Contestability by Design or: arguing with a bridge

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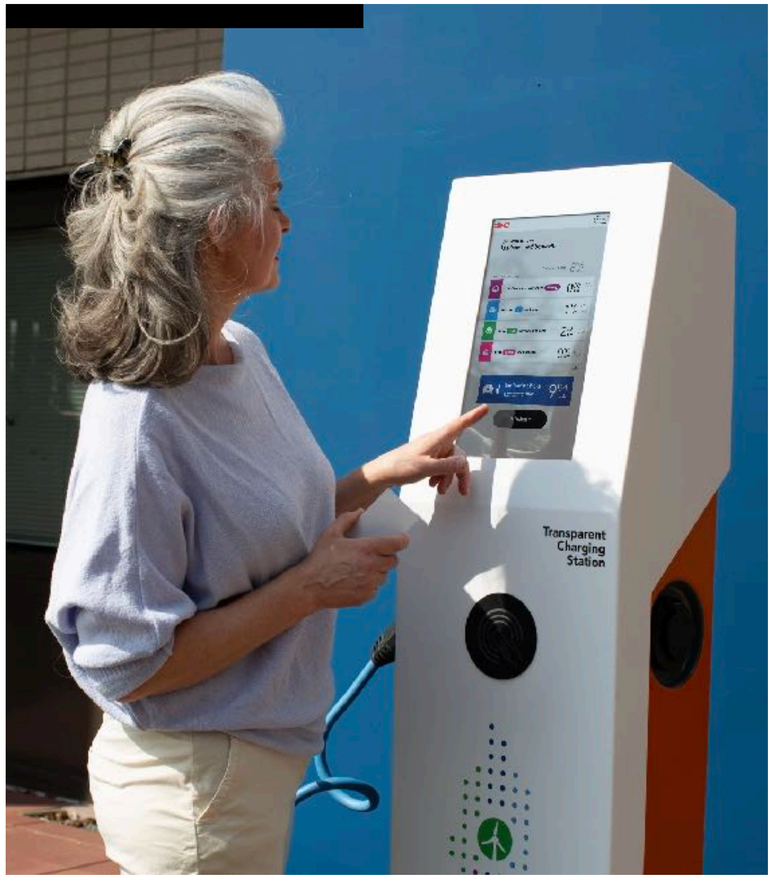
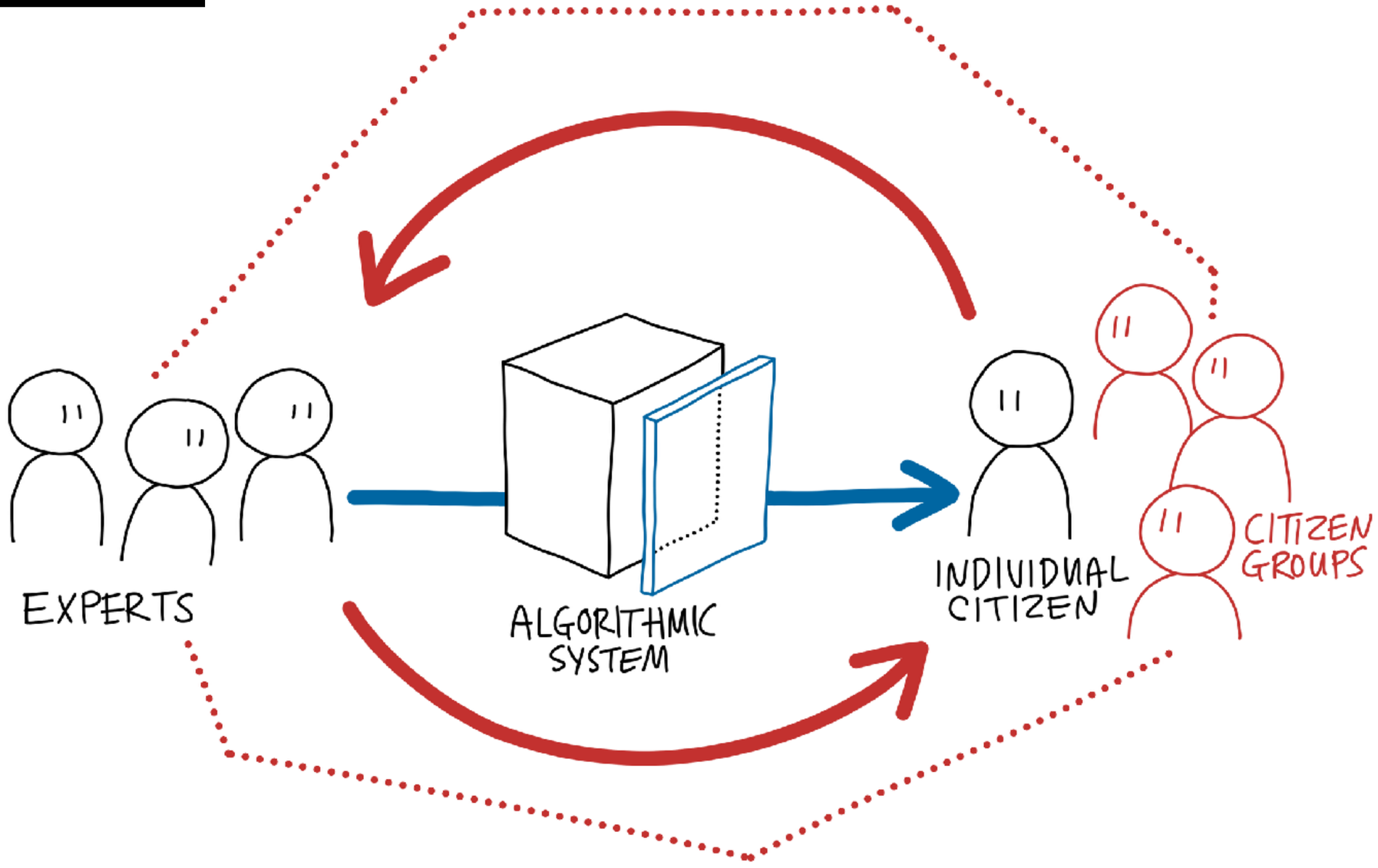
Smarter Bridges Conference
17 May 2022

