

# speculative design

field trials

dr. carman neustaedter

why are you deploying your design?

riddle question answers

why are you deploying your design?

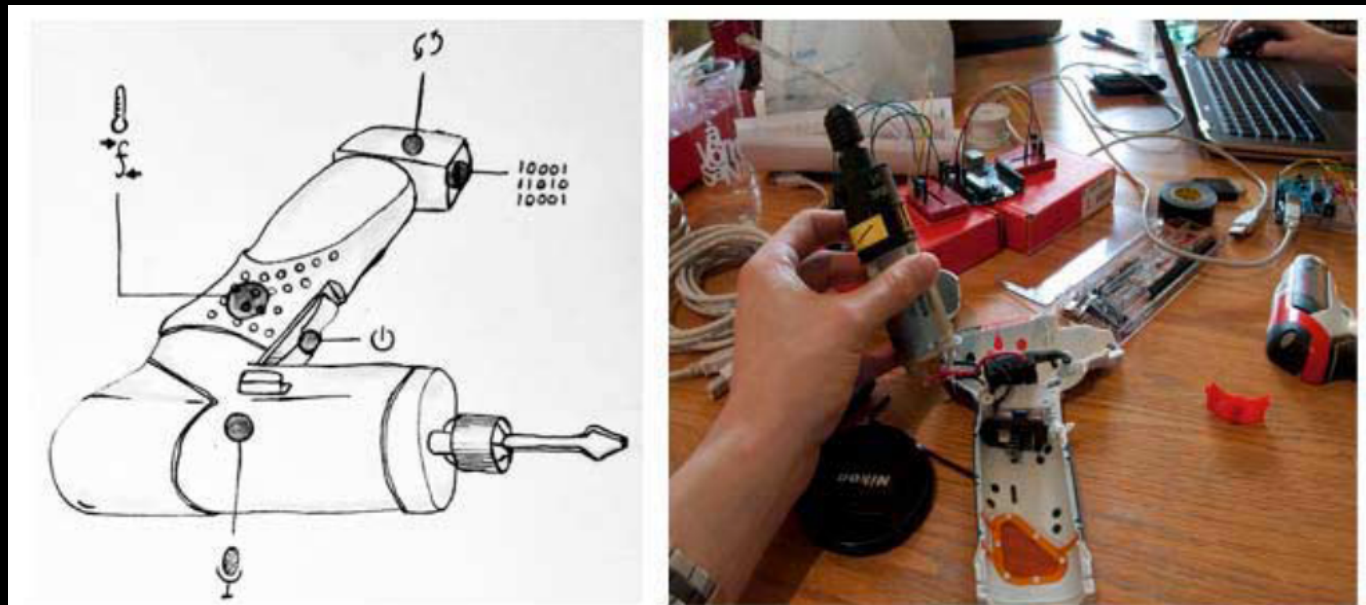
create narrative with your designs  
look for critical reflection

this is **not** a usability study

# deployment

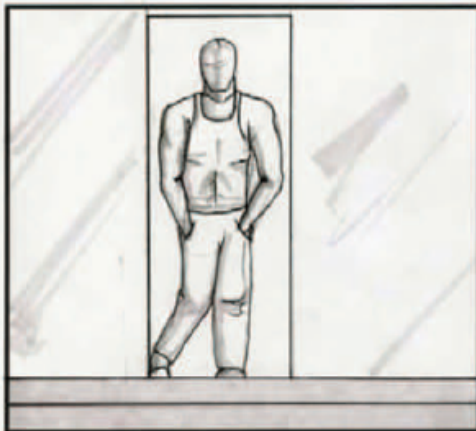
deployment for one week  
in the home of someone you know  
*not* in your home  
diary, interviews, observations

# the significant screwdriver

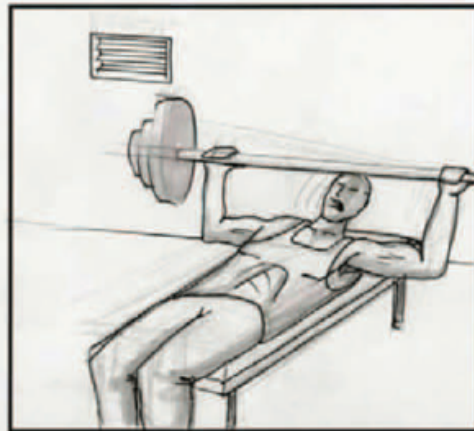


**Figure 1. Concept sketch and early prototyping and testing of the Significant Screwdriver.**

# whispering wall



Bob considers himself an athlete and likes to push himself at the gym.



