Dis/assembling Eye/Pupil Camera Housing

Creation of headset for RADlab. First: eye camera Second: pupil camera

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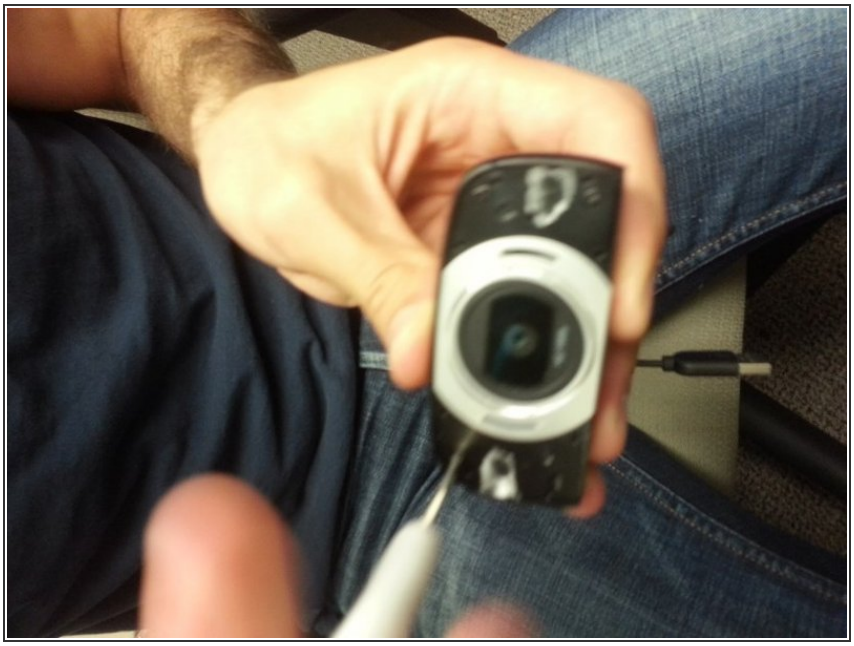
TOOLS:

- Pro Tech Toolkit (1)

Step 1 — Dis/assembling Eye/Pupil Camera Housing

- First: Eye Camera
- Remove initial frame (crack off)

Step 2

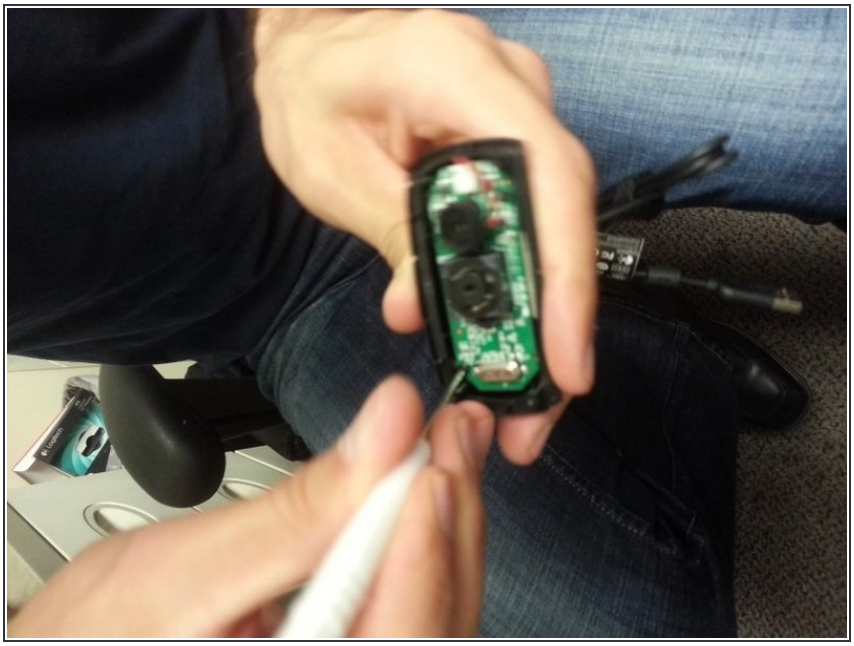


- Remove 4 screws.

