

**Ethical Approval for Non-Clinical Research Involving
Human Participants**

FORM A: Application for ethical approval for low risk projects

Name of Applicant	Namrata Primlani
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University e-mail Address	nprimlani001@dundee.ac.uk
Title of Project	Storytelling with Speculative Sensors
Co-Investigators (with internal School or external organisational affiliation)	
Projected Start Date	01/02/2020
Estimated End Date	30/06/2020
Funder (if applicable)	European Union Horizon 2020 Program
Version of Application (1, 2, 3...)*	1

* After revision, please update the version number before re-submission.

Students Only	
Level of Study (Undergraduate (UG); Taught Postgraduate (TPG); Research Postgraduate (RPG))	PhD
Name of University of Dundee Supervisor	Prof. Jon Rogers

Note: Students must copy in their supervisor when submitting the application for review.

1. Project Overview

Please provide, with reference to the relevant literature, an overview of the research project providing a short explanation (maximum 400 words) of the research questions the project will address and why the study is justified.

Please write this section in a way that is accessible to a person who is not an expert in your field.

OpenDoTT is a PhD programme from the [University of Dundee](#) and [Mozilla](#) to explore how to build a more open, secure, and trustworthy Internet of Things. The Internet of Things is an emerging technology that allows the interconnection between everyday objects via the Internet, enabling them to send and receive data.

I will be addressing the design of 'A Trustmark for the Internet of Things'. The key research question aimed to be investigated through this project is **to identify design features of trust in the Internet of Things**. This topic will integrate a holistic view on what makes for trusted IoT, exploring the interplay between policy, design and technology. How can we develop a set of guidelines and properties that define a "trusted" device?

As sensor laden smart devices creep steadily into our lives, the significance of sensors that inhabit these devices are ever more obscured behind layers of product design, sleek shells, marketing campaigns and adverts. What do people really understand about the sensors that are responsible for the 'smartness' and 'innovation' of most IoT devices? How will people's relationships with sensors be uncovered once sensors are removed from their sleek packaging and layers of rhetoric? What will be revealed about the way we trust our smart devices once we are confronted with rudimentary forms of 'smartness'?

2. Aims and Objectives

What are the aims and objectives of the project?

This topic will question how can we develop a set of guidelines and properties that define a "trusted" device? The key research question aimed to be investigated through this research is **to identify design features of trust in the Internet of Things**. Trust in the Internet of Things can operate across very different physical scales - scales that include being connected to our bodies (commonly called wearables), to in our homes, across our neighbourhoods and throughout our cities.

Topics of inquiry:

1. Location - Identifying areas or 'hotspots' of trust and mistrust at different scales - on the body, in the home, city and community. For example, where on the body are we comfortable placing sensors? Which parts of the body are 'safe' data collection sites and which are not? In which rooms of the home do we find it acceptable to have a microphone or a camera?
2. Context - Adapting our relationships with technology to individual, unique contexts. How do people personalize internet connected devices to suit their individual tastes, needs and privacy demands? A lot of people cover their laptop webcams or phone cameras with a strip of tape, showing their individual adaptation to privacy concerns. It emerged that even Mark Zuckerberg, the CEO of Facebook, also covers his camera with tape. These kind of 'DIY' adaptations can provide unique insight into our evolving relationship with technology.
3. Risk and Value - Trade-offs that we make between risk and value when deciding where and how to use an IoT device. We trade our personal details in online forms and for free online services like Facebook and Google. How do we assess the value of our personal data and the risks involved in sharing it?
4. Confronting consent - Understanding consent in relation to sensors and IoT. Consent with the always-on Internet of Things can be complex for people to understand. It's not always clear what happens

to the data the devices are collecting and who the data is being used by. The industry uses terms that sound clear, but in reality are far from easy to understand. An example of this is data going to the “cloud”. Most people don’t know what “the cloud is”, let alone being able to understand a complex big data algorithm that is operating and interpreting this data. What do we understand about consent when it comes to these IoT devices and the data they are creating? To give an example, are we aware that the voice assistant in our bedroom has a concealed microphone? Do we know if we can choose to turn it off? Do people know their voices are being recorded for “training purposes”?

3. Research Design and Methods

Please describe the design of your study and the research methods including information about any tasks or measuring instruments (validated or otherwise) that you will be using. *If you are using non-validated instruments (e.g., surveys or questionnaires¹ you have designed, interview questions, observation protocols for ethnographic work or topic lists for unstructured data collection) please attach a copy to this ethics application.*

Speculative Sensor Probes

In this project, a small number of sensor probes (5-10) help people tell stories about their everyday lives. These speculative probes are likely to include archetypes of IoT sensors commonly used to collect data including a microphone, a camera, a thermometer, a bacteria sensor and a motion sensor. Participants are given a kit with the probes and an information sheet explaining how each probe works and the kind of data that the probe can collect. The participants are asked to identify uses for the probes and to place the probes in different locations on the body, in the home, in the community or city. Participants are asked to gather photos of probes that they have placed in different locations.