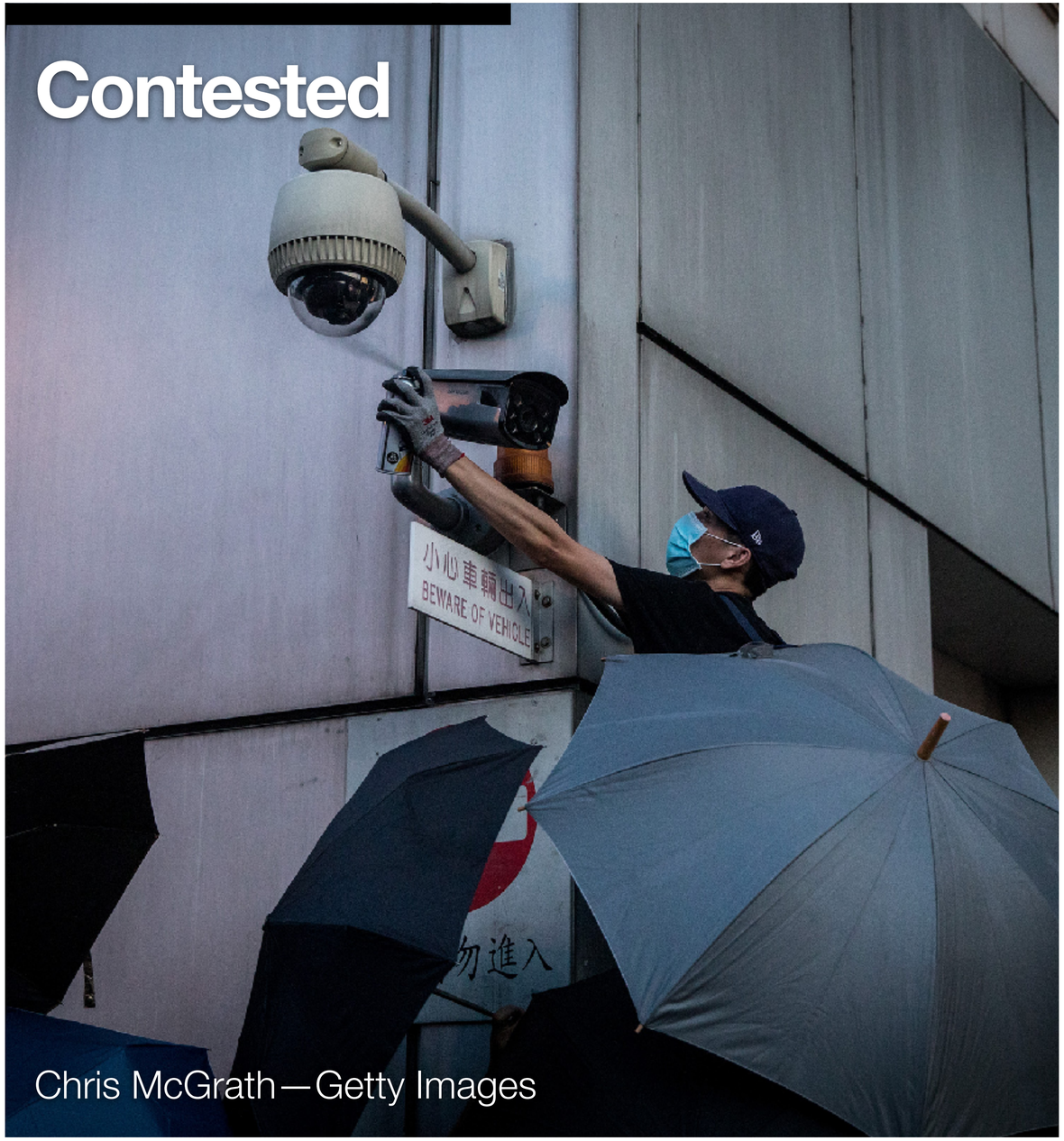
Transparent AI

Alfrink, K., Keller, I., Doorn, N., & Kortuem, G. (in press). Tensions in Transparent Urban AI: Designing A Smart Electric Vehicle Charge Point. AI & Society.





FROM TRANSPARENCY TO CONTESTABILITY


Contested
小心車輛出入
BEWARE OF VEHICLE
勿進入
Chris McGrath—Getty Images

Contestable
Shutter
CAM
Responsible Sensing Lab

Problem

Automated decision-making can harm people's basic human rights to autonomy and dignity.