Step 3

- Remove cover to get to the PCB underneath

Step 4

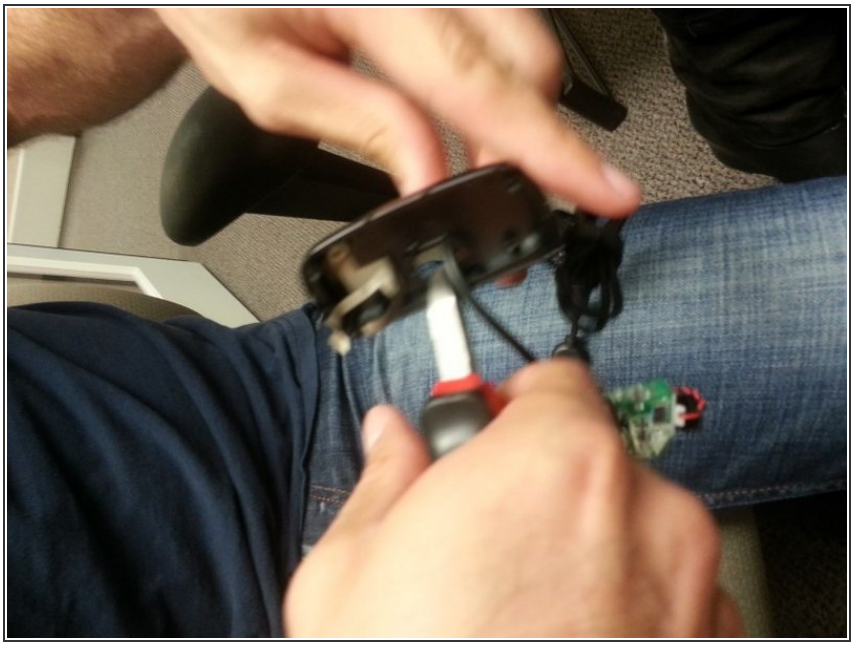


- Remove two screws on the PCB.

Step 5

- Remove PCB from the base plastic piece.

Step 6

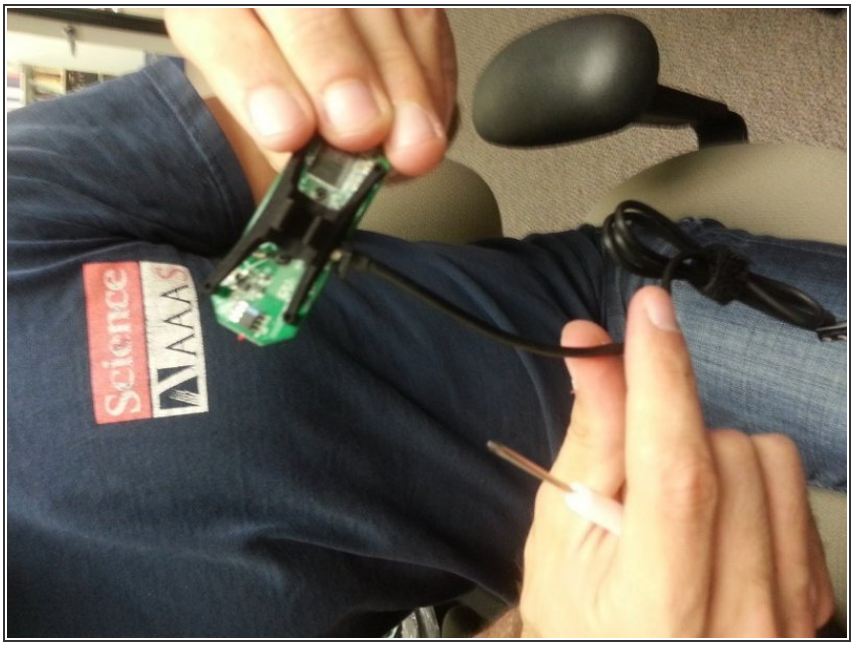


- Break base plastic piece. Cutters work well. Be careful not to snip the wire attached to the PCB.

Step 7

- Black mold (from 3D printer) piece attaches to the PCB with 4 screws.

Step 8



- Completed assembly of the eye camera.

Step 9 — Pupil camera dis/assembly

- Back of pupil camera is glued on. Remove with flat-head.

Step 10

- Remove the black frame on the front of the pupil camera.