The aim of cultural probes is to gain unbiased data that has been collected by participants themselves in context without having a researcher present. They often suggest input for further research using other methods such as participant observation approaches or co-creative workshops, or are used as a sensitizing exercise for in-depth interviews.

An example of sensor probes used to inform design is outlined in the following research paper :

¹ Please provide details of any survey tools you intend to use. The University approved online survey tool is ‘[Online surveys](#)’ (formerly BOS). If you intend to use a different survey tool please indicate the reason.

Stacey Kuznetsov and Eric Paulos. 2010.

Participatory sensing in public spaces: activating urban surfaces with sensor probes. In *Proceedings of the 8th ACM Conference on Designing Interactive Systems (DIS '10)*. Association for Computing Machinery, New York, NY, USA, 21–30. DOI:<https://doi.org/10.1145/1858171.1858175>

Interviews and Group Discussions of Sensor Probe Stories

Participants pictures of sensor probes, their stories and narration of their experiences will be discussed in interviews. One on one Interviews and Group Discussions involving two or more participants will be conducted to initiate discussions around trust and technology. Anonymised transcriptions of interviews will be studied to identify key themes emerging from conversations.

Co-creation Exercises

Interviews and sensor probes can offer insight that lead to co-creation and co-design exercises with participants in order to directly inform design features of trust and technology. Examples of co-design can be found in :

How to co-design our digital future: A Proposal, at this link
https://issuu.com/untheatre/docs/codesigning_digifuture

4. Identification and Recruitment of Participants

How will participants be identified and recruited? Will your research involve participants outside of the UK? If so where?

Please provide details on how and by whom they will be contacted; please also add information on any exclusion criteria, should they apply. *Please attach the wording of any emails, letters, social media adverts or other written approaches that you may use for recruitment purposes.*

Participants will be identified and recruited from in and around Dundee. The sample size for this project is 10 - 20 participants. For this project, participants will be recruited in the following ways. :

1. Reaching out to residents of Dundee through local community organisations such as local Library groups, Women's groups, Church groups, Hobby and Pursuit groups and Student groups. Initially I will email leaders of these groups and then follow up with an in-person meeting.
2. Recruiting participants through social media (Facebook groups, Twitter etc.) and mailing lists.

3. By approaching friends, relatives and acquaintances of colleagues from the Research Studio at DJCAD University of Dundee. Requesting colleagues to post for recruitment on twitter and other social media platforms.
4. Approaching friends and acquaintances of the researcher from in and around Dundee.

The researcher will personally contact each of the potential recruits personally by email with a Participant Information Sheet based on University of Dundee Participant Information Sheet template and in accordance with GDPR guidelines or in person with a hand-delivered Participant Information Sheet. Please find attached the Participant Information Sheet attached with this proposal.

5. Informed Consent

How will you obtain informed consent? Are you satisfied that all participants have capacity to make their own decisions and understand the risks?

Please explain how and when participants will be informed about the scope of the research, what their involvement would entail and their rights under data protection legislation. *Please provide the participant information sheet and consent form with this application*; if consent is not obtained in written format (e.g., oral communication, deliberate action to opt-in to surveys or questionnaires), please provide details of how consent will be obtained and recorded. If the project involves photography or video- or audio-recording of participants, explicit consent will need to be given; where applicable this includes consent for someone not on the direct research team to have access to the participant's data (e.g. for transcription). Explain how you have considered and will address consent for the preservation and potential sharing and [reuse of data](#).

Participants will be presented with the Informed Consent form (based on Informed Consent template from UoD and in compliance with GDPR regulations) at first contact (email or in person). They will then be given adequate time to read the Participant Information Sheet and Consent Form before they decide whether they wish to participate in the study. They will be asked to sign the Consent Forms just before starting the interview process.

Photography and Videography

Participants will be asked for consent to be photographed or videographed over the course of the study. They may choose not to be photographed or videographed. They may choose whether they consent to having photos of themselves or taken by them published in Journals, Online, in a book, in a film or in presentations at meetings or conferences. Images will not show

participants faces. All images and video will be stored and deleted according to GDPR regulations.

Audio Recordings and Transcription

Participants can choose whether or not to give consent for audio recordings of interviews and group discussions. Audio recordings will be transcribed by a hired transcriber.. All raw audio files will be deleted at the end of the principal researcher's PhD and only anonymized audio and transcription data will be stored and deleted in accordance to GDPR guidelines.

