Dear Stew and Pippa,

We are three scholars, myself, Justas Lukosiunas and Kasper Buckbee who are eager on promoting electronics to school children. We have designed an educational electronics kit and are now in need of funding for the project.

We have held individual talks at different schools in the past, as well as a combined demonstration session last October at Earlston High School. The session included a promotional talk for electronics from each of us and demonstrations of different electronic projects we were working on at the time. The feedback from the school was very positive and we were asked if we would come back and perhaps do an interactive laboratory session next time.

With this in mind we have been designed an Arduino based classroom project to teach students about the fun (and ease!) of electronics.

The kit we have designed consists of an Arduino, an ultrasonic range sensor and a strip of 10 RGB NeoPixel LED's. The purpose of the kit is to light up successive LEDs in the strip based on how close one's hand is to the range sensor. i.e. 40 cm away lights the 1st LED, 35 cm the second, 30 cm the third, etc. More detail on the operation can be found in the attached document 'Project Introduction'.

We have designed the kit to provide a range of different learning experiences for the students; from physics to coding practice to electronic components and wiring diagrams. One session is planned to take around 2h, for a class of 30 students. The students would be working in pairs, each pair completing one kit. We would thus requiring 15 kits total.

A Bill of Materials for the kits is attached. We looked for the most economical parts we could find with which the cost per kit comes to £23.72 and the total cost to £355.86.

The kits would be tested and assembled by us and we are also producing instruction sheets, introductory power point slides, the code and supporting documents.

Once finished, we would be happy to provide the kits along with all the associated documents and code to the UKESF. Other scholars and outreach events could then run the same lab in the future.

We are wondering if it is possible for the UKESF to sponsor this project?

Best regards,
Ben, Justas & Kasper