He has just warmed up and is ready to start pushing some really heavy weight. He is so intensely focused on his workout that he doesn't realize how loud he is being.



As he puts the barbell down, he hears a remark come from behind him.

# the goal

how should designers best deploy critical designs to understand their effects?

it's not clear how to evaluate critical design

how can we learn about a topic through design?

# breakdowns

SS was meant for male participants  
women actively became involved

*learning: usage isn't what you always expect; users create meaning*

people focused on the utility of the object and not its provocativeness

*learning: create a more ambiguous design*



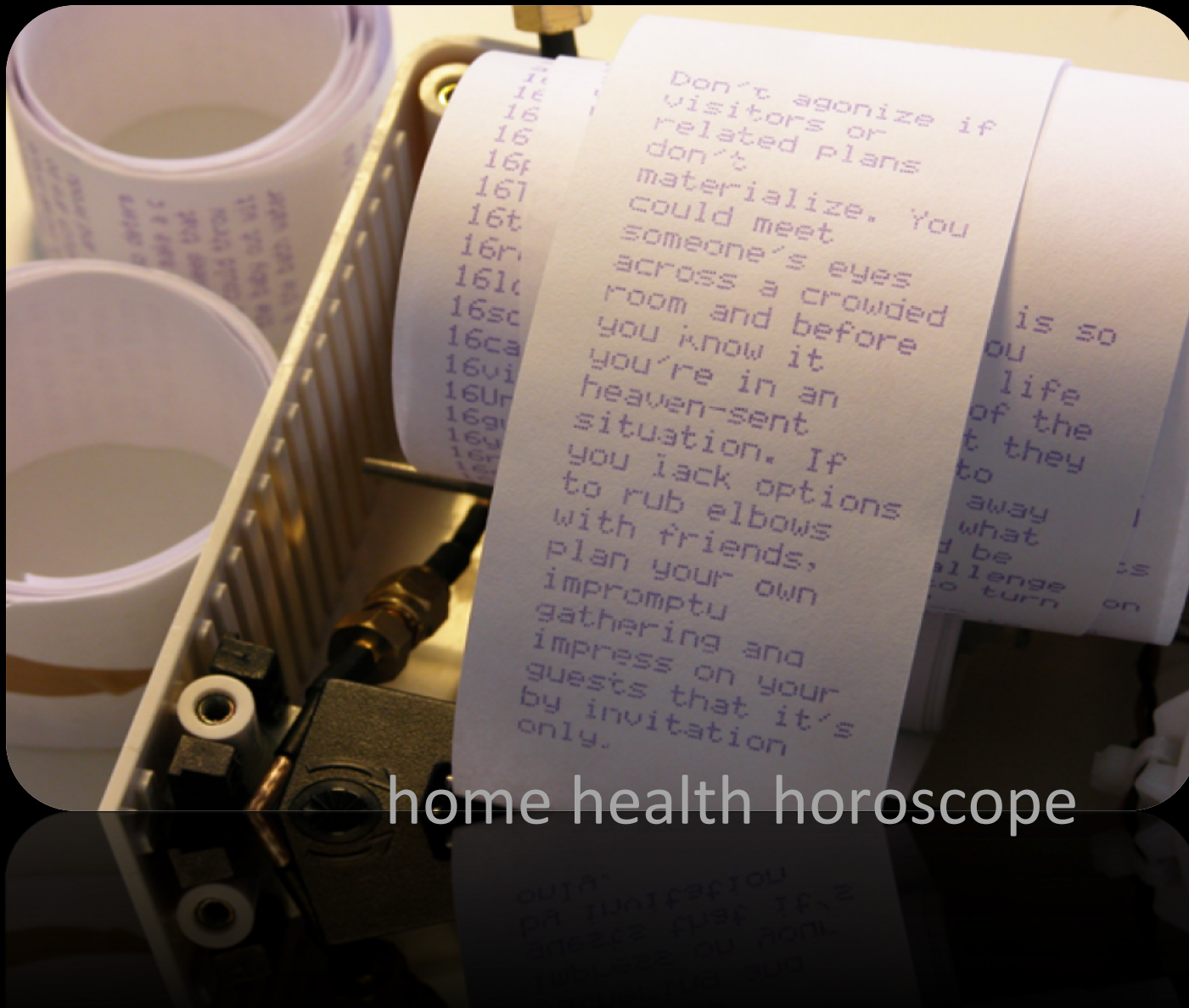
# breakthroughs

users become like researchers

participants question the study and

1. become co-designers
2. wonder about what is being explored
3. wonder what the learnings are

# home deployment by example



home health horoscope

step 1: decide on household

# household considerations

who is the target **audience** for the design?

ages, adults vs. children, profession

leisure activities

what is the target **location** for the design?

type of home: condo, townhouse, detached

step 2: prepare methods  
(i'm skipping this)

