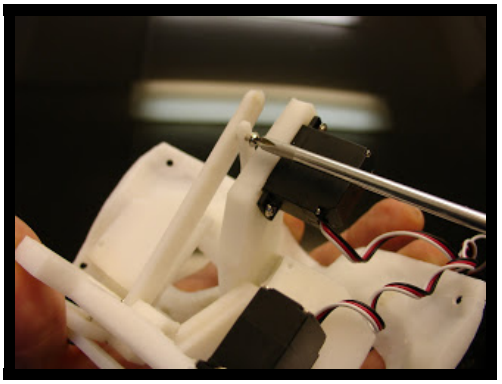
Mount EyeMoverUp, it should NOT be tight screwed



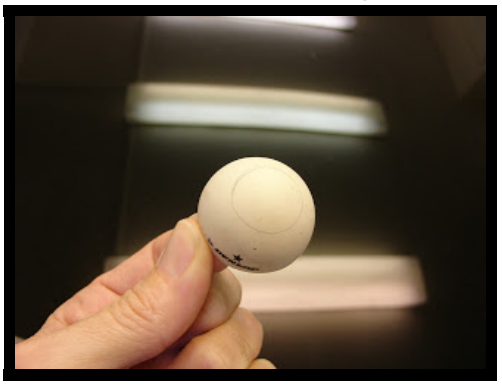


Fix this assembly to EyeToNose, going through the eye space is an option to make it easier.

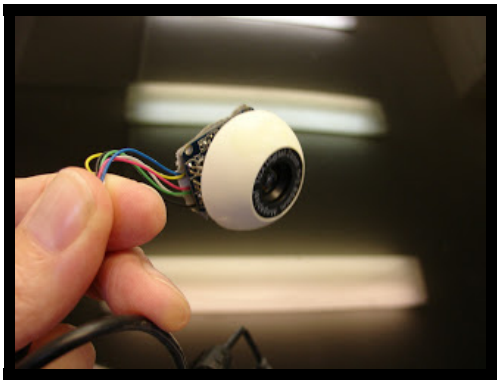




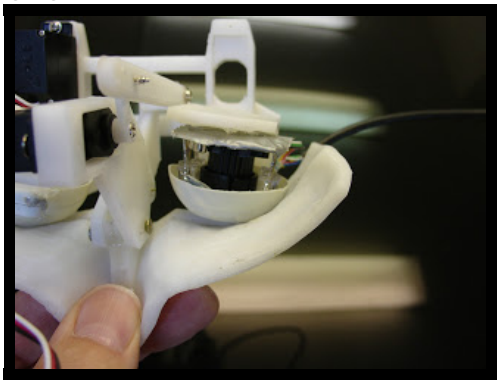
Fix the EyeMoverUp to the bottom servo actuator.
Normaly your mechanism should be ready for movements.
Making test with your Arduino is a good thing at this point. Be sure to start with small range degree movements, especially for the up and down movement. You can start with 30 to 120, it should be fine.
What follows is what I did to make the cameras look more like eyes.



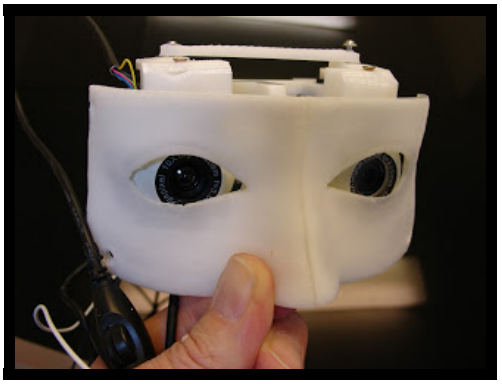
I used a ping pong ball cutted with a knife and small scissors.
The hole where you insert the lens can be rounded up with sand paper, because cutting a clean hole with a knife isn't easy.



Adjust the hole precisely to your lens and PCB board



I used a piece of heavy tape to cover the back of the PCB, for two reasons:
First to avoid using hot glue directly on the components and also to shutter the back of the lens to keep it dark (Oddly light coming from the back of the lens interfer with the image received by the camera.)



Now you can mount it to the head. You can see here my two different cameras.
On the left the Megapixel and on the right the Hercule twist.
The connections of these three servos will be added on the Adafruit boards, once the InMoov service will be implemented for that.

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- Stum

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