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VIRT-EU

Values and ethics in Innovation for Responsible Technology in Europe

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ICT-35-2016

Enabling responsible ICT-related research and innovation

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D6.3

VIRT-EU Service Package

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Project Consortium

Beneficiary no.	Beneficiary name	Short name
1 (Coordinator)	IT University of Copenhagen	ITU
2	London School of Economics	LSE
3	Uppsala Universitet	UU
4	Politecnico Di Torino	POLITO
5	Copenhagen Institute of Interaction Design	CIID
6	Open Rights Group	ORG

Dissemination Level

PU	Public	
CO	Confidential, only for members of the consortium (including the Commission Services)	X
EU-RES	Classified Information: RESTREINT UE (Commission Decision 2005/444/EC)	
EU-CON	Classified Information: CONFIDENTIEL UE (Commission Decision 2005/444/EC)	
EU-SEC	Classified Information: SECRET UE (Commission Decision 2005/444/EC)	

Dissemination Type

R	Document, report	
DEM	Demonstrator, pilot, prototype	
DEC	Websites, patent filling, videos, etc.	X
O	Other	
ETHICS	Ethics requirement	

VIRT-EU Service Package

Executive Summary

The purpose of the VIRT-EU service package is to build a common space in which developers and designers of connected devices have access to the research outputs, materials and tools produced by the VIRT-EU project. Our goal here is to present our content in a clear and simple visual language, using storytelling as a way to convey complex theories belonging to academic conversations by translating them into short visual documentaries and stories. VIRT-EU is committed to ensuring that conceptual, theoretical, legal and empirical advances produced by the VIRT-EU project are made applicable and usable by our target community of IoT innovators in as many ways as possible. This service package is the fulfillment of our commitment to contribute to better technology development practices and to support ethical design by identifying social, economic and political design challenges facing European innovators.

Service Package description

As a comparatively small EU project, we are not in a position to effect immediate global change, but we are in a position to produce a foundation for future action by creating deeply researched and well considered tool prototypes for self-assessment and for convening conversations about ethics. Thus we are proud to present this VIRT-EU service package that involves interactive tools, a radical version of an impact assessment, and myriad other resources including an ethics primer, a review of standards and regulations relevant to IoT, workshops and educational resources as well as research tools for the academics in our audience.

Our main target group is developers or designers making technology (Internet of Things creators) as per the original orientation of the project and the claims we made in the proposal. We are also interested in media attention as the secondary target group building on the reviewer feedback at the first periodic review. As a project with a considerable academic component, we also address others interested in education or research related to privacy, ethics and technology across the disparate fields covered by the project.

The Service Package is hosted by Open Rights Group on behalf of the consortium and will be available for at least three years after the end of the project, offering all project outcomes freely.

The main url for the Service package is <https://www.virteuproject.eu/servicepackage/>

The Service Package site was designed by Denise Burt (elevator-design.dk) and Bugge Lützhøft (ekranoplan.dk) based in Copenhagen. We chose them given their professional portfolio and quote which fits our needs, time frame, and budget. In order to unify all research outputs of the project in a coherent and appealing visual style and language, we collected and organised our research outputs under specific categories. The Service Package site structure collects six main pages described below:

Home Page

Welcomes visitors to the VIRT-EU project Service Package site and provides an overview of key elements on the site. It briefly describes what the project is about and why our toolkit may be relevant for the visitor.

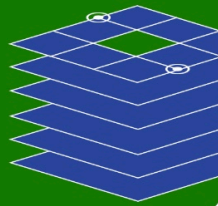
“The VIRT-EU toolkit supports creators of Internet of Things in building ethically informed technology”

1. Use our interactive PESIA questionnaire to make informed decisions about the data you collect
2. Use our Ethical Stack tool to map your product and your team helping you to see what important decisions you may have to consider to address potential ethical issues in your products or services.
3. Use our Interventions - including workshop facilitation tools and formats to convene conversations about ethics

Use VIRT-EU's toolkit and materials to build better technology

The VIRT-EU TOOLKIT offers practical help in developing ethically informed technology

Ethical Stack Tool



The Ethical Stack is a series of tools to support creators of new connected technology to reflect on their product's ethical and social impacts.

[Visit Tool](#)

PESIA



PESIA is a questionnaire that helps developers and designers assess their privacy, ethical, and social impacts.

[Learn more](#)

Interactive Workshops



Our workshop materials aim at helping you facilitate decision-making focusing on ethics as a process.

