There are two types of touch screen technologies – Resistive Touch (finger & stylus activated) and Capacitive Touch (usually fingers only)

1. **Resistive Touch (4-Wire or 5-Wire)**
These are the most basic and common touch screens – two electrically conductive layers bending to touch one another. One of those thin yellow layers is resistive and the other is conductive, separated by a gap of tiny dots called spacers to keep the two layers apart until you touch it. (A thin, scratch-resistant blue layer on top completes the package.)
An electrical current runs through those yellow layers at all times, but when your finger hits the screen the two are pressed together and the electrical current changes at the point of contact. The software recognizes a change in the current at these coordinates and carries out the function that corresponds with that spot - as shown in the picture below.

Resistive touch screens are durable and consistent, but they can only handle one touch at a time – ruling out, for example, the two-finger zoom on a smart phone or tablet device. That's why high-end devices are much more likely to use capacitive touchscreens that detect anything that conducts electricity and can handle multi-touch at same time.
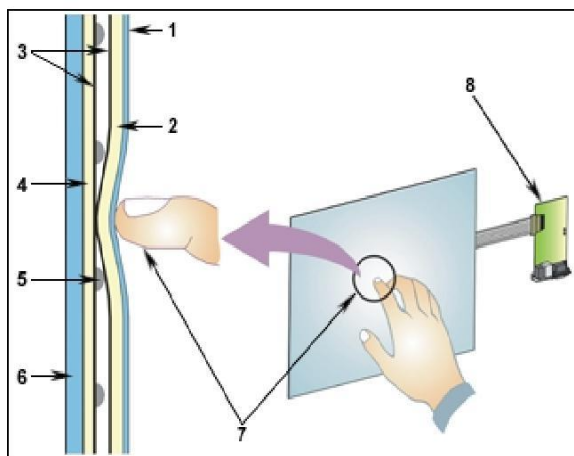


**Resistive touch screen technology**
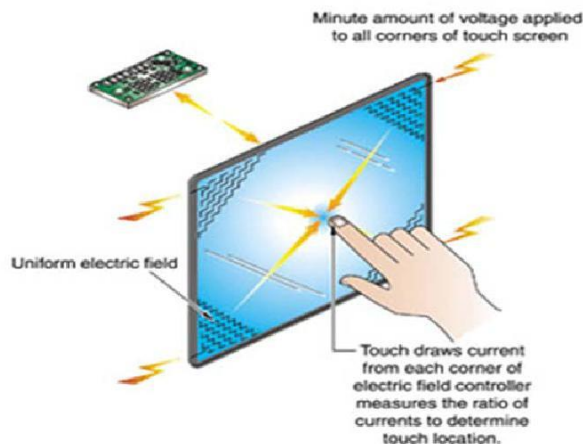


**Capacitive touch screen technology**

2. **Capacitive Touch (Surface or Projective)**
Unlike resistive touch screens, capacitive screens do not use the pressure of your finger to create a change in the flow of electricity. Instead, they work with anything that holds an electrical charge – including human skin. Capacitive touch screens are constructed from materials like copper or indium tin oxide that store electrical charges in an electrostatic grid of tiny wires, each smaller than a human hair.

There are two main types of capacitive touch screens - surface and projective. Surface capacitive uses sensors at the corners and a thin evenly distributed film across the surface (as pictured above) whereas projective capacitive uses a grid of rows and columns with a separate chip for sensing (more popularly used nowadays). In both instances, when a finger hits the screen a tiny electrical charge is transferred to the finger to complete the circuit, creating a voltage drop on that point of the screen. (This is why capacitive screens don't work when you wear gloves; cloth does not conduct electricity, unless it is fitted with conductive thread.) The software processes the location of this voltage drop and orders the ensuing action.