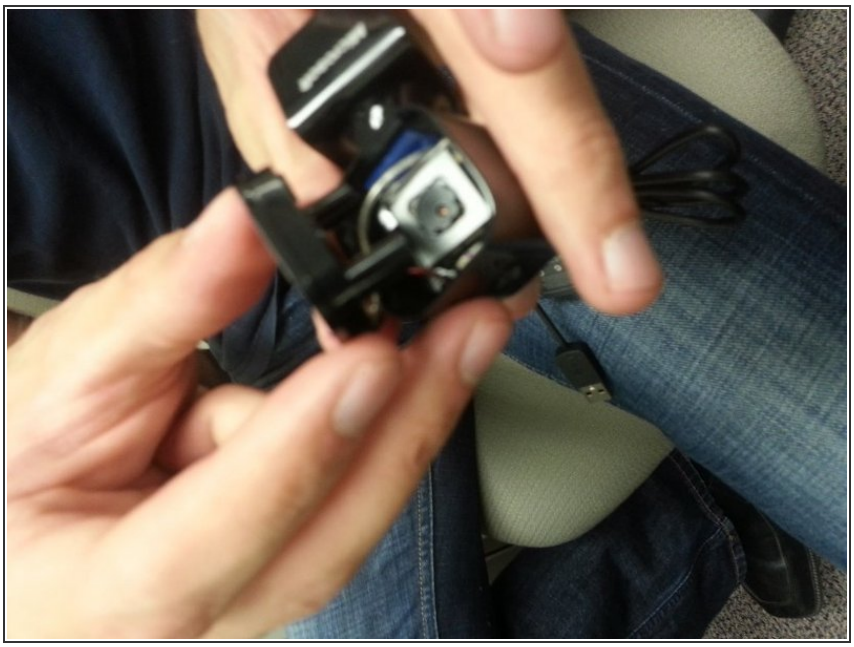
Step 11

- Once frame is taken off the front, two screws need to be removed.

Step 12

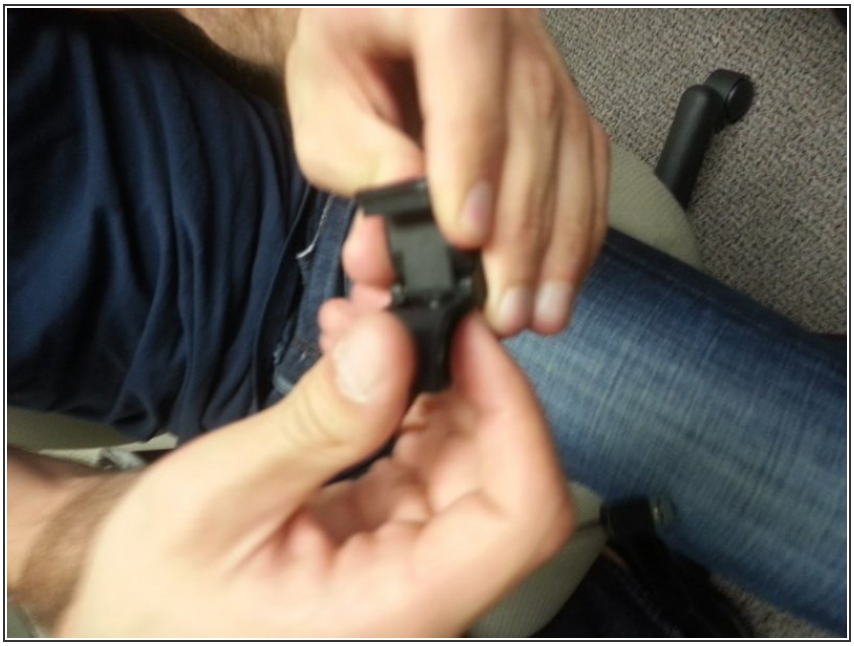
- One screw removed from the back.

Step 13



- Front housing comes off once the screws are removed from the frame.
- Twist out the silver microphone.

Step 14



- Pull off bottom stand until it breaks off.