[Learn More](#)

About us – why we care

We are daily exposed to news telling creepy stories about smart objects gathering people's data, yet such an unethical practice is



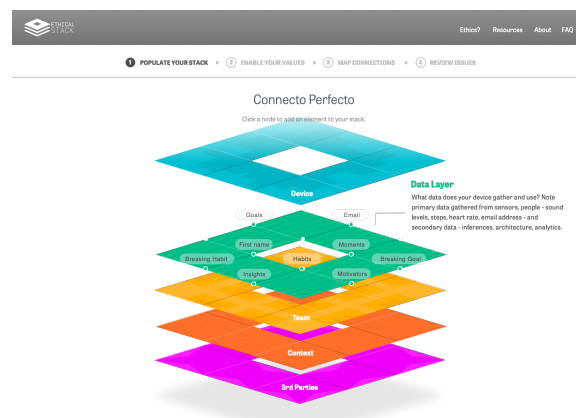
Figure 1: Service Package Front Page

VIRT-EU toolkit <https://www.virteuproject.eu/virt-eu-toolkit/>

The toolkit is the main practical direct support for designers, developers and those working on compliance. It is composed of the following elements:

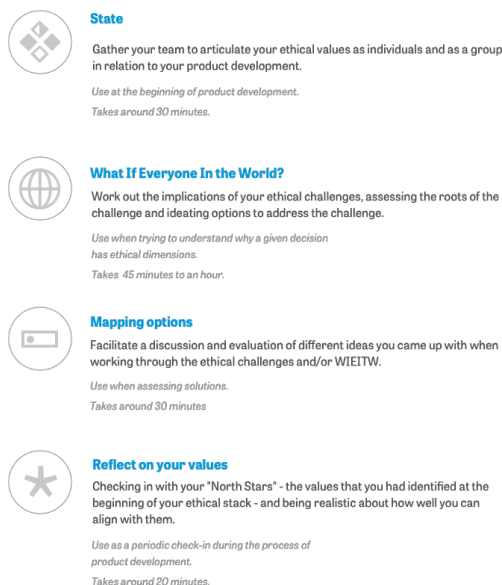
1. Ethical Stack <https://ethicalstack.net/>

The Ethical Stack is a series of tools to support creators of new connected technology to reflect on their product's ethical and social impacts. These tools are intended to enable developers and designers to expose the difference between what they are trying to make and what they are actually making. The tools allow to uncover these gaps through a structured process, to understand these gaps and to work towards practical solutions. The Ethical Stack was conceived and designed by CIID Research. It is built as an interactive standalone digital service.

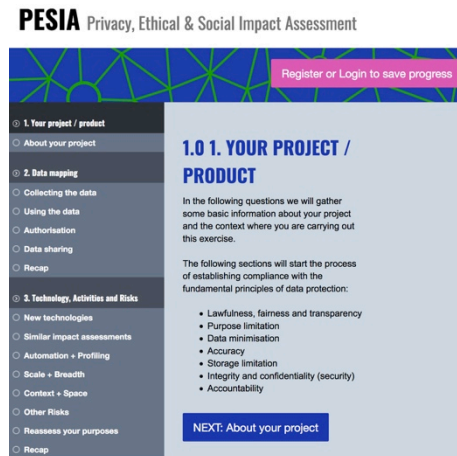


2. Paper Tools <https://www.virteuproject.eu/paper-tools/>

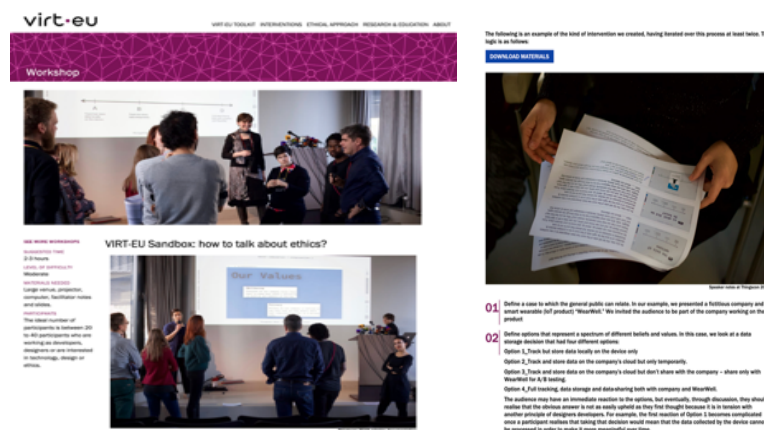
While the Ethical Stack described above is a digital tool, we also made sure that our tools can be used offline. The four major tools that we have developed create structures and offer a language to guide discussions about ethics. These paper tools and single-exercise tools were initially developed by CIID for co-design workshops conducted in Amsterdam and London and then iterated throughout the project to develop these final versions. We recommend printing each of these tools as an A3 for best utility.



