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Week 4

Assistive Robotics and an Ecology of Elders Living Independently in Their Homes

I think one of the interesting meta-points made early in the article is important to remember: that even in their fledgling state, the assistive technologies we have today can bring real benefits to people. As researchers, we want to be the first to do that next big thing. However, part of our work is also to make the knowledge that is there available and usable for regular people. While it may not be quite as glamorous to have achieved an incremental goal, it is more often than not the more relevant part of our job as far as the rest of the world is concerned. And, as the author is kind enough to point out, the pay isn't bad either.

Overall, it is clear that the design goals for assistive technologies are not the same as what one might otherwise consider “universal” design goals. For example, when designers create products appearances, they design a product identity. Even the sleekest, tiniest of devices we have today is designed not to be invisible, but to attract the eye. On the other hand, it seems assistive technology is best designed to be completely invisible, as exemplified by the stories related in the ethnography and context sections. In other words, it is essentially necessary for relational machines within this context not only to be able to connect with the elderly, but also “disconnect” with them in order to maintain the sense of normalcy and independence they crave most.

On a related note, aesthetics also play a part in devices that cannot be hidden. However, aesthetics are linked to the elder’s mental and social status, as well as the era that they most identify with. These aesthetic values are most likely not the same as those in vogue by the time they have aged, and this must be reflected within the product design. Similarly, the control system design needs to be considered. While something may seem simple to an adult, to an elder that same task may become complex via the decline in physical and mental capabilities and the physiological effects and illnesses caused by aging. This same fact affects the acceptability of machines, since any initial learning curve also becomes proportionally steeper.

It may very well be my reading of the article, but I noticed that the aspect of a robot that is most interesting to the author is that the robot could, in some ways, adapt to the instability of aging. By providing a sort of constant that can deal with the variables of the aging process, the robot becomes an object within the ecology that the elders can always relate to. This is, to some extend, a different view of relational machines than we have taken to this point, in that it leverages a different facet of interaction (need for independence and constancy) to form the relationship, without necessarily requiring anthropomorphic qualities. Additionally, this allows the machine to avoid the pitfall of becoming the poster child for the resistance to new technologies that is generally found within the elderly community.

Lastly, which the author goes on at length about the design of robots for the ecology of aging (which is strongly suspect is his spin on this matter... spins are rather popular in that community... though it is far from being a bad spin on things), the basic tenets remain the same as any good design process. Design is a holistic process. Especially when the design is meant to integrate with the tightly with the everyday life of an individual, great care must be taken to assure that the effect is positive not only within the direct domain of the machine, but in every domain of that individual's life. Especially within the elderly community, where social dynamics are essential to a positive quality of life, this becomes even more important. Regardless, the paper provides a good look into the dynamics of aging from a social viewpoint, and is a great read just for that.

Robotic Pets in the Lives of Preschool Children

One concern that I have about this study is whether the children being as the questions (~3-4 years old, or ~5-6 years old) had any real understanding of the concepts such as death or the nature of what a living thing is (given that, all things considered, modern day children hardly have to be well in touch with nature). From one point of view, this is exactly the goal: to ask the questions before they have formed mental boxes to put things into. On the other hand, it does somewhat question the validity of their responses if not counterbalanced against their understanding or lack thereof of the questions being asked. Additionally, we have to count in bias. Anyone who's ever dealt with a child has probably portrayed some toy as animate (not to mention TV, the ubiquitous babysitter and child pacifier). Additionally, more and more children today have had electronic toys from a very early age. Given that, how can we tell if the children had not simply been "programmed" to think of the toys as animate in some sense?

Regardless, I do find myself agreeing with the authors that more and more we are starting to accept a type of technology that knows us and relates to us. And as I wrote above, it is generally easier for the youngest humans to accept this technology than the elder ones. I am, though, not too worried about having to invent a language yet, given the level of adaptability English has classically shown. In fact, it might be better if we used "he" or "it" depending on how we felt about the machine, instead of politically correcting the intent of our speech into oblivion. While the paper speaks of it in terms of projection, I think that it is only natural for humans to deal with objects through anthropomorphosis and personification, and there is no reason that this should be different, especially when the machine is designed to be affective and relational. Perhaps this is the crucial point of difference between those who think of relational machines as "fooling" people and those who do not: those who believe that personification is a product of logic instead of an intrinsic property of the human psyche are without doubt likely to find such action foolish.

As a final and complete aside, I found it immensely funny that the children both mistreated the stuffed animal and considered it more animate than the AIBO, though I will skip any social commentary on that matter.

Technology and Human Vulnerability

To a large extent, Prof. Turkle says in this interview that I have also expressed in class. In short, there is no point in talking about putting the technology back in Pandora's box. It's already too late. The box has been open far too long. Now is the time to realign society, because the contents of the box, relational ubiquitous agents, have not yet developed and entrenched themselves into our selves and cultures fully. Now is the time to understand the changes that are sure to come, and adapt so as to be ready for the changes, instead of finding out one day way too far down the line that we have no clue about how things really are anymore, because things have become too muddled and homogeneous. This is not to say that I think of the technology as negative. In fact, quite the opposite: I am a proponent of all this technology. However, I do believe that if people are not socially, mentally, and psychologically ready for what machines will some day become, then it will hold back not only the work that we do as researchers, but also the interactions that could have happened between our creations and us.

I would also like to comment on the definition of "human" and "humanity". I hold the view that societies are formed not by inclusion, but by exclusion (personal view... but I will hold it a constant for this matter). We do not define ourselves by what we are to the extent that we define ourselves by what we are not. I have a feeling that that will have to change with the advent of machines that can relate to us in a way very similar to how we relate to others. We used to define ourselves as living things with sentience (whatever that means). However, since then things have gotten more and more complicated. These days, the definitions and exclusions seem more like a life insurance contract than "I think, therefore I am." What Prof. Turkle points out is that soon, even that won't be enough, because machines will fall under fewer and fewer of those exclusion clauses. At that point, it would be necessary to define the society known as "humanity" in different terms (or perhaps scrap the going definition for the sake of more important values). All things considered, it would be foolish to think any of this easy, but that does not mean that there is any way of avoiding the facts of the matter.