Participatory policiesfor IoT (at the edge) ethics (P-PITEE)

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PROJECT TIMELINE

- Start date: 1/5/21
- Finish date: 31/12/21

INTRODUCTION

P-PITEE uses design methods to develop new policies for transparent and ethical deployment of secure Internet of Things sensors in public spaces.

Local governments need to account for practical, technical and ethical considerations when using IoT sensors in public spaces and when managing proposals for installation and use by others. By partnering with a local council, this project developed policy and guidance tools relating to the use of secure IoT sensors in public spaces.

AIM

This project aimed to understand the ethical and cybersecurity implications of public space IoT (and edge technology) deployments and use design methods to develop effective local policies for the governance of city-based IoT deployments and the resultant data.

WHY

Sensors and IoT technologies are increasingly being deployed in public spaces, both by public organisations and third parties. By providing tools to support secure and ethical deployments we want to support trust in these systems. Previous work in the TrustLens project developed a proof-of-concept prototype tool for supporting IoT transparency, which comprises a series of questions that guide the users in thinking about particular areas in which to develop IoT deployments and associated policies. These include privacy, ethics, practical issues, communication, and legal and regulatory concerns. A key objective of the PPITEE project was to develop this existing transparency prototype into a fully developed tool to support organisations in their assessment of system cybersecurity, transparency, and ethical practice.

METHODOLOGY

The project used participatory methods to engage with a variety of stakeholders To understand the implications of public space IoT (and edge technology) deployments we carried out a literature review, two walking workshops (walkshops) which took place in online and physical spaces, follow-up interviews with cyber-security specialists and key officers from Lancaster City Council (LCC), and a final policy prototyping workshop. In the first walkshop (Figs 3 and 4) officers from Lancaster City Council walked with us around Lancaster city centre, looking at IoT deployments: a mixture of real technology, and design fictions we created. Following this, we held an online version of the walkshop (Fig 1) using the Gather platform, recreating the walk in a virtual version of Lancaster for cybersecurity experts.

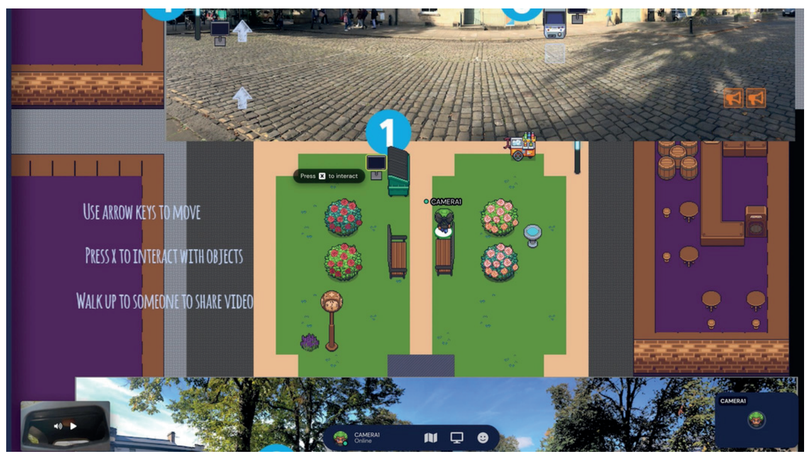


Figure 1

Figure 2

With the findings from this work, we developed key concepts for inclusion in a policy for secure, ethical public space IoT and held a policy prototyping workshop with council officers to develop this into a draft policy.

EXPECTED IMPACT

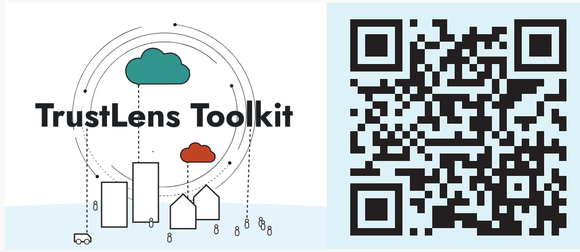
- Adoption of policy recommendations by Lancaster City Council
- Identification of need for sensor census bringing together city-wide IoT deployments
- Expansion of walkshop method and GatherTown virtual walks to wider locations
- Academic impact across disciplines by illustrating how design methods (specifically design fictions) can be used in participatory policymaking

KEY OUTCOMES

As a result of this project, we have delivered a draft policy for ethical and secure public space IoT to Lancaster City Council. We have also refined our toolkit and released it for download and use by anyone in the process of deploying IoT systems. Academic findings of this work will be presented at the DRS 2022 conference and further publications are in progress.

MAJOR FINDINGS

- Draft policy for ethical and secure public space IoT delivered to Lancaster City Council
- Trustlens toolkit refined and released for download: www.lancaster.ac.uk/Trustlens



- Presentation of work at DRS2022 academic conference
- Further publications in progress

USER PARTNERS

Lancaster City Council

ACKNOWLEDGEMENTS

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PUBLICATIONS

- Mullagh, L., Jacobs, N., Kwon, N., Markovicb, M., Wainwrighta, B., Chekanskyc, K., Cooper, R., 2022 (forthcoming) Participatory IoT Policies: A Case Study of Designing Governance at a Local Level, DRS 2022, Bilbao, Spain
- Trustlens Toolkit: www.lancaster.ac.uk/Trustlens

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