Interactive Systems 2020

Material Selection for Soft Circuits (Theme 1)

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Student’s Wiki (Link) <https://hci-lecture.cs.uni-saarland.de/mod/wiki/view.php?id=482>

Tutor’s Name: Flores Rea

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| **Material** | **Amount** | **Student’s comments** | **Tutor’s comments approval of material type and amount** |
| Copper tape | m | Conductive tape is needed to acts like a wire that carries electricity between a battery and components like LEDs, buzzers,etc. |  |
| Conductive fabric | m | Conductive fabric is needed in this project as it offers the softness and malleability of fabric, while also having electrical properties. |  |
| Conductive thread | l | sew a circuit together, creating flexible circuits that require no soldering. |  |
| Sewable Cell Coin Battery Holder[ With power supply] | 1 | powering the electrical instruments and a sewable cell coin battery holder makes electrical contact with the battery terminals |  |
| Bart and Francis E-Textile Metal Soft Knit | l | As the main goal of the project revolves around building Fabric stretch sensor, this could play a great role for making knitted stretch sensors |  |
| Iron-on Adhesive (double-sided) | m | As the Fabric stretch sensor is planned to be attached to a belt that could be tied around waist, Iron-on adhesive is needed for easy and quick connection and for fixing on a surface of a belt particularly made of leather. |  |
| 3D printed knitting spool Machine | m | knitting spool machine with needles could be immense help to knit a stretch sensor with the conductive yarns.As the circular knit but is very messy at the edges when it comes to trying to knit a flat piece. The machine could be used to knit a tube and include patches of conductive thread to create the knit |  |
| Multimeter | 1 | measure several functions such as voltage, current, and resistance. |  |
| Buzzer | 1 | An audio signalling device is needed in this project to provide auditory feedback |  |
| Potentiometer | 1 | Essentially needed to change changes a large voltage into a small voltage based on set value |  |

First submission until June 3rd. You may provide an update of this form along with assignment sheet 04 (June 10th).

We can only provide the materials listed [on Moodle](https://hci-lecture.cs.uni-saarland.de/mod/page/view.php?id=472) as available. Each item you list will require your tutor to approve it. If in doubt – discuss with your tutor first.

For reasons of practicality, we ask you to organize small and relatively cheap elements such as LEDs or resistors, as well as household or general-purpose items such as aluminum foil or sewing thread yourselves.

Note: As conductive fabrics and fibers are really hard on the environment (and also expensive) we want to avoid having materials go to waste. However, naturally, you will also need some “buffer” materials, or materials for testing to avoid any bad surprises, i.e., running out of material mid-way through your project. Rule of thumb: if building your sensor once requires a certain amount of material (e.g., 2x2cm), you may ask for 4 times the amount of material for your project (e.g., 4x4cm).