Project no. 732027

VIRT-EU

Values and ethics in Innovation for Responsible Technology in EUrope

Horizon 2020

ICT-35-2016
Enabling responsible ICT-related research and innovation
Start date: 1 January 2017 – Duration: 36 months

D3.3
Prototype tool concepts

Due date: 31 August 2018

Actual submission date: 10 September 2018

Number of pages: 8

Lead beneficiary: CIID

Author(s): Annelie Berner, Irina Shklovski

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	**X**
CO	Confidential, only for members of the consortium (including the Commission Services)	
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	

Table of Contents

Executive summary

Deliverable 3.3 “Prototype tool concepts produced from co-creation workshops” sits in the Research WP 3 “Domain Analysis” and in particular inside Task 3.4 providing a synthesis of findings from co-creation workshops.

The Research Team at CIID created co-creation workshop experiences in Amsterdam (March 21st and 22nd, 2018) and London (May 9th and 10th, 2018) for groups of 5-7 IOT developers (participants identified as informed by our partners’ fieldwork) in collaboration with researchers from LSE, ORG and ITU. The choreographed flow and experience of each task within the workshops brought the participants to the point of being able to co-create concepts for tools that could enable ethical reflection for IOT developers, designers (generally, IOT creators) in small companies and start-ups. The workshops foci were built on the findings from the work of the qualitative teams primarily (ITU and LSE).

After experiencing specific steps of articulation of ethical tensions within their products, structured speculation about how their products might encounter or create various positive and negative impacts, the participants were prepared to contribute meaningful concepts for the VIRT-EU tools both in terms of understanding what tools for ethical reflection and self-assessment mean to them as well as how they might imagine such tools would tangibly take shape. The results presented in this report have been shared within the VIRT-EU consortium and have informed the directions we will take as CIID in terms of designing the tools for ethical reflection and self-assessment.

Prototype Tool Concepts

In line with the description in the proposal, the concepts presented below demonstrate the potential of co-design as a method for surfacing the voices of the developers and designers of IoT in the design of tools for ethical reflection for them to use.

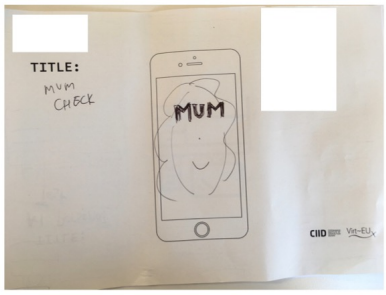
While many of the concepts that emerged in the workshops were interesting, the following sketches present especially promising ideas. However, it is important to note that co-created concepts are not necessarily the final full concepts that will be designed and prototyped for our final output. Rather, these provide important starting points for ideation of more complex prototypes that we will bring back for evaluation and iteration to these same participants as well as new participants throughout the coming months.

Tools to Question Perspective
Below are several sketches of ideas that our participants produced in the course of probing, questioning, and opening up their perspectives on their own products. These ideas are not specifically tied to a single point in time, instead they are imagined as possibly useful throughout the process of design and development of IoT:

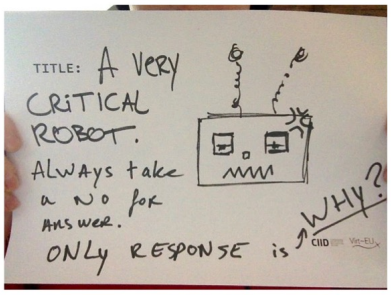
1. “Call your Mum” - a reminder to check in with possible users of an IOT developer’s product who might keep the developer on track with where he or she comes from and remind them to step outside of their office’s own tight circle of knowledge or background.
2. “A very critical robot” - who would never agree with a developer’s answers or arguments for why they are implementing a given feature or aspect of their product. This robot is meant to question the often-referred-to issue in technology development of “Because we can.”
3. “No working in isolation” - a concept that requires developers to discuss their decisions with others. This concept clearly ties to the ethical approach identified by our partners at LSE and ITU of care ethics.
4. “Magic 8 ball of company values” - here, our participants imagine a notably full experience concept where the users of the tool would engage in these steps:
    - You write your company values
    - They are inscribed on a multi-faceted shape and placed inside a magic 8 ball
    - Each time you are making a major decision, you shake the magic 8 ball
    - Whichever value comes up, you then need to justify your idea based on that value

5. “Drag Queen Heuristic” - this idea is to simulate a user becoming something else, with the caption “What if things weren’t what they seemed.”
6. “A teleported puts you in the middle of the problem” - here, the participant evokes the idea of being able to jump forward and backward in time to either better adapt to possible future problems or to immerse oneself in a retrospective on issues that one should have been more aware of.
7. “Persona Mirror, i.e. Dirty Research” - here, the participant imagined we could create a tool to see themselves as a different person - in this case, if they could see the product from the point of view of a hacker, user, or bystander.
8. “AI Persona Test” - a tool to help the developer imagine their work from the point of view of unexpected users (thus generated by an artificial intelligence). This idea is somewhat similar to idea #5.

