

UNDERSTANDING VALUES

Personal support technology

Myrthe Tielman

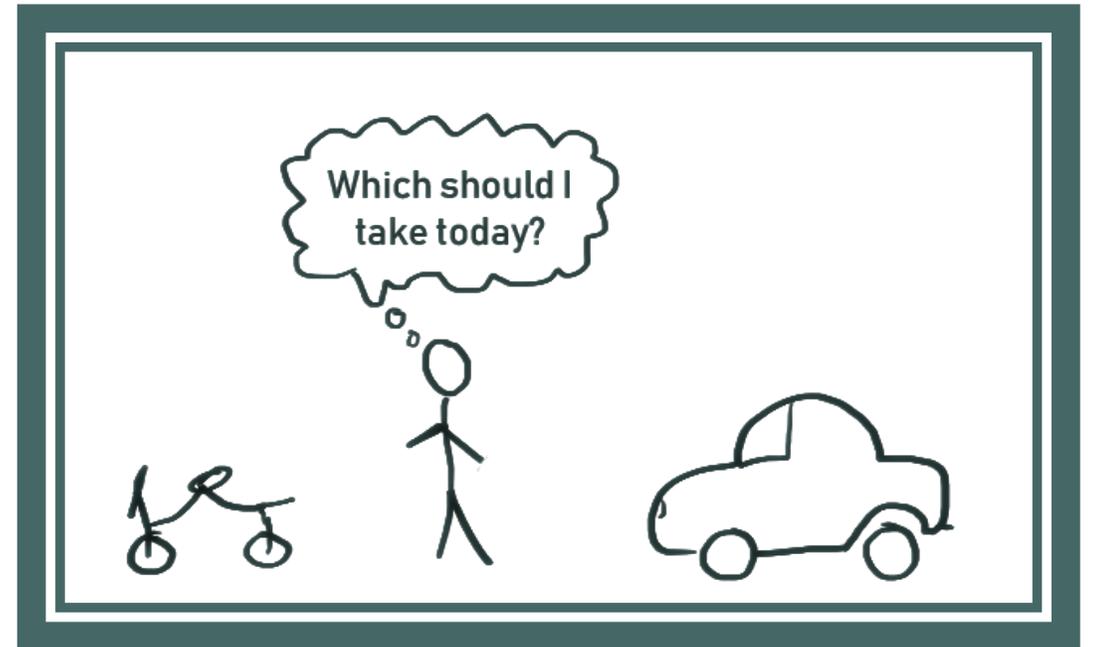
PERSONAL SUPPORT TECHNOLOGY

Technology to support with daily life activities

- Navigation app
- Personal scheduling assistant
- Behavior change support
- Personal robot

Support can be with a choice or action.

In both cases, there is a decision being made by the system, for the choice, or what action to support.



PERSONAL VALUES

“the criteria people use to select and justify actions and to evaluate people (including the self) and events” – Schwartz 192

If technology is going to help us make choices & perform actions, it makes sense that it should do so in line with our values



DESIGN FOR VALUES

- Values can be expressed and embedded in products / services / technologies / systems / spaces;
- Conscious and explicit thinking about the values in our designs is socially and morally significant;
- Such reflection needs to take place early on in the design process, when it can still make a difference.

DISCUSSION POINT

- Is it enough to design personal support technology for values?

Or:

- Does such technology also need to understand their user's values?
- What is the difference?

UNDERSTANDING VALUES

- Have an internal conceptual representation of the user's values
- Be able to relate these values to the decisions made
- Use these values to make more value-aligned decisions?

Important:

- Is the goal to make fully value-aligned decisions, or to use the understanding to improve the decision making w.r.t. values?
 - I.e., do we need to get it absolutely right for it to be useful? How do we define success?

WHAT DO WE NEED FOR TECHNOLOGY TO UNDERSTAND VALUES?

Learn

How does technology we get to know values?

Represent

How do we formally represent values?

Use

How can technology use this information?

REPRESENTING VALUES

Values are:

- Abstract, but globally recognizable concepts
- Can be categorized
- Given meanings which can differ per person/culture & over time
- Demoted or promoted by choices/actions
- Potentially in conflict with each-other
- Prioritized differently by different people

REPRESENTING VALUES

Values are:

- Abstract, but globally recognizable concepts
- Can be categorized
- Given meanings which can differ per person/culture & over time
- Demoted or promoted by choices/actions
- Potentially in conflict with each-other
- Prioritized differently by different people

Representations need to:

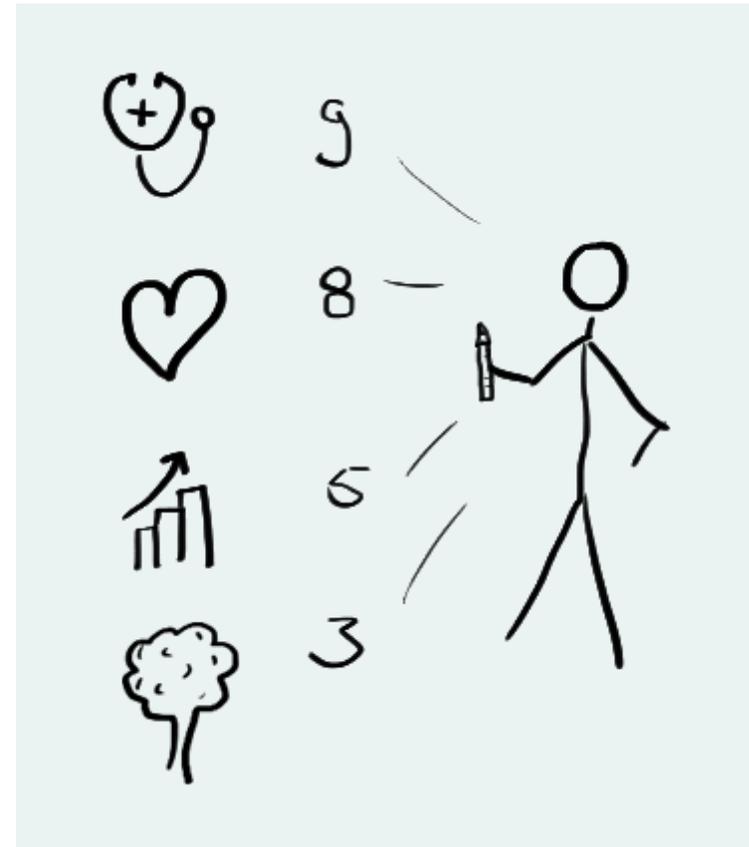
- Have a word attached so we can communicate about them
- Can be categorized hierarchically
- Be given meaning by relating them to choices/ actions/ decisions
- Have a scale which represents how this relationship works, whether it is negative or positive, and how much
- Express that a choice can promote one but demote another value
- Represent when/how one value is more important than another to a person

REPRESENTING VALUES - DISCUSSION

Represent both this persons 'value profile' and how values relate to choices

Value profiles

- Ranking
- Rating
- Is this the same per domain?

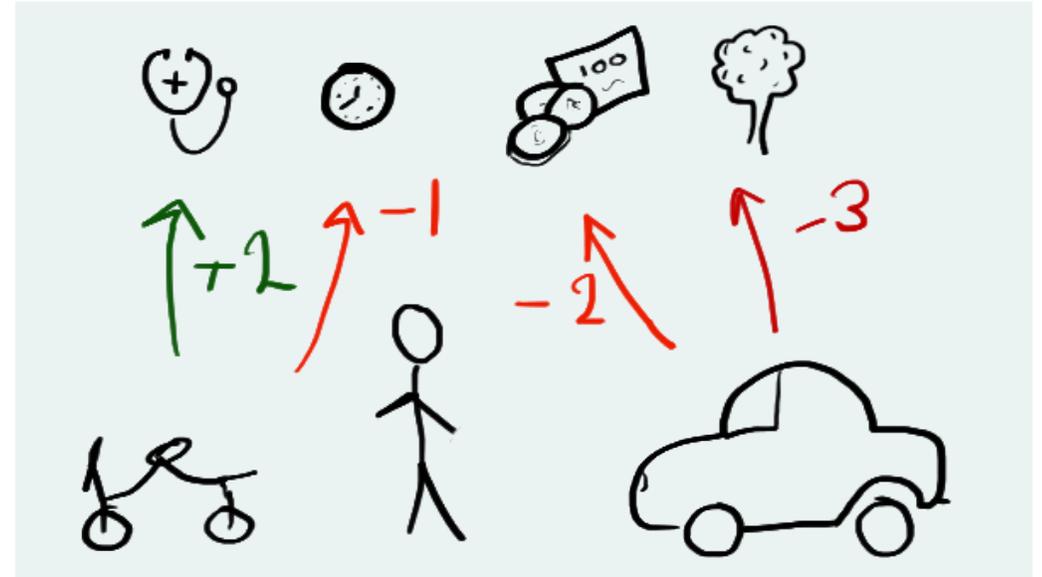


REPRESENTING VALUES - DISCUSSION

Represent both this persons 'value profile' and how values relate to choices

How values relate to choices

- You need an explicit representation of choices
- The same per person, or different?
- Can we attach numbers?

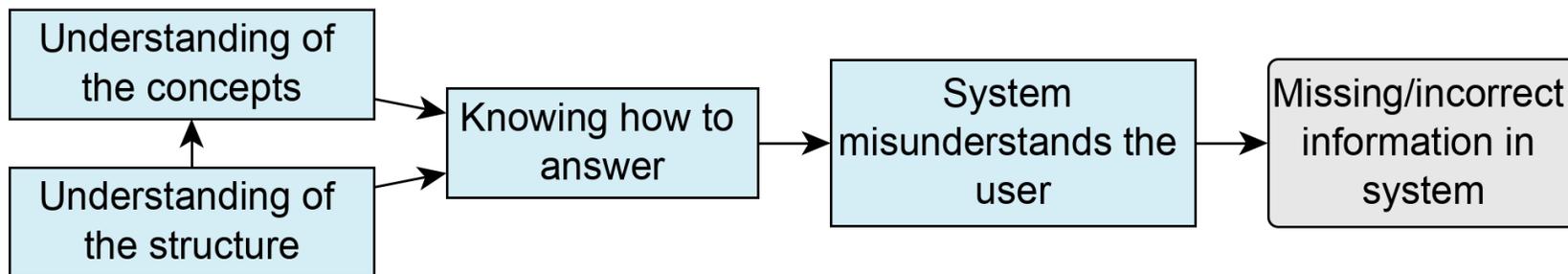


ELICITING VALUES THROUGH CONVERSATION

Context of navigation support for visually impaired travellers

Eliciting an action hierarchy of travel behaviour, attaching which values are pro/demoted by the actions

The goal: when talking to users about conceptually complex user models, where can misalignment originate?



LEARNING VALUES - DISCUSSION

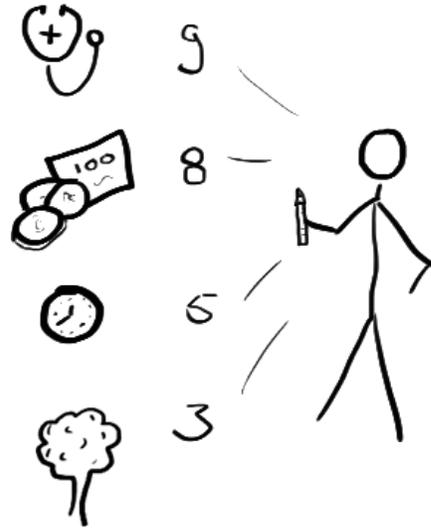
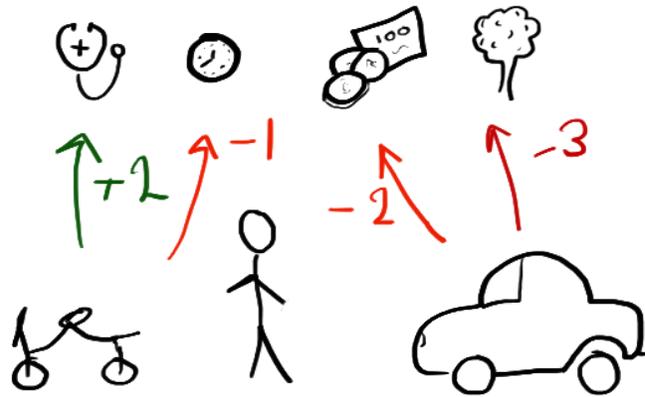
Can we learn values from behaviour automatically?

- Do people always act in line with their values?
- What if people want to change their behaviour?
- What if different values underlie the same action for different people?

Can we talk to people about their values?

- How well have people even thought about their values?
- Do people want to have these complex conversations with technology (time?)
- Are people consistent about what they say about their values? (especially when giving numbers)?

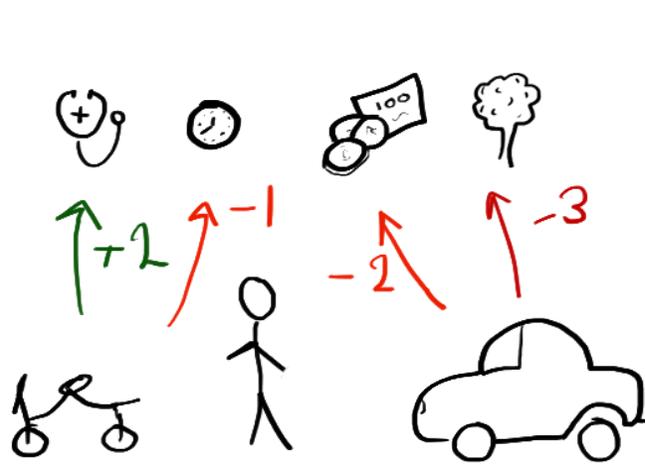
USING VALUES?



$$\text{Bike: } 2 * 0.9 + -1 * 0.5 = 1.3$$

$$\text{Car: } -2 * 0.8 + -3 * 0.3 = -2.5$$

USING VALUES? - DISCUSSION



$$\text{Bike: } 2 * 0.9 + -1 * 0.5 = 1.3$$

$$\text{Car: } -2 * 0.8 + -3 * 0.3 = -2.5$$

Is it helpful to calculate such 'value utilities'?

In what other ways might we use knowledge about values?

Is it possible to do away with the numbers without needing constant user input?



QUESTIONS / COMMENTS?

m.l.Tielman@tudelft.nl