Solutions

Ex-ante: Participatory & value-sensitive design

Post-hoc: Explanations, appeal procedures

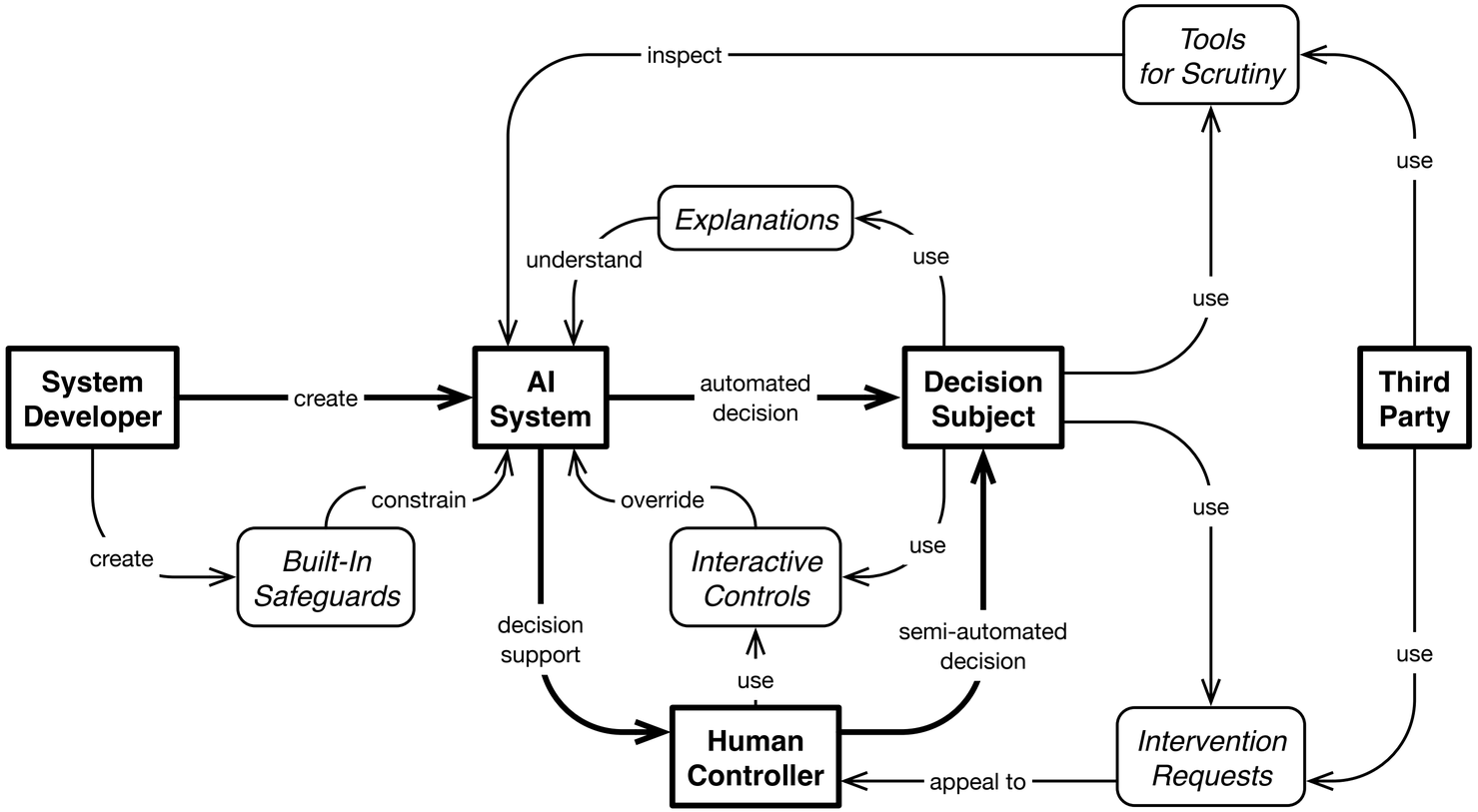
“When change is easy, the need for it cannot be foreseen; when the need for change is apparent, change has become expensive, difficult, and time-consuming.”

Collingridge, D. (1980). The social control of technology.