1

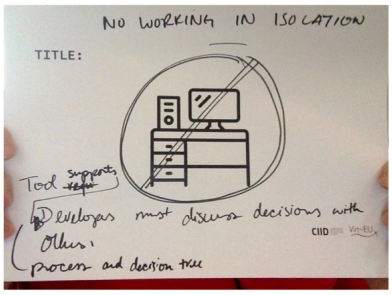


2

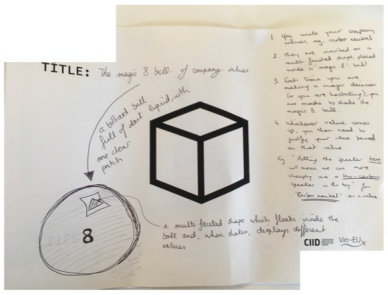


evidence

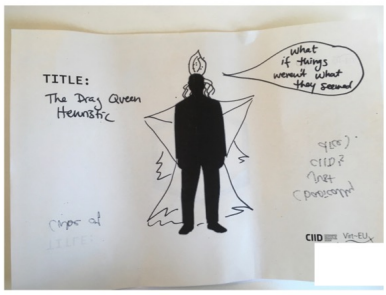
3



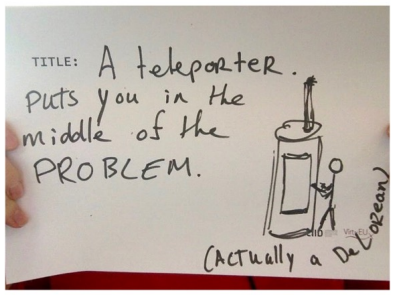
4



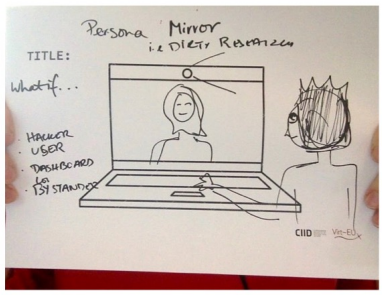
5



6

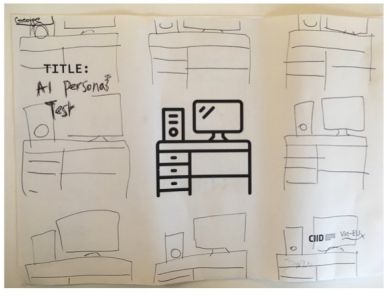


7

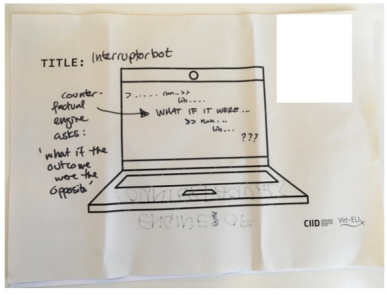


evidence

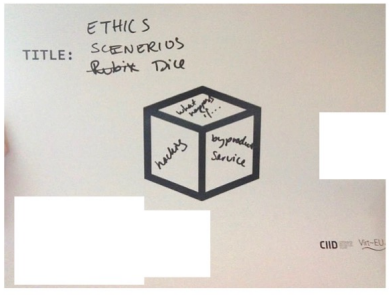
8



9



10



9. “Interruptorbot” - this is a counterfactual engine that would ask “what if the outcome were the opposite?” Notably, this idea, which shares some similarity to idea #2, comes from an entirely different workshop and location.
10. “Ethics scenario dice” - this dice specifically asks the developer to imagine “What happens if…” and then they add on “hacking” or “byproduct” to create a scenario problem about the product. As this participant noted, this idea is quite similar to the dice that CIID provided at the workshop.

The concepts for tools 5-10 continue to demonstrate imaginative ways to engage in shifts in perspectives, and even more so, to structure speculation around the product's potential impacts. The concepts again surface both the users who might impact a developer's understanding of what they should do (AI Persona Test, Persona Mirror and Drag Queen Heuristic) and situations or scenarios they would prompt practice and evolution in terms of the developer's own ethical reasoning (Ethical Scenarios dice and Teleporter).

Conclusion

The concepts for tools produced by participants in our co-design workshops represent the diversity of both roles and backgrounds that were represented during our workshops, which we (CIID) believe is crucial. Specifically in terms of gender, we note that the workshops were consistently at least half female, where at least one workshop was almost only women. Given the under-representation of women in tech development generally and IoT and hardware development specifically, we specifically ensured significant diversity in our workshops.

While the majority of the concepts above are clearly not possible to build in these imagined configurations (for example, a teleporter), yet the foundational issues that our participants pointed out themselves, indicate directions that we will use as guides and inspiration in ongoing design work.