Step 15

- Remove rubber/plastic piece from the bottom

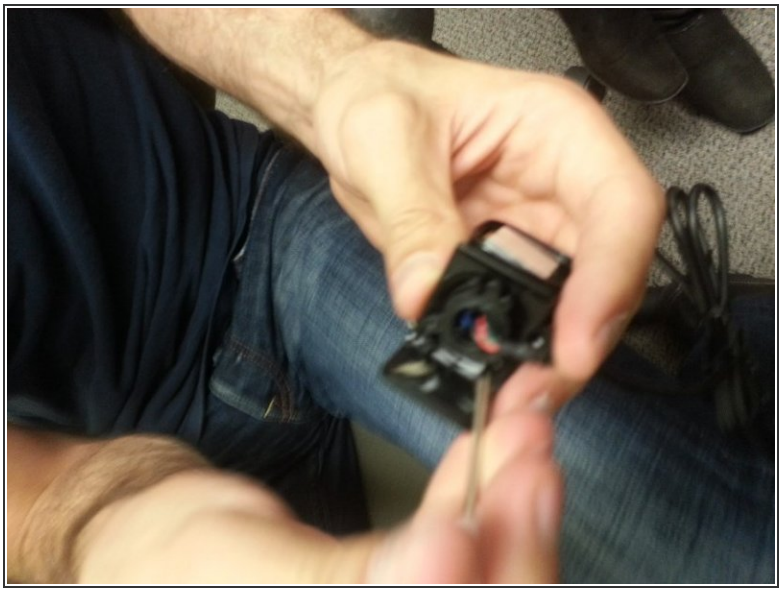
Step 16

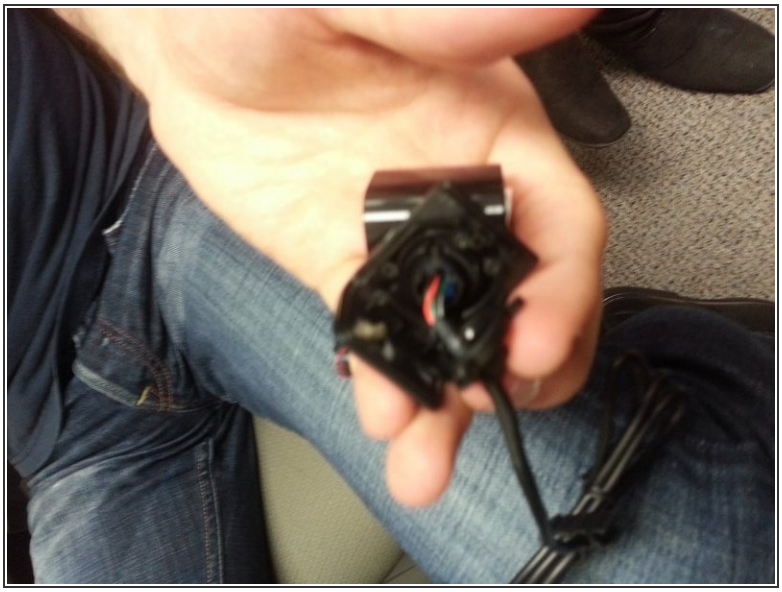
- Remove four screws from under the plastic tape (removed from last step).

Step 17

- Bottom pops off

Step 18





- Separate the metal frame from the plastic assembly.
- Avoid the cables

Step 19

- Take out PCB from the plastic housing.

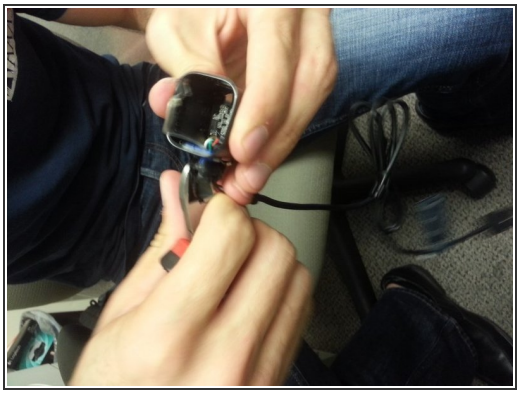
Step 20

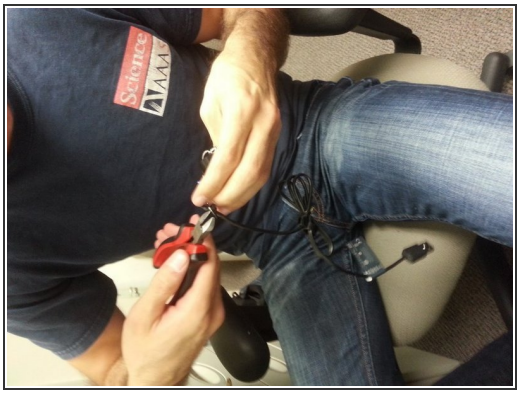
- Remove the rest of the black plastic housing.

