

# The Value of Human-Robot Interaction

What does current HRI research say about human values of ethical import? And how do current industry design practices reflect a concern for these values?

Nathan G. Freier, Ph.D.  
UX Researcher  
Office Labs, Microsoft

# THREE KEY TAKEAWAYS



robots as caretakers will play a significant role in human development



the market tends to treat human values as transactional capital



ux research and design is successful when it accounts for values, emotions and tasks

robots as caretakers of ...

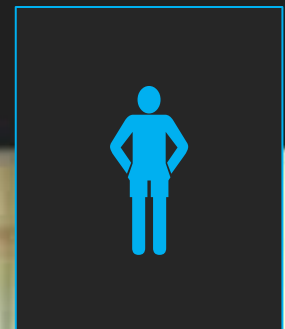
children

food sources

transportation

seniors





design influences attribution

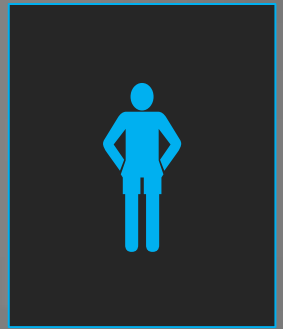
(Freier, 2008)

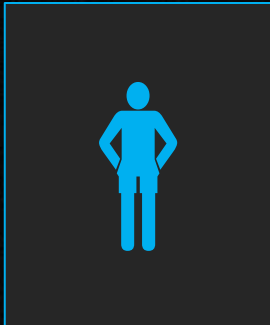
heteronomy and autonomy

(Freier, 2007)

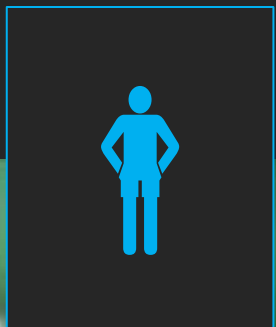
designing for a holistic experience

(Freier, 2009)





Kahn et al., 2005



4x

Omega Garden Carousel

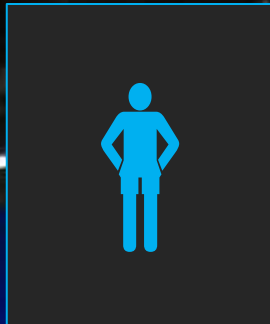


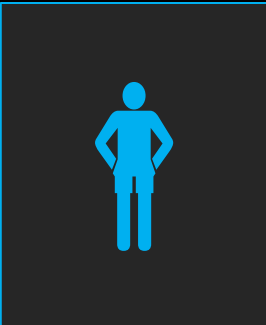
mediating human experiences  
impoverished, augmented, enhanced

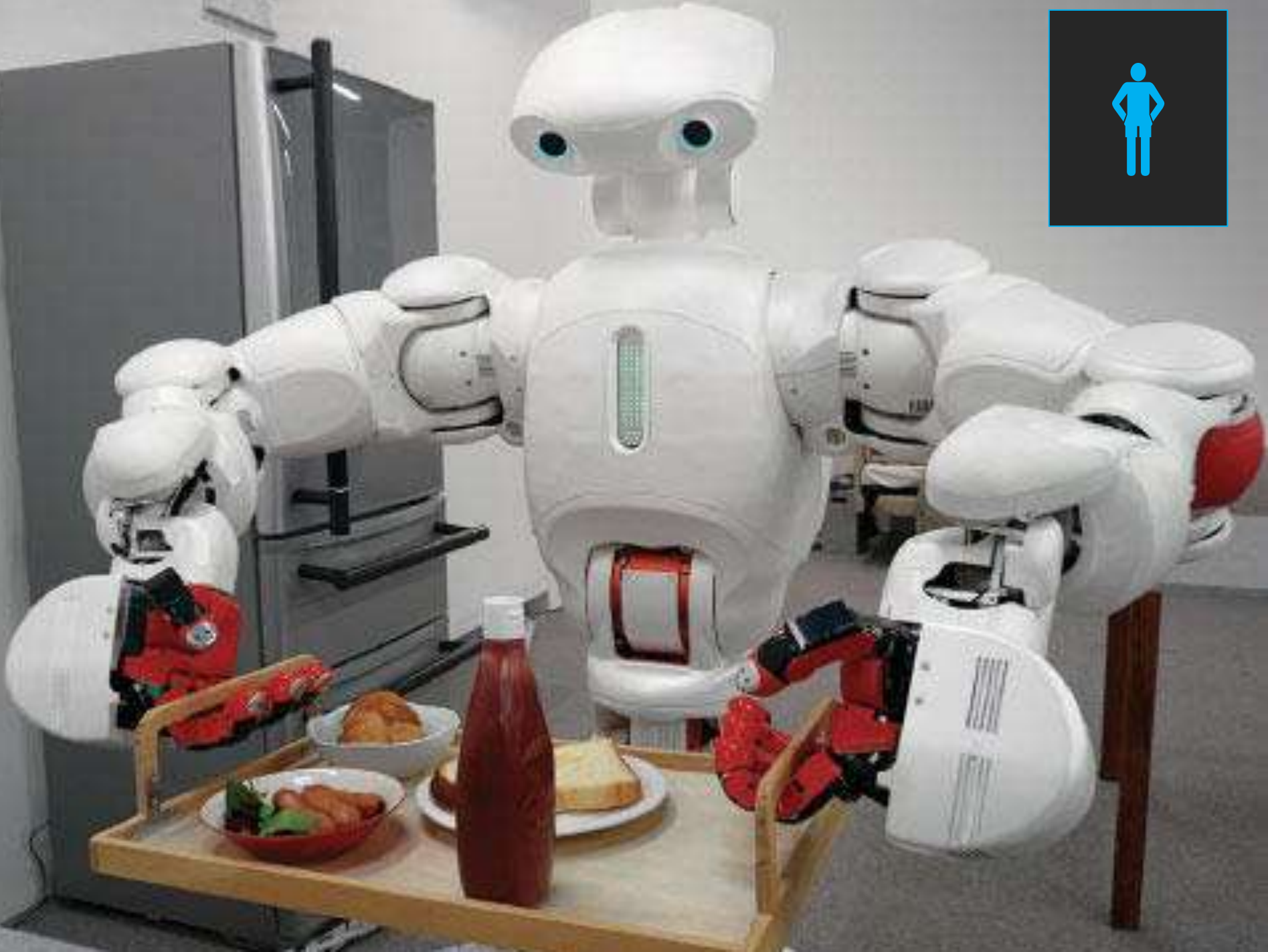
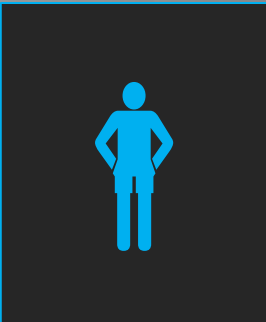