3. PESIA <https://www.virteuproject.eu/pesia/>
 PESIA is a questionnaire that helps developers and designers assess their privacy, ethical, and social impacts. PESIA was created by POLITO. It is available as a printable document (<https://www.virteuproject.eu/pesia/>) and as an interactive digital tool at <https://pesia.virteuproject.eu/>. This site is currently password-protected and accessible for testing and reviewing purposes only until the consortium members finalise an agreement on the joint exploitation of the project outputs. **PESIA will be made available once all pending issues are addressed.**



4. Interactive workshops <https://www.virteuproject.eu/workshops/>
 The VIRT-EU project has developed workshop facilitation scripts and materials intended to support convening conversations about ethics in a variety of ways. The materials here come from stakeholder workshops developed by CIID, ORG and LSE (based on content from POLITO), Unforeseeable Futures workshop for convening ethics conversations developed by CIID, ITU and LSE and the Moral Algorithm simulation developed by CIID with support from ORG, LSE and ITU. Other materials may also be introduced depending on what partners choose to make available. The workshops comprise Deliverable 6.2 and are presented on the Service Package website as sets of instructions and downloadable materials.



Screenshots of workshop overview

- How to talk about ethics workshop: <https://www.virteuproject.eu/workshop/making-ethical-decisions-in-iot-product-development/>
- Stakeholder workshop on ethics and responsibility: <https://www.virteuproject.eu/workshop/stakeholder-workshop-2/>
- Designing ethical things: A moral algorithm workshop: <https://www.virteuproject.eu/workshop/designing-ethical-things/>
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Interventions <https://www.virteuproject.eu/interventions/>

Throughout the project, VIRT-EU has worked to develop strong relationships with several important industry actors in the responsible technologies and IoT space. This section of the package collates relevant articles, publications and workshop materials to help others intervene and create an impact on better ways of building technology. We deliberately focus on action by inspiring visitors to intervene, influence, and make better technology by convening conversations about ethics productively. This section includes:

- Curated stories translating academic content to real-world problems
- An overview of regulations and standards relevant for IoT innovation
- Workshop facilitation scripts and guidelines for industry, policy makers, activists, NGO's, etc.
- Ethical Reviews: Including three unboxing videos and instructions on how to make your own

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VIRT-EU TOOLKIT INTERVENTIONS ETHICAL APPROACH RESEARCH & EDUCATION

Interventions

Throughout the project, VIRT-EU has worked to develop strong relationships with several important industry actors in the responsible technologies and IoT space. As such, we have developed a close working relationship with the IoT Council, ThingsCon (a global IoT initiative) and the Copenhagen TechFestival (an industry conversation about responsible technology). During these events, we have shared articles, publications and hosted workshops. Now we would like to share our materials with you so that you can also intervene and create an impact on better ways of building technology. We invite you to intervene, influence, and make better technology by convening conversations about ethics productively through stories, workshops, and ethical reviews. Take a look and try our materials!

Filters: STORIES WORKSHOPS ETHICAL REVIEWS ALL POSTS



ETHICAL REVIEW

Ethical unboxing III – Sleep Devices with unclear privacy policies and terms of use



ETHICAL REVIEW

Ethical unboxing II – Tracker Smartwatches for Children
Is it OK to Spy on your kid? The



STORY

A conceptual framework for studying IoT: ethics, capabilities, and care

Ethical approach <https://www.virteuproject.eu/ethical-approach/>

The consortium has developed an innovative shared understanding of ethics based on three different approaches: virtue ethics, care ethics and capabilities approach. This section presents different materials that can help you understand why these approaches are useful in the development of connected technologies.