Step 21

- Black plastic housing removed

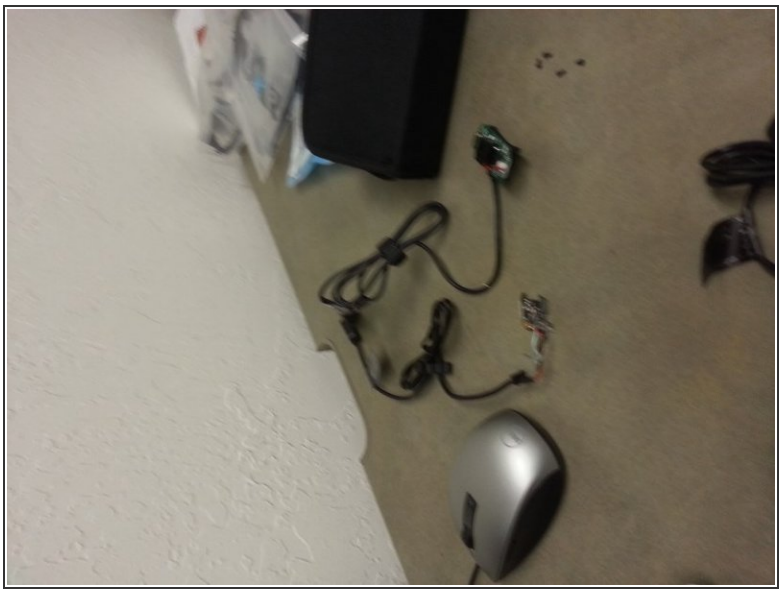
Step 22





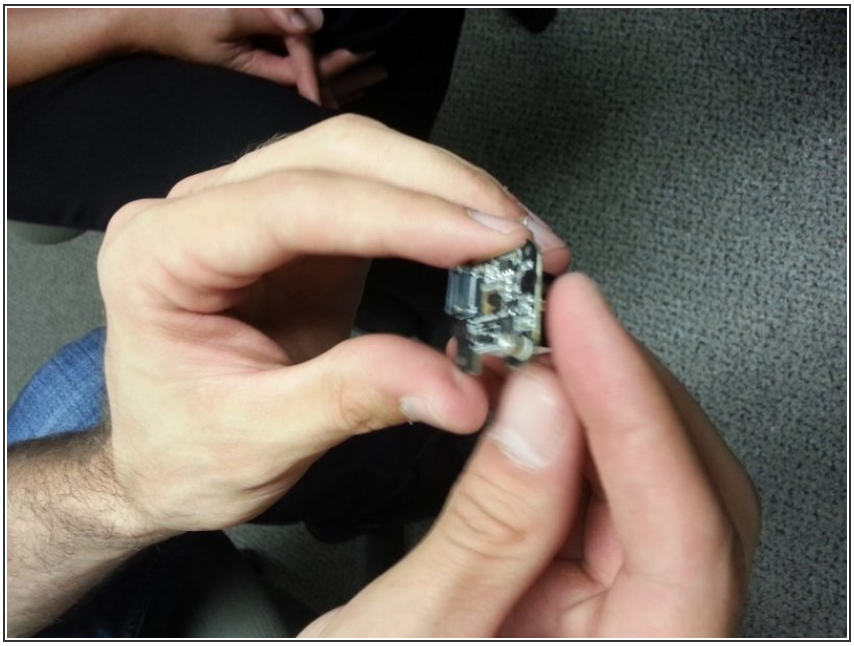
- Continue removing the black plastic housing surrounding the inner PCB.

