The→
Incredible
→Machine

The Perception of Perception

The User Experience of Crowd Monitoring

Proposal

Sept 2020

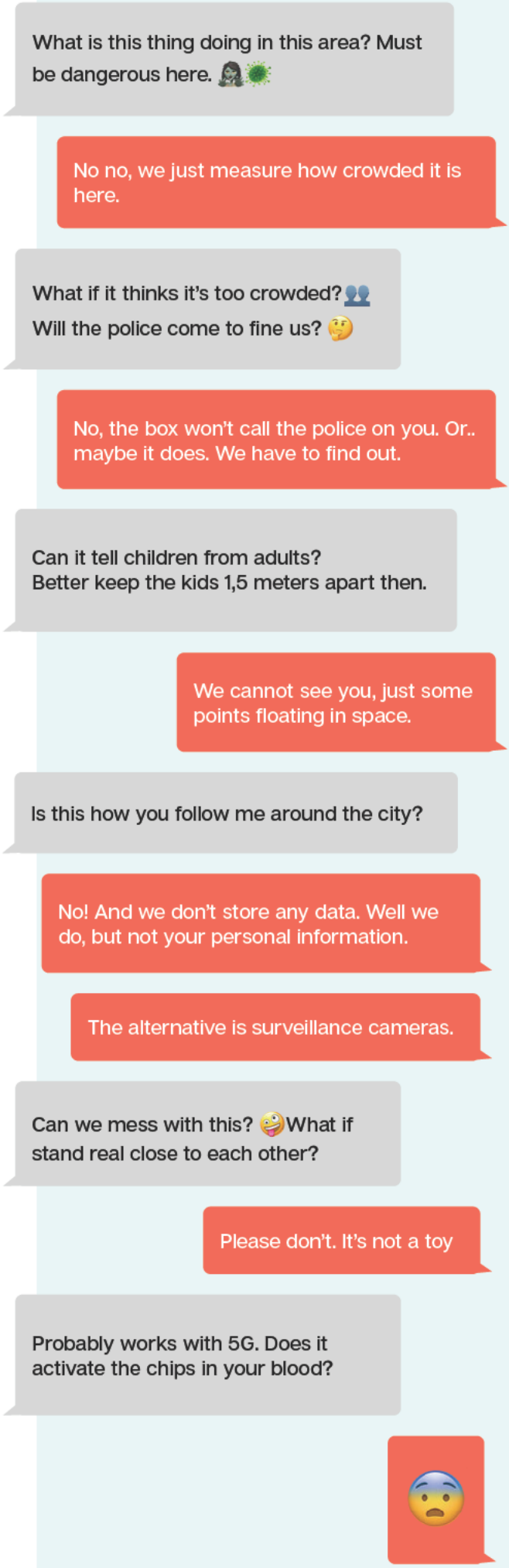
Introduction

Amsterdam wants to become a responsible digital city. In order to respect the privacy of its citizens, Amsterdam investigates alternative technologies to cameras for crowd monitoring. By applying millimeter-wave sensor technology, the density of a crowd can be gaged without recording any personally identifiable features.

But how do citizens engage with this technology? By default these technologies come in anonymous boxes without any affordances to help people decode its workings and purpose. How do they know that data is being collected, and *what* data is being collected, and what leverage do they have to agree or disagree ?

In this proposal, we outline our approach to design a user experience for citizens around the sensor and its purpose. In collaboration with the AMS institute and Amsterdam CTO office, we'll investigate the frictions between public values and the introduction of a crowd measuring device. In earlier collaborations between The Incredible Machine, AMS and the CTO office, we explored the implications of making algorithms more transparent to citizens. In this project we aim to make a complimentary design that explores other values and expands our understanding of how technology in the urban context can be leveraged responsibly.

The outcome of the process is a well defined concept, presented in a compelling a format (prototype, model, or video) and a design and planning for further validation in a pilot setting.



Proces

1. Kick-off meeting

In a 3 hour workshop, we explore how introducing a crowd sensor interacts with public values. The goal is to align on the values we want to design for and set out some directions for conceptualizations.

Based on earlier experiences in the Transparent Charging Station project, we know that it is important to explore the frictions that this intervention might have in a collaborative fashion. Through short role play exercises we establish how a crowd censoring device might be perceived by different citizens. Then, we speculate on extreme scenarios that can be invoked and what rights it can tread upon (or perceived to be). From there, we decide what value(s) are important and informs the user experience and concept design.

We conclude the session with an idea purge that gives an immediate kickstart to the proceeding concept stage. After this session, it's a rather straightforward process towards a design proposal.

The session can be done online — using Zoom and Miro, an online white board — of offline, if allowed.

2. Concepts

Based on the ideas and briefing, we will proceed to design 3 concepts that explore the spectrum of possibilities. In the request for proposal the time allocated for concept design was 2 days; which is, to our experience, too limited to deliver concepts of adequate quality. Therefore we propose to allocate 4 days to concept development.

3. Collaborative design session

In a design session AMS and the CTO office, we will collaborate to develop one of the 3 concepts and outline the critical assumptions for the design proposal.

4. Design proposal

The design proposal contains a detailed description of the device design and the user experience we aim to facilitate. It also contains an estimate for how to develop a prototype for the design.

5. Optional: Compelling deliverable

To finalize this phase of the project we propose to craft a more elaborate and compelling deliverable than a report. Depending on the concept, we either want to:

- **run a small validation test with a low fidelity prototype**
  This will yield insights into how citizens perceive the concept; it grounds the concept into a real life context. There could even be time to iterate on the design and make small improvements it. Example: validation tests with TCS at FastNed station.

- **create a "talking piece"**
  A more high fidelity model that is intended to help stakeholders imagine how the intervention could look like. A well made model is a great way to get buy-in for further development. We deliver the model and decent photographs to share in presentations. And example of a high-fidelity but non-working model is Affective Things for TUDelft.

- **create a movie**
  Since many of the stakeholders in and around the project are probably not in the same physical space that often, we also propose to film a small concept video. This allows for easier sharing. An example of a quickly and cheaply produced video is the Social Distance Thing video.

This deliverable was not part of the request for proposal, but we recommend investing in this extra step as it helps teams in the proceeding phases to evaluate the design beyond a theoretical proposal. In other words: having either one of these deliverables makes it easier to transition to the pilot phase and gain traction for investment in a proper user experience. We all know from experience, that having a thing in your hands is more compelling than a description. However, this phase is optional and we can decide on this when we get there.

Planning

We are available from October 1st onwards. The lead time of the project is bound to the availability of stakeholders for meetings, but we can commit the following planning to arrive to the finalized design proposal.

Week	Activity	hours
40	Prepare and host kick-off session	12
41	Design 3 concepts	32
42	Prepare and host collaborative design session	12
	Finalize design proposal	24
	TOTAL	**80**

To create the compelling deliverable, we allocate 40 hours in a tentative estimate; the exact outcome of the design proposal will inform how and whether we will pursue this.

Week	Activity	hours
42 — 43	Create compelling deliverable (test, talking piece, or video)	40
	TOTAL	**40**

Budget

For creating the final design proposal: [redacted] = 8.000 EUR.

We can deliver a prototype / model / video for ~ [redacted], but we can decide on this when we deliver the design proposal.