Participants can choose whether they consent to have audio recordings of themselves heard by other members of the research group, posted online, in a film or in presentations at meetings or conferences. Participants can consent to have anonymized quotations cited in Thesis work, magazine or journals, posted online, in a film or in presentations at meetings or conferences.

6a. Data Management: Lawful Processing of Data

Data protection legislation² requires participants to be informed of the [lawful basis](#) for processing their personal data. At the University of Dundee, the normal basis for the lawful processing of personal data in research is that 'processing is necessary for the performance of a task carried out in the public interest or in the exercise of official authority vested in the controller'. If you intend to use another lawful basis you must contact the University's [Data Protection Officer](#) (DPO) for advice and insert the lawful basis agreed with the DPO below.

Processing is necessary for the performance of a task carried out in the public interest or in the exercise of official authority vested in the controller.

6b. Data Management: Planning

Please describe your plan for managing the data³ you will collect during your project and how it complies with data protection legislation. Include information on:
i) The type and volume of data; ii) Where and for how long will the data be stored and what measures will be in place to ensure secure storage; iii) Whether the data will be anonymised or pseudonymised⁴; iv) How secure access will be provided to

² The General Data Protection Regulation ((EU) 2016/679) and the UK Data Protection Act (2018). Further information can be obtained from the [University of Dundee data protection website](#) and the [website of the Information Commissioner's Office](#).

³ Note that staff and postgraduate research students are required to complete a research data management plan under the University of Dundee's [Policy to Govern the Management of Research Data](#). However, providing you have included the information requested above, it is not necessary to attach a formal data management plan to this application.

⁴ (Article 4(5) of the General Data Protection Regulation describes pseudonymisation as: "The processing of personal data in such a way that the data can no longer be attributed to a specific data

data for collaborators; v) Whether and how data will be shared for [reuse](#) by other researchers beyond the project (including details on any access restrictions); vi) Processes in place to erase and/or stop processing an individual participant's data (except where this would render impossible or seriously impair the research objectives)⁵; vii) Processes in place for individuals to have inaccurate personal data rectified, or completed if it is incomplete; viii) Who has overall responsibility for data management for the research project; ix)

[Arrangements for collection and transfer of data outside the UK.](#)

- i) The types of data collected will be audio recordings, transcripts, video recordings, photographs and written text.
- ii) Raw data and all files containing contact details for individuals (such as consent forms) will only be stored on University devices and the university's file sharing service and will be deleted at the end of the principal researcher's PhD. Personal information about the participants collected during the study that could identify them will be kept confidential to the principal researcher and will be deleted at the end of the principal researcher's PhD. Data held locally on a laptop will be a University build laptop. Raw audio recordings will be deleted at the end of the principal researcher's PhD.
- iii) All data will be anonymized.
- iv) Data will be uploaded to Box to be shared with supervisors and collaborators.
- v) Transcripts, images, video and data (except raw audio recordings and contact details) will be made available via an open license through university discovery portal.
- vi) Should a participant choose to withdraw from the study at any time, no further data will be collected from them but already collected anonymised data will not be deleted and will be stored only in compliance with GDPR regulations.
- vii) Participants will be provided with contact details on the information sheet in case of inaccuracies or doubts.
- viii) Dr Nick Taylor has overall responsibility for data management for OpenDoTT.
- ix) N/A

7. Other Permissions

Are any other permissions (e.g., from local authorities) required? If so which?

No other permissions required.

subject without the use of additional information". An example would be where a coded reference or pseudonym is substituted for personally identifiable data.

⁵ The right to erasure under the General Data Protection Regulation does not apply if erasing the data would prejudice scientific or historical research, or archiving that is in the public interest.

8. Risks of Harm to Researchers and Participants

Risks of harm. Please detail any risks associated with the project. Does the research involve fieldwork (either in the UK or overseas)? Does the research incur a risk of injury or ill-health above the level of risk prevalent in daily living? *If yes, please complete the relevant risk assessment form(s) ([general risk assessment form](#) and/or the risk assessment for [Travelling on University Work Overseas](#)) and submit with this application.*

No risk of harm to researcher or participants.

9. Other Ethical Considerations

Are there any other ethical considerations relating to your project which have not been covered above? If so, please explain.

None.

10. Documentation

Please list all attached documentation, ensuring that each item has a date and version number.

Participant Information Sheet - version 1
Informed Consent Form - version 1

11. Declaration

By signing below I declare that I have read the University [Code of Practice for Non-Clinical Research Ethics on Human Participants](#) and that my research abides by these guidelines. I understand that this application and associated documents will be retained by the University.

Principal Investigator or Student

Name: Namrata Primlani

Date: 10.03.2020

Signature:



Supervisor (for applications from students)

Name: Jon Rogers

Date: 10.03.2020

Signature:

