STITCHED STRAIN SENSORS

SUPPORTING AT-HOME REHABILITATION EXERCISES

SENSOR

The stitched strain sensor is made by stitching silver coated conductive thread in a tight zigzag stitch on a piece of Kinesiotape. When the joint is bent, the tape stretches, causing the threads to part and increasing the resistance of the sensor.

FEEDBACK

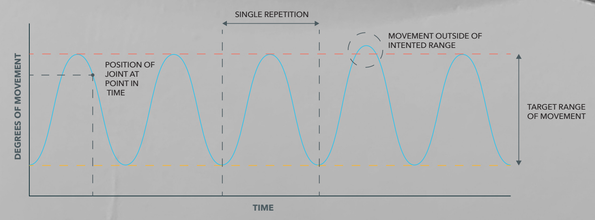
With this knowledge we can give real time feedback to the user on their movement. Insights gathered from usertesting with different types of feedback are:

More precise feedback (showing the exact amount of degrees on a screen) made the movement more accurate, but made the users feel they performed worse.

Giving the users a short tactile pulse as feedback made them more confident when executing the movement.

DATA

After calibration, the data produced by the sensor gives us the angle of the joint at any given time. With this information we know when someone completed the intended motion, how many repetitions they completed and how long they took to complete the exercise.



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