- Ethics Primer brochure: <https://www.virteuproject.eu/ethics-primer/>
- Ethics Primer animation: <https://youtu.be/PCYuZjyOaS4>
- Ethical tools index overview and link to database: <https://www.virteuproject.eu/ethical-tool-index/>

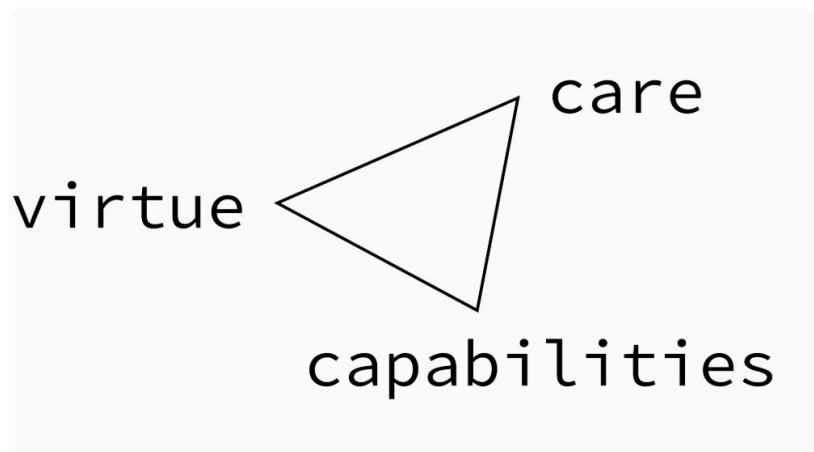
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VIRT-EU TOOLKIT INTERVENTIONS ETHICAL APPROACH RESEARCH & EDUCATION

Ethical Approach

Let's talk about ethics – not only as a way of reflecting on technology but also as a way of building it. Our understanding of ethics is based on three different approaches: virtue ethics, care ethics and capabilities approach. Here you will find different materials that can help you understand why these approaches are useful in the development of connected technologies.

Ethics Primer



Learn more about different ways to approach ethics and why we have chosen this framework. Download our ethics primer which outlines duty ethics, consequentialism and utilitarianism and explains virtue, capabilities, and care in the context of technology development.

[DOWNLOAD ETHICS PRIMER](#)

Research and Education <https://www.virteuproject.eu/research-education/>

The VIRT-EU project has put together three years of research on ethics in technology development. This section makes available relevant publications and educational materials, including for master level courses and within industry research and development workshop formats.

- Syllabi, modules and educational exercises developed by partners for use in courses, summer schools and other educational activities (D7.4): <https://www.virteuproject.eu/research-education/>
- A list of project publications: <https://virteuproject.eu/list-of-publications/>
- Deliverables: <https://github.com/virteu/data/tree/master/Deliverables>

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VIRT-EU TOOLKIT INTERVENTIONS ETHICAL APPROACH RESEARCH & EDUCATION



This page outlines courses that are interdisciplinarily inviting for innovative theoretical and practical engagements with ethics and data. They have been tested in classrooms, and ready for further usage. Download our deliverable containing our syllabi for different courses made by the VIRT-EU consortium.

[DOWNLOAD FULL SYLLABI](#)

Issues in Data Governance



by Alison Powell

This lecture looks at modes of organisation of data and the consequences of employing different models of data organisation and access. Examining the promise of data commons alongside other proposals to organise data in 'collaboratories' or cooperatives, this lecture examines how politics and power appear in discussions about the organisation and use of data, particularly conflicting ideas of data sovereignty.

Data System Design, within and beyond Ethics?



by Alison Powell

This course explores questions of design in relation to data systems that collect, curate and calculate data, and investigate their social and cultural implications. It includes discussion of two research projects, the Understanding Automated Decisions project and the VIRT-EU project exploring ethics, values and the Internet of Things. Where should considerations of ethical and social impact be placed with design or governance processes? How should these

Downloads <https://github.com/virteu/data>

The VIRT-EU project has created a set of documents and downloadable resources for developers that cover different aspects of IoT innovation processes and address issues of ethics, compliance and regulation. Although all of this content is accessible from other pages, a link on the front page of the Service Package offers developers to access our VIRT-EU GitHub repository which collects all of our downloadable content in one place (D7.6), including:

- Ethics Primer brochure
- Overview of IoT-relevant standards and regulations
- A downloadable version of PESIA
- Paper tools

- Workshop materials
- Syllabi and educational modules
- Open research data sets from our Twitter and MeetUp data collection efforts, appropriately prepared in compliance with GDPR and research ethics requirements
- Research libraries and research tools developed over the course of the project
- Public VIRT-EU deliverables
- Links to VIRT-EU video content

The VIRT-EU project is committed to ensuring open and accessible scholarship outputs, thus all of our output is made available publicly. The PESIA interactive implementation is currently made available as a beta version for testing behind username and password to ensure that all partner concerns and liability issues are addressed prior to release. We intend to ensure that all such issues are cleared up as quickly as possible in order to release the full set of tools.