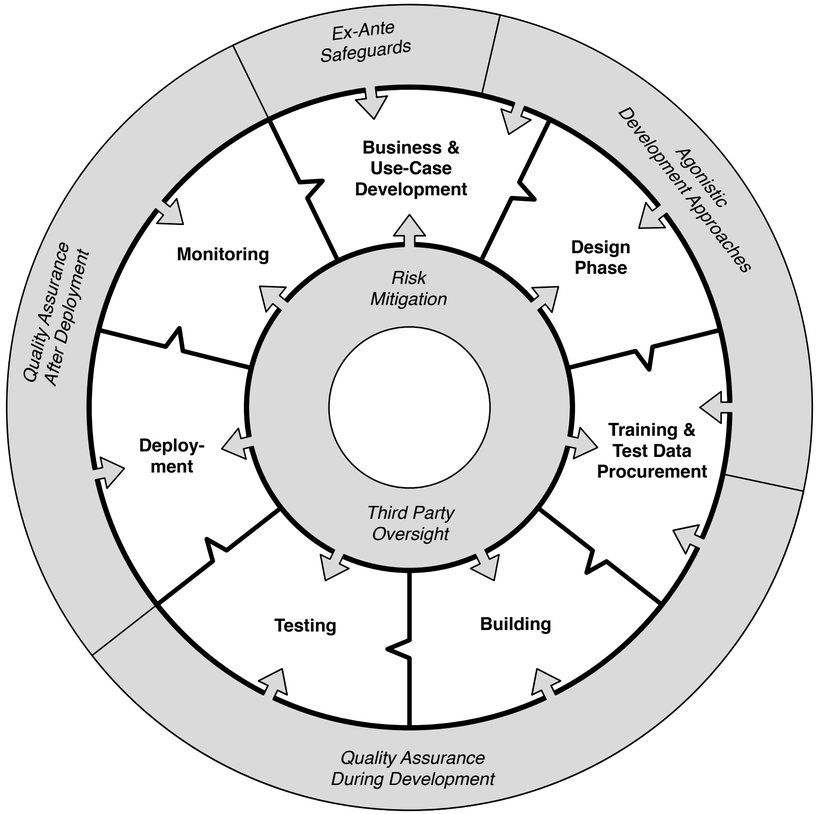
Contestable AI

AI that is open and responsive to human intervention, throughout a system's lifecycle, establishing a procedural relationship between decision subjects and system controllers.

