

Workshop: How Do We Understand Trust and The Need to Design Autonomous Systems for Trust?

As we continue to provide more responsibility and control to technology - particularly, in our transition towards increased reliance on autonomous systems - a key challenge that remains is our understanding of trust, and how to design for it. Thales has a breadth of experience across a number of domains, including space, maritime, rail and avionics. We're currently working on a framework for trust that is applicable across these domains, with the aim of better understanding the impact that trust has on human-computer interaction, and the importance of designing and engineering systems with trust in mind. Having developed documentation regarding this (Figures 1 and 2), our objective for a multi-disciplinary workshop would be to go further than writing and distributing user requirements to **explore creative approaches for better understanding of trust, designing for trust and communicating the importance of designing for trust.**



Figure 1. Trust documentation.

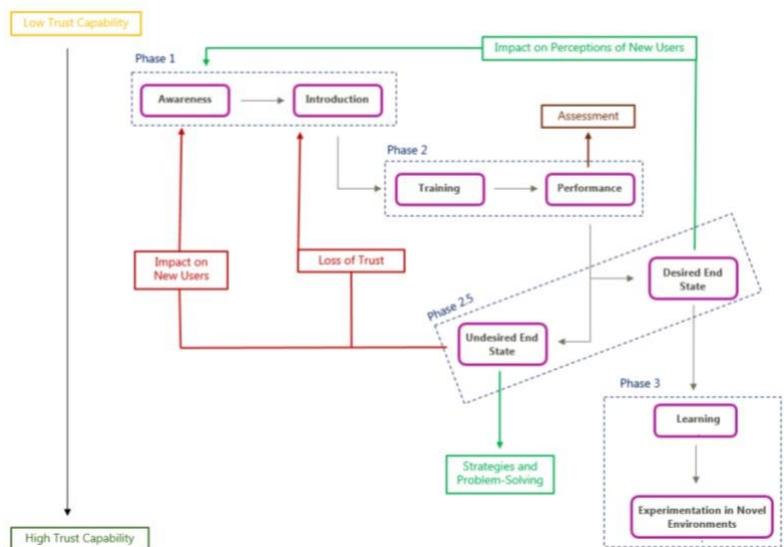


Figure 2. How trust develops: A model.

Thales currently develops products that rely on trust and secure communication, examples being [mine clearance at sea](#), a [Digital ID wallet](#), [facial recognition](#) and [airborne border surveillance](#). In object detection software, recent tests have shown that user performance is influenced by the amount of reliance that the user has on the system, and their sense of agency. Studies have shown that users have decreased agency when the level of automation is higher (Berberian et al., 2012). **So how important is this sense of agency, and how does it interact with trust?**

At Thales, we're looking to explain how – and why - the job isn't “done” when a system is designed and produced. **We're looking to go beyond writing user requirements and software testing, in order to develop novel methods of improving our understanding of the needs in designing for trust and communicating the importance of designing for trust through creative approaches – in any or all formats.** We'd love to work with researchers and artists across different disciplines on the questions outlined. Our aim for the workshop will be to explore the challenges involved regarding designing for trust, and to use cross-disciplinary insights to develop:

- 1) a more comprehensive understanding of trust and agency considerations;
- 2) effective methods to educate and engage robotic and autonomous systems practitioners on the importance of designing for trust, which can be developed and implemented following the workshop; 3) a public engagement piece that conveys this in an interesting and engaging way. (*Stretch target*)

The team at Thales includes:

- Ben Pritchard, Research Group Lead (Autonomous Systems)
- Mark Chattington, UX Lead and Human Factors Specialist

- Lisa Whitelaw, Organisational Development and Innovation Specialist
- Shalaka Kurup, UX Designer and Human Factors Researcher

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