Portable Battery Operated Programmer for Extremely Large Area Electronics

Status: Available

Group Members:

Sponsor(s): TFMassif

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Our company develops extremely large area electronic (XLAE) circuits, on the scale of square meters. To control these circuits, integrated microcontrollers are placed on them, which often need to be reprogrammed after the circuit has been completed. Because of the large size of these circuits, it can be difficult to connect them to a computer. In addition, they will be assembled by people who are not familiar with programming, so we would like to provide a simple handheld programmer which can upload a pre compiled bin file at the touch of a button.

Suggested skill sets:
Circuit and circuit board design (work will be done in KiCad)
3d design (work will be done in fusion 360)
Familiarity with 3d printing and design for 3d printing (housing will be printed in house on a Prusa Mk3)
Microcontroller programming (work will be done in Arduino IDE)

Primary deliverable:
Gen 1 programmer capable of up p6 (l)2.6 (be 88 (w)13 226.p Tc 0 Tw 9.8040)-6 (dui)2.7 (d7 12.s w)13 2 (o2

Gen 2 programmer capable of detecting what chipset it is connected to and uploading via either ICSP or two wire serial.