Features

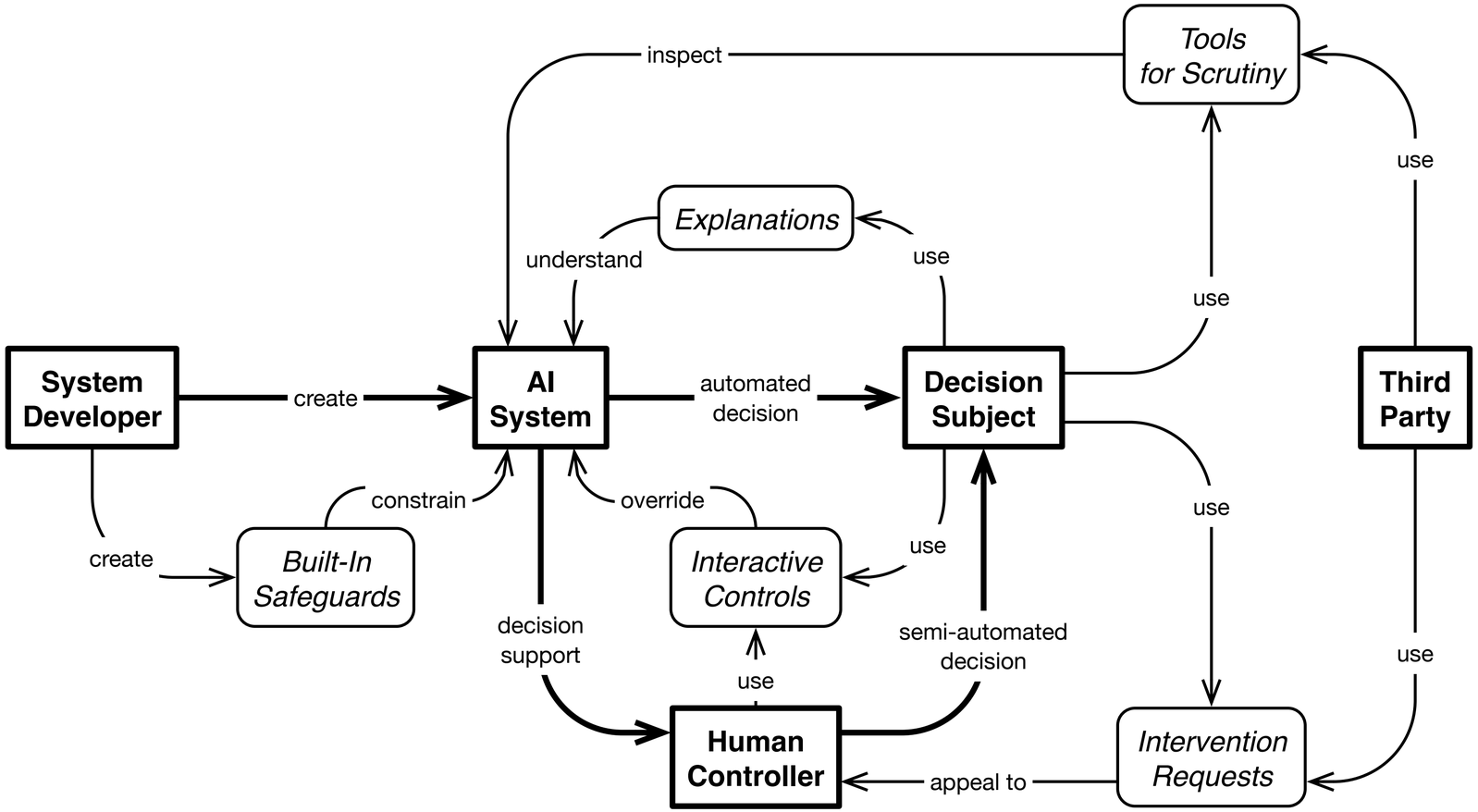


Practices



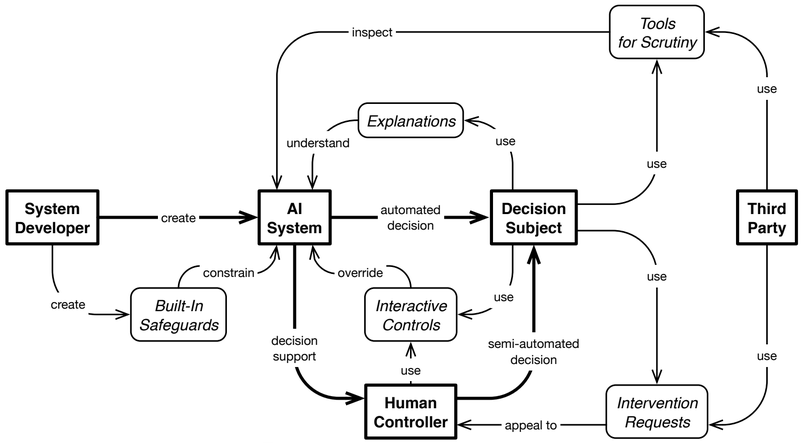
Alfrink, K., Keller, I., Kortuem, G., & Doorn, N. (2021). Contestable AI by Design: Towards A Framework. Manuscript Submitted for Publication.

FEATURES


Tools for Scrutiny
inspect
use
Explanations
understand
use
use
System Developer
create
AI System
automated decision
Decision Subject
Third Party
use
constrain
override
create
Built-In Safeguards
Interactive Controls
use
use
decision support
semi-automated decision
use
use
Human Controller
appeal to
Intervention Requests

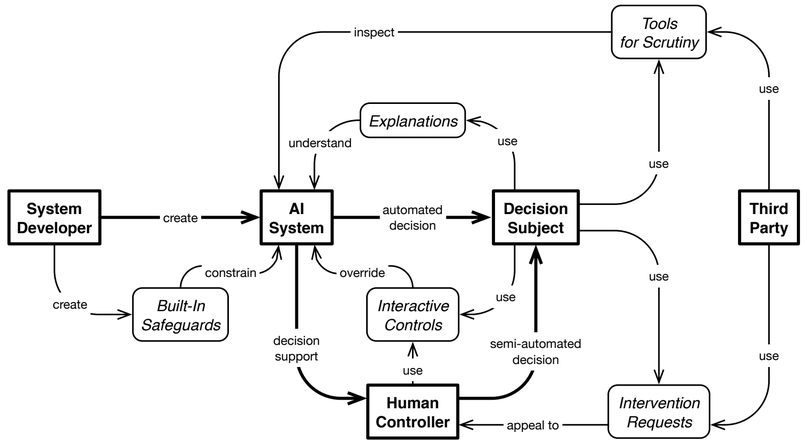
Questions

1. **What decisions does the AI system make?** Either automatically, or semi-automatically?
2. **What individuals and groups are (in)directly impacted? How?**
3. **How can decision subjects understand the AI system?** Locally and globally. Explanation and justifications. (...)



Questions (continued)

4. How can subjects appeal decisions?
5. Who receives and evaluates appeals?
6. How are revised decisions fed back to subjects and developers?



How might people **argue** with the bridge?

Decisions
Impacts
Decision subjects
Explanations
Justifications
Controls
Interventions

Work in progress

Contestable Camera Cars

A speculative design exploration of public AI systems that are responsive to value change.