Step 23



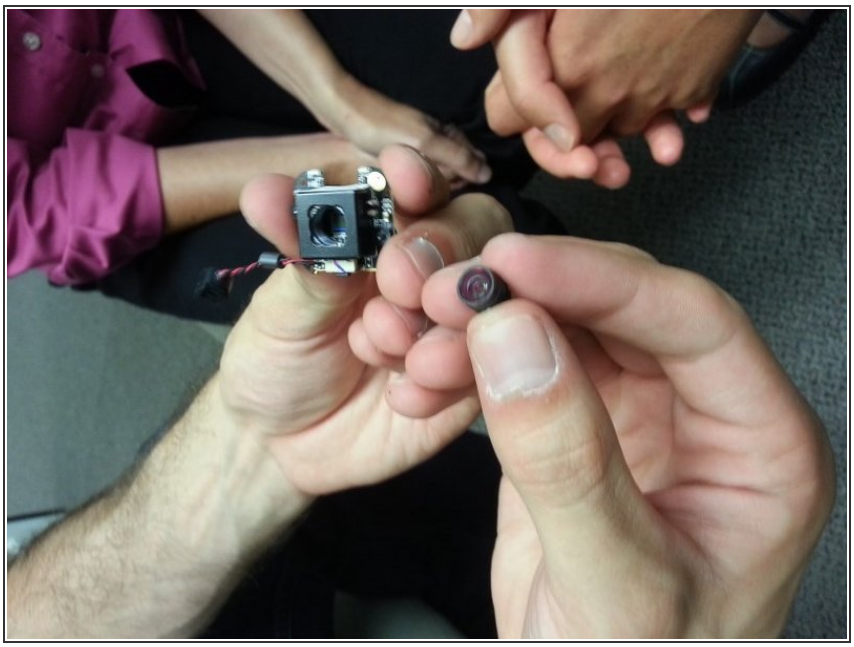
- PCB removed from the black plastic housing.

Step 24



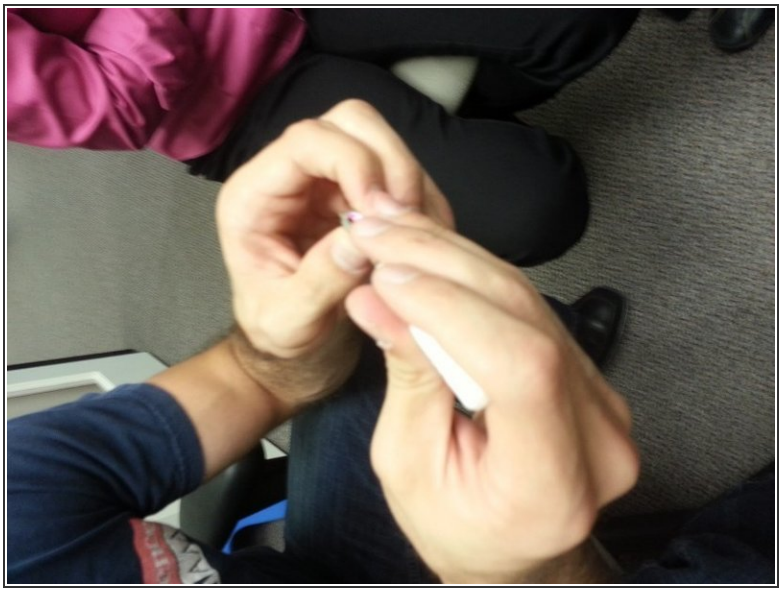
- Autofocus assembly.
- Remove two screws from the bottom of the auto-focus PCB.

Step 25



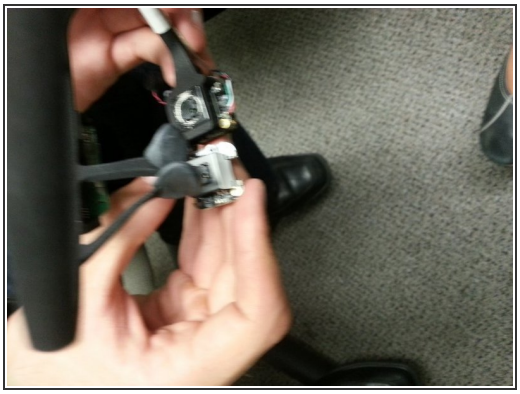
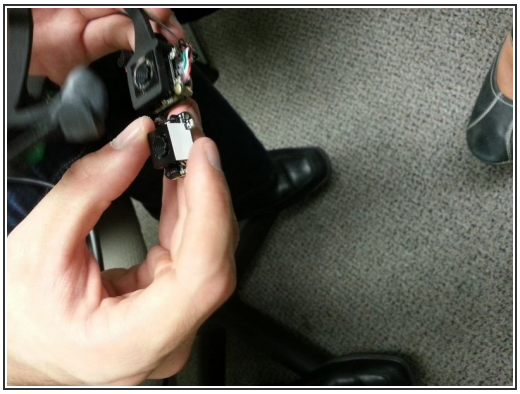
- Unscrew the lens

