

IoT

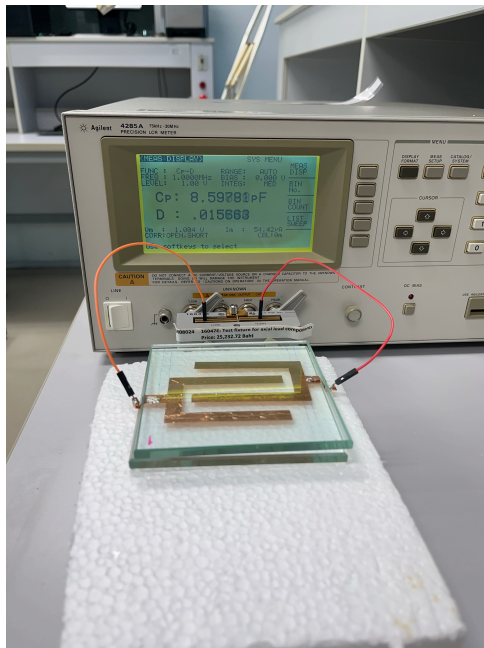
Su Mon Tun and Ramsha Quyyam

Smart Glass

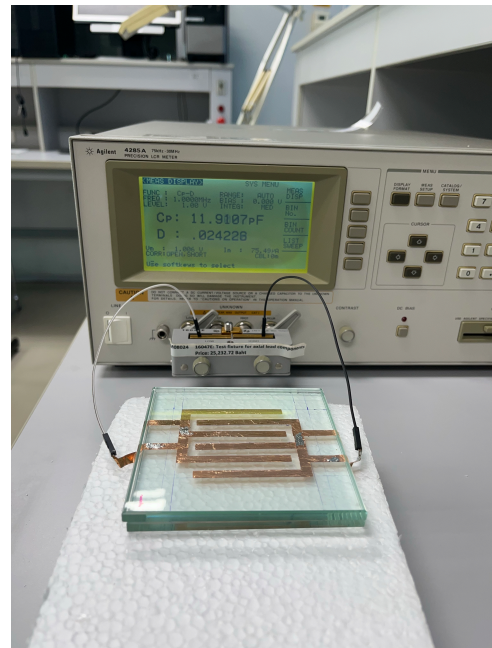
29 April 2022

Week 7

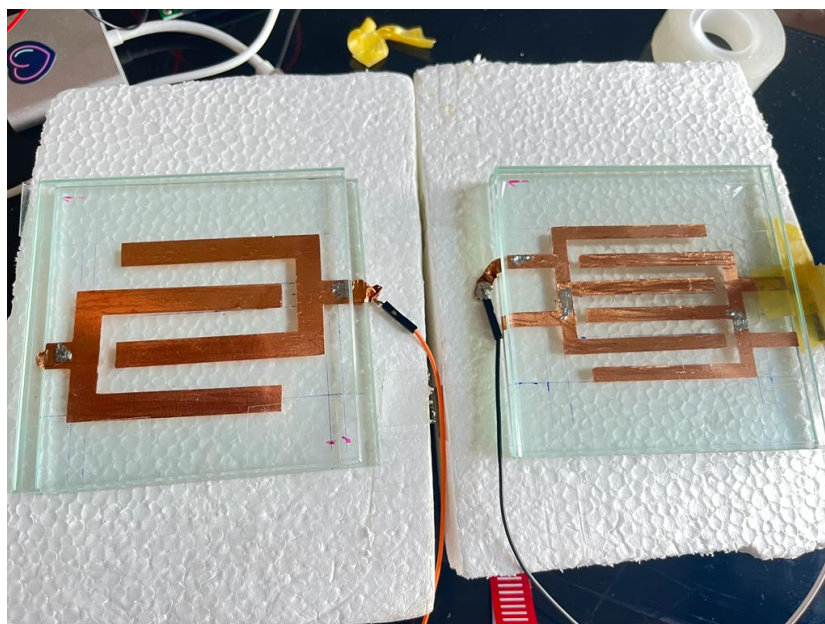
1. Design



a. Two-finger design



b. Three-finger design



Two sensors are designed using a two-finger design with the dimension of 0.8 cm finger width and 0.8 cm gap for the first design. The three-finger design has the dimension of 0.5cm finger width and 0.5cm finger gap. We used the copper tape and wires as a bus to connect the sensor with the LCR meter and MCU to reduce the gap between the two glasses because the gap between the glasses may give some interference in the capacitance values.

2. Results

The results for the electrode designs are as follows.

Table 1. Results for 0.8cm width two-finger electrode

Capacitance (No touch)	8.59 pF
Capacitance (Touch between electrodes)	6.86 pF

Table 2. Results for 0.5 width three-finger electrode

Capacitance (No touch)	11.91 pF
Capacitance (Touch between electrodes)	10.18 pF