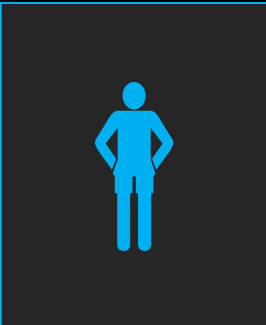
I, Robot

AMD

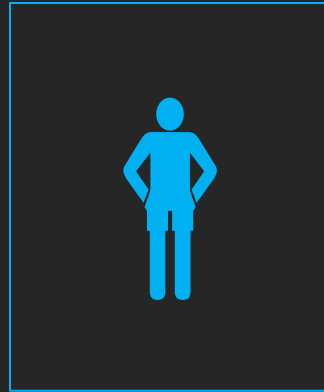












robots as caretakers will play a significant role  
in human development

... and as a result humans will be asked to  
coordinate their values in conflict





**facebook**





human values in conflict

deontological ethics

cost/benefit analysis

coordination of moral judgments

“People are a lot more willing to give away a lot of stuff as long as it results in some benefits that they value.”

-- Stephen J. Hoch, Ph.D.  
Warton School, University of Pennsylvania



“The whole privacy debate has grown up around people using your data without your permission... If you want to use your data to your benefit, that’s for you to do.”

-- Antony Lee  
CEO, WeShop

“The big problem is that these business models are not very stable. Companies set out privacy policies, consumers disclose data, and then the action begins... **The business model changes.** The companies simply want the data, and the **consumer benefit disappears.**”

