

Request for Proposal

I am a developer looking for a partner with experience in designing, building, installing and maintaining hands-on exhibits for museums and educational establishments, preferably with an interest in promoting green issues, especially green electricity.

Description & requirements

The project, “Greening the Spark”, for which I have built a fully functional prototype, is a simulator of a national grid, designed as a hands-on exhibit which can also be played as a game. The ideal partner will have (or have access to) the following technical skills/knowledge:

- Python programming
- Raspberry Pi operation
- Electronic equipment/panel design and build
- Interfacing to sensors and actuators
- Scale model infrastructure design and build – landscape & grid elements
- Theming, signage, lighting
- Website design and maintenance.

Software code, electronics and design specifications will be provided by me, as will full support during the development process.

The selected partner will also bring the following skills necessary for development, installation and maintenance:

- Planning,
- Costing and
- Project management.

Further information

I was the system engineer responsible for the simulator used for training astronauts and flight controllers for the European Module of the International Space Station at the control centre near Munich (2003-2013). I was also technical director of the company (Cyberdrome) that built the first generation of commercial Crystal Mazes (1989-1998) - five in the UK, two in Japan and one in Dubai.

“Greening the Spark” features physical & software models of wind, solar, fossil fuels and nuclear power, batteries, pumped hydro and consumer demand. There are two control panels and a mock-up of the proposed layout of the exhibit landscape and infrastructure. Visitors are informed by two audio guides and a robotic system voice working together. Game mode has three difficulty levels and results are posted online.

Details of Greening the Spark have been published in the May 2023 editions of Hackspace (#65) and MagPi (#129) magazines, though a more up to date description can be found on my website:

<https://www.greening-the-spark.com/>

Proposals to cover the following:

- Understanding of the project, its technology and aims
- General indication of physical modelling, scale, layout and signage
- Plan for a nominal first installation, including other partners / subcontractors , costs and timescale.