Hackathon & Re-use workshop

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The Hackathon and re-use workshop was designed by PR2 and formed part of the Teacher Intensive Study Programme held in Cartagena on May 3 2023. The act of repair acts as reversing of the design process bringing together product designers, engineers and new media artists in an act of aesthetic care and that illuminates the long tail of design decisions. Design of a re-use workshop pivoting on ways to creative re-use obsolete artefacts, technologies, algorithms, and processes. Feedback from its testing fed back into further refinement of the workshop for the Student Programme. The hackathon developed methods for understanding the ecological and ethical dimensions of design decisions through the repurposing of obsolete technologies in collaborative art-design-engineering workshops. It was introduced by Brenda Duggan (TU Dublin) who outlined the workshop's form and objectives and contextualised it within the context of AesThiCo project and in circular and sustainable design.

All participants have been asked to come to the repair hackathon with an object in need of repair. Then at the hackathon students were introduced to a range of materials that they had to investigate characteristics, combinations and find way to re-use them and create something new. The workshop offered to students a possibility to explore the material and experiment in the act of re-pair, through re-design and re-appropriation.

Outcomes:
- Experiment with a range of materials, developing a general understanding on
material applications, limitations, and characteristics.
- Understand the origin of materials and question their life cycle

Questions to think about
•   Critically think about what is an act of repair?
•   What is the life cycle of the materials/objects, that you are examining?
•   Think with the words – re-design; re-conceptualise; re-evaluate; re-think; re-distribute; re-locate; re-appropriate, as part of your approach to your material repair enquiry?
•   The object you have brought along may have reached its end of life –
what could be an experimental practice as a 'cycle of care'?

Results:
The students decided to work in groups. As a result of the Hackathon each group of students created a "product", developed by the means of repair, reuse and redesign concept.
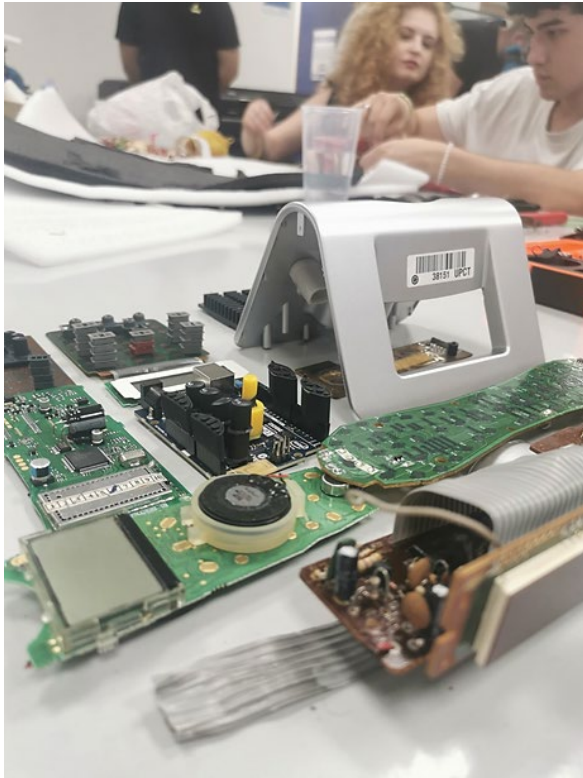
The digital city of the architecture students' group.

Wearable products fashion show

General Material List

- Hand tools : pliers, screwdrivers (philips head) & box of screws (various sizes / M2/3/4 L8/10/16 etc), wood nails, staple gun, stapler (office type), glue gun with glue tubes, metal ruler, scissors, single hole perforator, protection gloves and glasses, super glue, scotch tape, heat gun, dremel tool or similar with assortment of accessories and drills
- Recycled materials / unused objects / repurposed products - each participant will be asked to bring an object with them.
- Soft materials (e.g. textiles) 1m2 pieces of fabric (various types/colours/textures), leather scraps, felt fabric
- Solid materials (wood, plastics etc.) plywood scraps, plastics e.g acrylic, metal sheets, metal wire.
- Electronics :
- 9V batteries / AA batteries
- 9V Battery connector - (e.g. https://gr.mouser.com/ProductDetail/PacTec/60563-01-HM-9VB)
- 3 x AAA Battery enclosure (e.g. https://gr.mouser.com/ProductDetail/Eagle-Plastic-Devices/12BH331-C-GR)
- Resistors 1/4W, 20 x each of the following values: 10R, 220R, 1K, 2K2,10K, 15K, 100K, 470K, 890K, 1M, 10M

- Capacitors (plastic film or similar): 10 x each of the following values: 1nF, 10nF, 1uF, 470nF (35V)
- A few Arduinos (e.g. uno)
- LEDs (various colours)
- LED tape (5V)
- Small component speakers (8Ohm / 1W)
- 10m of single-core cable (various colours)
- 1 x jumper cable set (e.g. http://grobotronics.com/breadboard-jumper-wires-350pcs.html)
- 50 x male-female jumper pins (e.g. http://grobotronics.com/ribbon-40wire-20cm-female-to-ale.html)
- 12 x LM324 op-amp DIP-14 (http://grobotronics.com/lm324-quad-op-amp.html)
- 12 x 10K potentiometers
- soldering station / soldering iron
- desoldering sucker
- helping hand or small vice
- Digital multimeter
- cutters
- soldering wire
- alligator clips (various colours)
- heat-shrinks (various sizes)
- 2 x insulation tape (e.g. http://grobotronics.com/19mm-el-2.html)
- prototyping PCB boards (double sided)