-- Marc Rotenberg  
Electronic Privacy Information Center

cost of ongoing low  
level trauma of  
trading off core values





Dignity  
Privacy

Informed Consent

Autonomy

Freedom of Speech

Psychological

Well-Being

Democratic

Governance

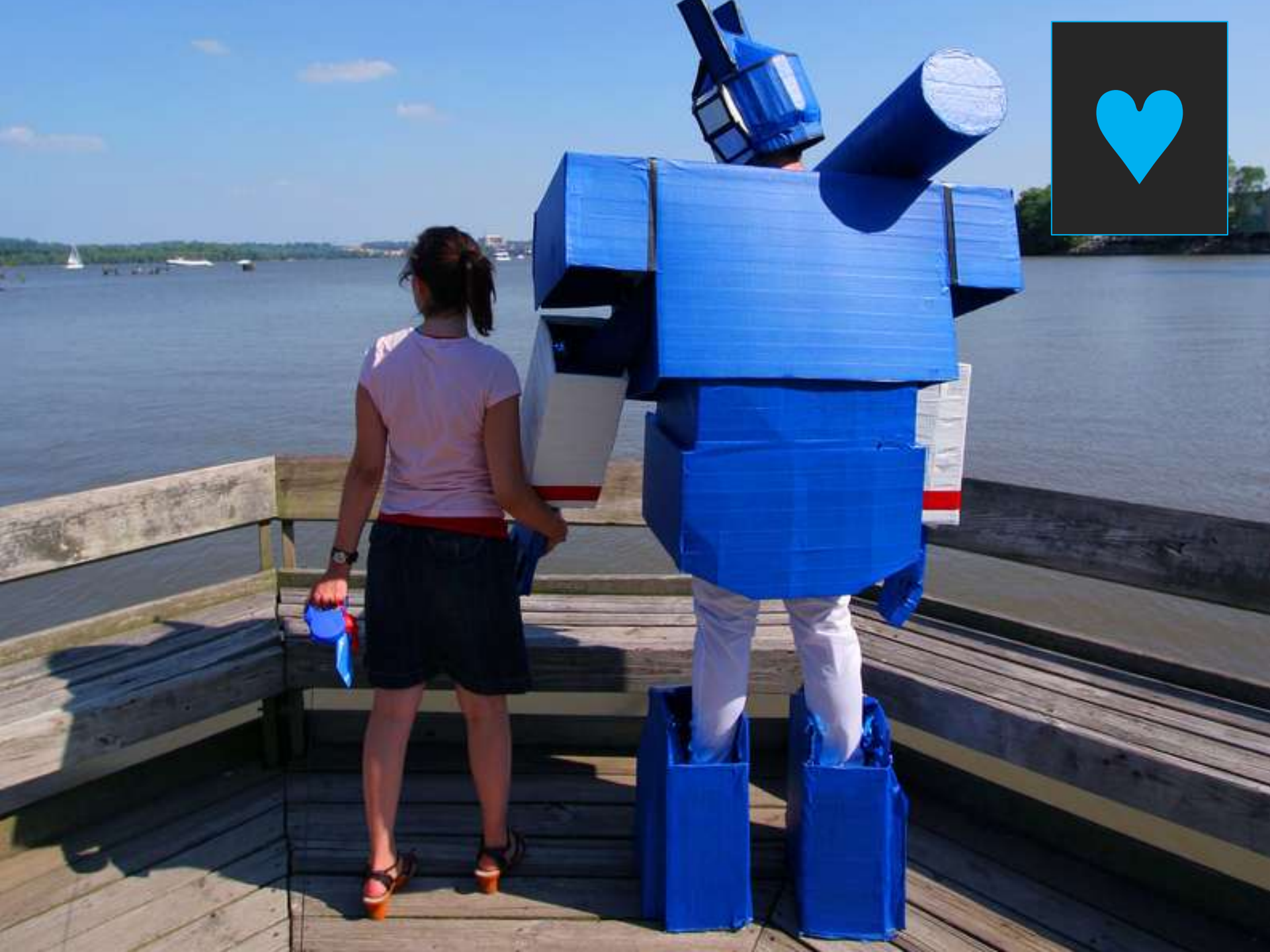
Etc.





the market tends to treat human values as transactional capital

... but the market also tends to be unaware of the intimate relationship between human values, emotions, and market participation in the long term



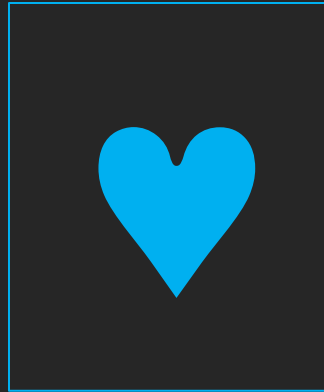


BMZ →  
Business Park 1

**Microsoft**®







ux research and design is successful when it accounts for values, emotions and tasks

... and in doing so, we create a **healthier, sustainable market** that provides **desirable services and products** while limiting or removing the **costs associated with coordinating moral judgments**

# THREE KEY TAKEAWAYS



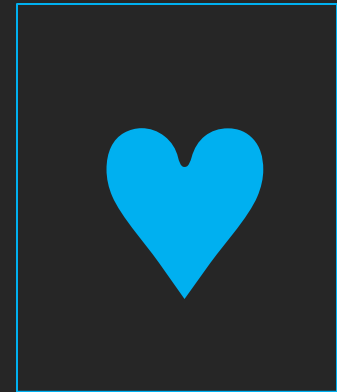
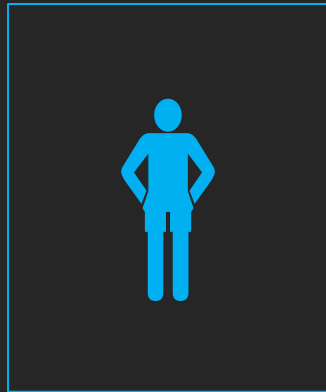
robots as caretakers will play a significant role in human development



market tends to treat human values as transactional capital



ux research and design is successful when it accounts for values, emotions and tasks



Contact: [Nathan.Freier@microsoft.com](mailto:Nathan.Freier@microsoft.com)