Whisker
Activity Sheet

Please use this sheet to record your data from the Whisker activity session.

Materials Needed: *6 pipe cleaners, scissors, a ruler, pen/pencil, a surface for contact.*

Computer Vision Background

How might you confuse a computer vision tracker?

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Whisker Thickness

For this part you will need 3 pipe cleaners, scissors and a surface for contact.

1. Take the longest pipe cleaner (12”), and bend it every 3”. Fold together (fold down once, and then again) then twist 3 of the sections together (making them triple thick). Make a ring with the last remaining section. This ring will slip over your finger.

2. Take another pipe cleaner and cut it to a length of 9”, bend every 3”. Fold together (fold down once), then twist 2 of the sections together (making them double thick). Make a ring with the last remaining section. This ring will slip over your finger.

3. Take another pipe cleaner and cut it to a length of 6”, bend in half. Make a ring with one of the halves. This ring will slip over your finger.

Now you should have 3 “b” shaped “whiskers”. Bring down each of the whiskers over the edge of your surface. Try this with your eyes open, then closed. Note the difference in sensation for each thickness.

Why do you think it is important that whiskers are thicker than human hairs?

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Which whisker (triple, double or single thickness) was it easiest to distinguish contact with? Why do you think that is?

Whisker Contact Distance

For this exercise you will use 1 of the pipe cleaners, and a solid surface for contact.

1. Take a pipe cleaner (12") and bend it 3" in from the end. Make a ring with this 3" section. Fold the remaining part of the pipe cleaner in half and twist together (double thick). Slip the ring over your finger.

Make contact with your solid surface by brushing up against the end (tip), middle and base of the "whisker". Try this with your eyes open, then closed. Note the differences in sensation.

Why do you think some whiskers are tapered (thicker at the base, come to a point at the end) other whiskers undulate their thickness?

At which point (end, middle or base) were you easiest able to identify contact? Why do you think that was?

Contact Behavior in Whiskers

For this exercise you will use the pipe cleaner "whisker" from the previous experiment, a pencil, and a solid surface for contact.

Test by applying and hold contact on the whisker. What does the bend shape look like? How does the bend shape change with contact at different points along the whisker?

Test by brushing your other hand or the contact surface past the tip of the whisker. How is this type of contact different from the earlier one?

With your bent pipe cleaner try and make contact in multiple locations on the object. How often do you think this happens with animals?

Flick the end of the "whisker", note the sensation and observe the behavior. Now, try holding one end of a pencil, and flick the end of it. How do the sensation and behaviors of the two differ?

Please use the space below for additional observations, comments, or questions.