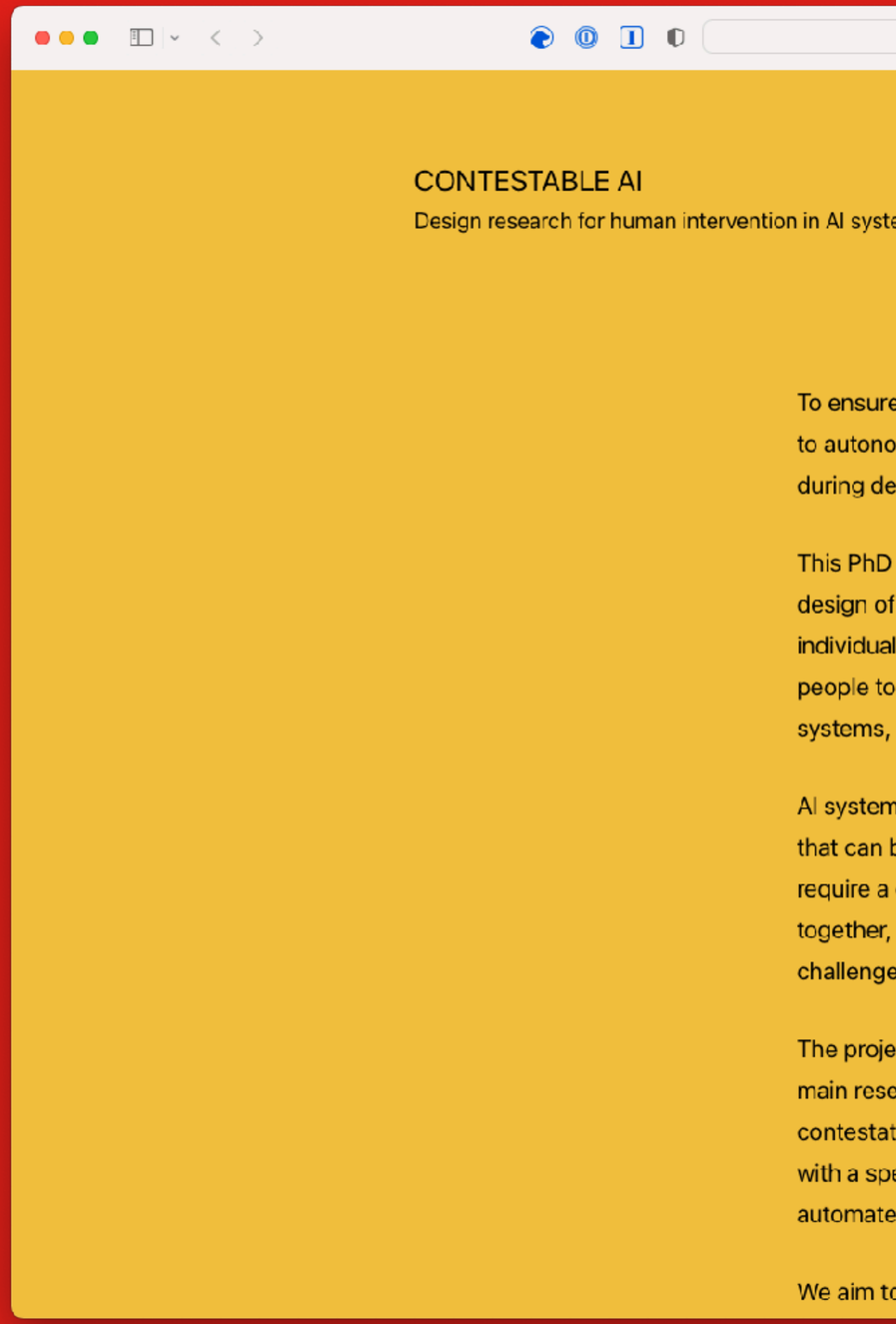
City of Amsterdam

Takeaways

Avoid resolving disputes up front using compromise or consensus-seeking.

Set up procedural, agonistic mechanisms to identify and respond to them.

Leverage conflict for continuous improvement.

Thank you!

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