Pros and Cons of Different Conductive Materials

Aluminum Foil Tape	
Pros	Cons
● Least expensive option ● A decent conductor when used with capacitive touch sensors ● Lightweight and ductile ● Has adhesive on one end	● Difficult to solder due to surface oxidation ● Lower conductivity than copper ● Not durable: it can be torn easily ● Does not conform to uneven surfaces well

Non-Conductive Copper Tape	
Pros	Cons
● Less oxidative than other metals ● High corrosion resistance ● Easy to solder to a wire ● Flexible ● Has adhesive on one end	● More expensive than aluminum ● Not durable: it can be torn easily ● May be better for temporary applications ● Does not conform to uneven surfaces well

Conductive Spray Paint	
Pros	Cons
● Can cover a wide area ● Conforms to uneven surfaces ● Superior adhesion to plastics	● Soldering is not effective ● Lower conductivity ● Most expensive option

Summary:

Based on the pros and cons listed above, the option that was suitable for our needs was the conductive spray paint since it can cover uneven surfaces which will be useful for the surfaces beneath the keycaps of our physical keyboard. The conductive spray can cover a wide area, and we can apply it to any location.