Step 26



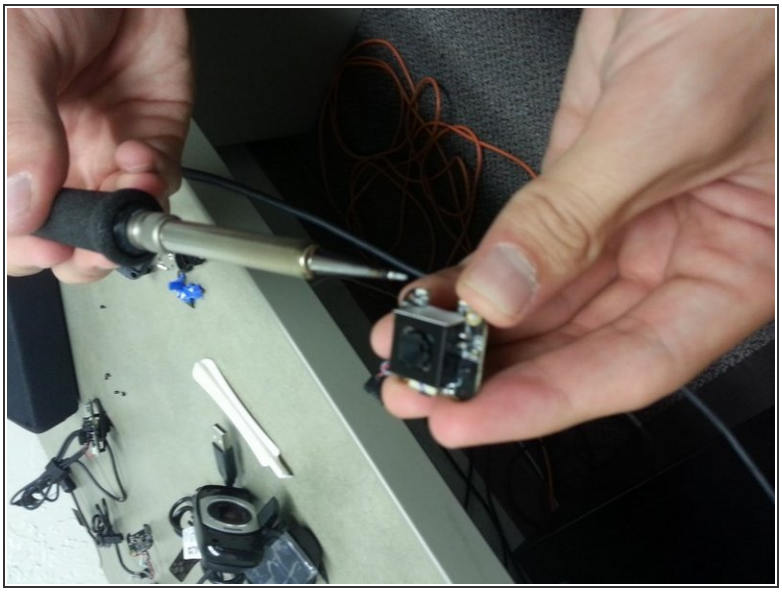
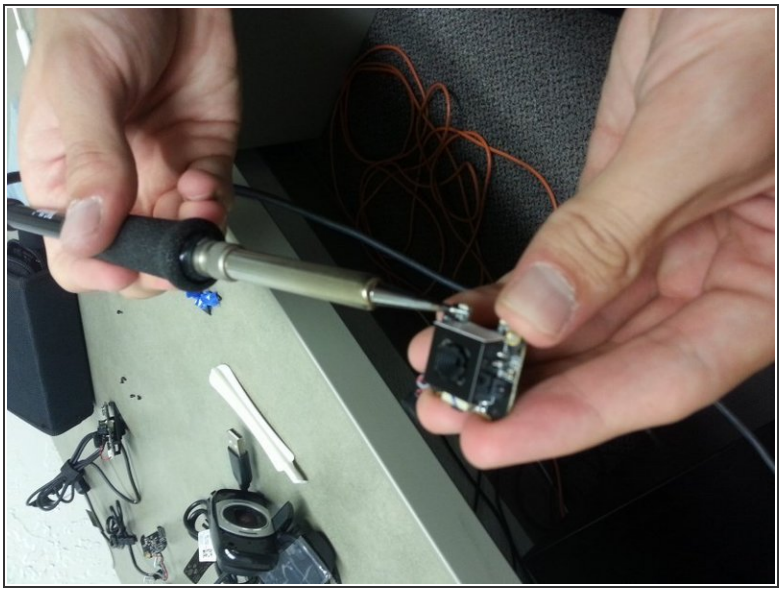
- Take out the IR filter by using a scalpel for pulling out the lens tape.

Step 27

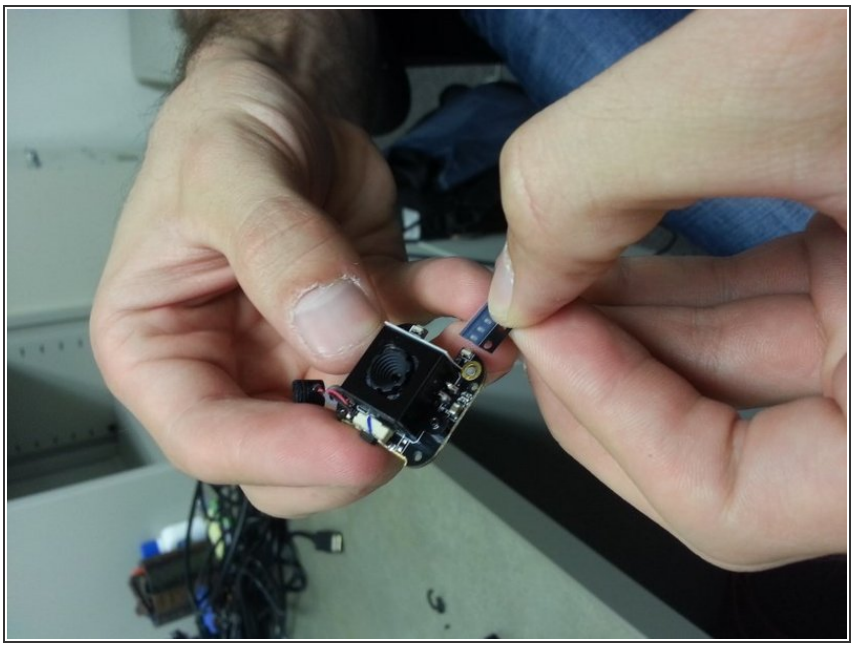
- Comparison photos of completed autofocus assembly vs in-progress autofocus assembly

