Title: Usable Security for Industrial Internet of Things

**Type of award**: PhD Research Studentship  

**Department**: Computer Science  

**Funding**: £22,000 p.a.  

**Duration**: 3.5 years  

**Eligibility**: Home/EU applicants  

**Closing Date**: 31 August 2018 (earlier if position filled)

**PhD Topic Background/Description**

A fully funded PhD studentship is available within the Bristol Cyber Security Group, led by Professor Awais Rashid. The group forms part of the Academic Centre of Excellence in Cyber Security Research (ACE-CSR) at Bristol. The successful candidate will join a major programme of research on human aspects of cyber security in industrial infrastructures, specifically Industrial Internet of Things (IIoT).

The vision of an Internet of Everything is expected to deliver transformational benefits. Industry estimates project 25–50bn connected devices by the year 2020. Yet such figures hide major complexities with regards to usability of current security configuration mechanisms for such devices and the cognitive load of understanding information flow both within and between IoT devices. This PhD will pursue an ambitious programme of research – studying how information flows in IIoT environments, what are the limitations of existing security user interfaces and experimenting with a range of novel mechanisms to improve users’ experience of managing security of such environments. Novel interfaces will include adaptations of existing screen-based approaches through to highly innovative mechanisms that employ physically-dynamic shapes and visual output to convey information and support direct manipulation via touch and physical deformation. The PhD, therefore, has the potential to radically transform the landscape for security interfaces for IIoT. Through the research, users will be empowered to intuitively manage security and information flows in complex IIoT settings without cumbersome GUIs and dialog boxes.

**Further Particulars**

You will also work in collaboration with a critical mass of researchers working on human aspects of cyber security within the Bristol Cyber Security Group. The Group participates in several major initiatives, including leading projects as part of the Research Institute on Science of Cyber Security (RISCS) and the Research Institute on Trustworthy Cyber-Physical Systems (RITICS), co-leading the Security and Safety stream within the UK Research Hub on Cyber Security of Internet of Things and leading the programme of work on developing a Cyber Security Body of Knowledge (CyBOK). There is a strong expectation that you will actively contribute to the strong profile of Cyber Security at Bristol and its inter-disciplinary ethos through participation in the development and publication of research results.
The successful candidate will also have access to an extensive industrial control systems testbed for researching existing interface designs and evaluating the outcomes of the research as well as a prototyping lab.

**Candidate Requirements**
We are looking for an enthusiastic student with either a first-class honours or Master’s degree (with distinction) in Computer Science, Human-Computer Interaction or computer security.

**Scholarship Details**
The studentship is funded by HM Government and offers a stipend of £22K per annum as well as covering fees at the Home/EU rate. The successful candidate will need to be eligible for and willing to apply for DV clearance. Funds are also available for travel to conferences and collaborative visits to international research centres and industry collaborators.

**Informal enquiries**
Please contact Professor Awais Rashid, awais.rashid@bristol.ac.uk

For general enquiries, please email sceem-pgr@bristol.ac.uk

**Application Details**
Prior to application candidates should email a CV and a cover letter highlighting their research interests and suitability for this studentship to Professor Awais Rashid.

To apply for this studentship, submit a PhD application to the Department of Computer Science using our online application system [www.bristol.ac.uk/pg-howtoapply]

Please ensure that in the Funding section you tick “I would like to be considered for a funding award” and specify the title of the scholarship in the “other” box below with the name of the supervisor Professor Awais Rashid.

**Interested candidates are encouraged to apply early.**

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