Step 28

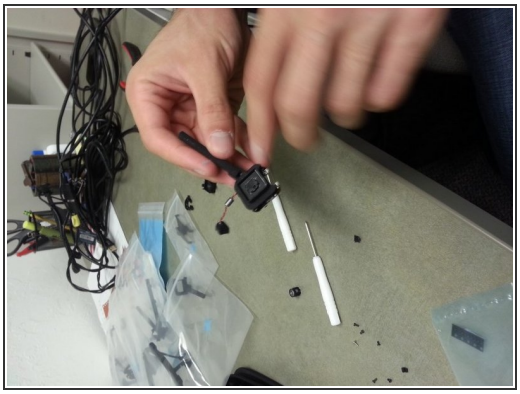
- IR LEDs replaced by SMD LED
- Soldering required here (at bottom of LED to remove).

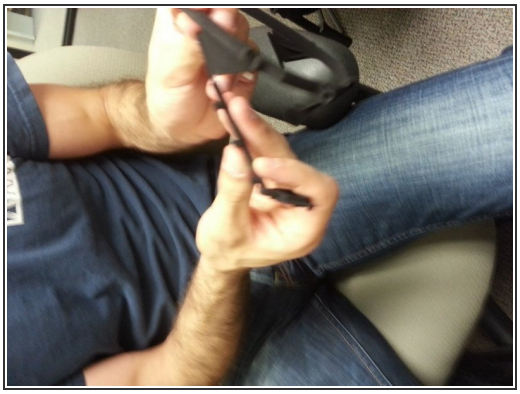
Step 29



- SMD LED info: Thick black line is near the positive side of the LED
- Dark side (dot) is positive side on LED.

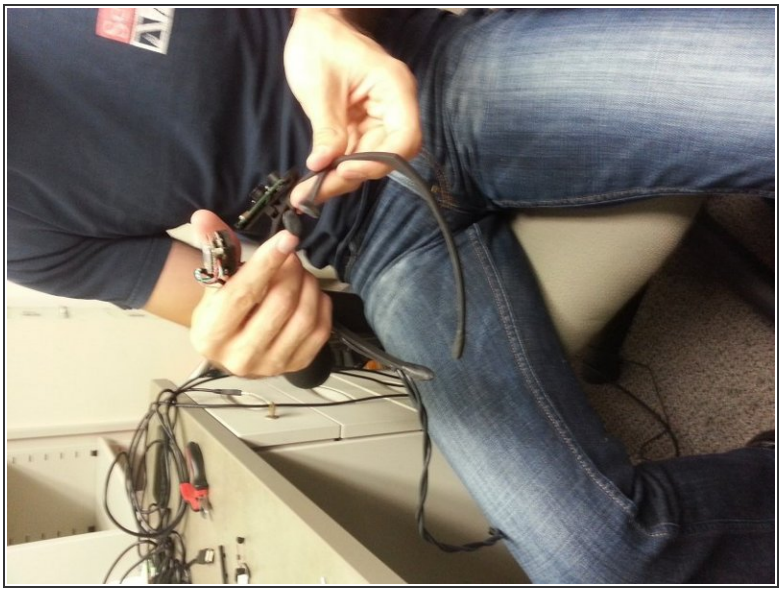
Step 30





- Insert PCB into 3d-printed frame.

Step 31



- Completed assembly.
- Sugru used for nose/head rest

To reassemble your device, follow these instructions in reverse order.