# step 3: initial home visit

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- a. establish rapport with household members
- b. understand their existing practices
- c. introduce them to the design
- d. place the design in their home
- e. describe data collection



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# types of interviews

unstructured / open

like a conversation, no questions planned

semi-structured

pre-select topic areas and potential questions

structured

predetermined questions, short and clearly worded  
confirmatory rather than exploratory

# choosing questions

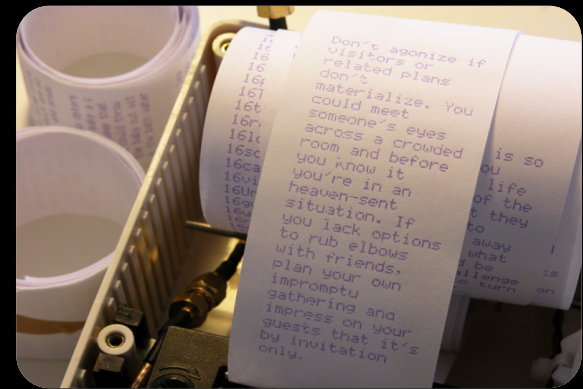
what is their daily routine like now?  
as it relates to your area of focus

**get a baseline:** you want to see how your  
design affects the routine and viewpoints

# example

what is your daily routine like?  
what makes you feel healthy?  
how do you stay aware of your family  
members' health?

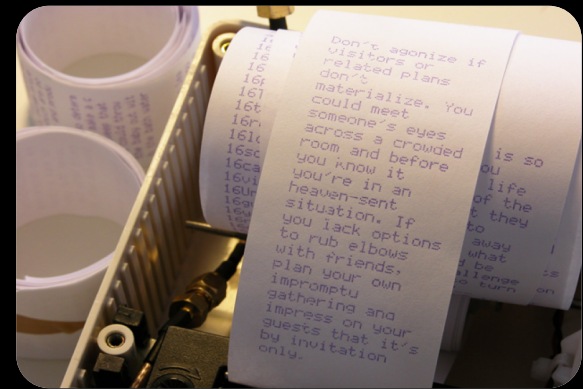
...



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describe the design

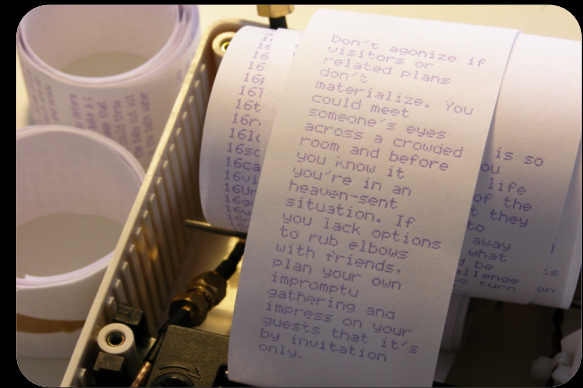


tell them the basic details of how it operates  
don't explain or suggest uses

they appropriate the design as they see fit  
they establish meaning for the design

example

the home health horoscope  
it prints out a horoscope once a day



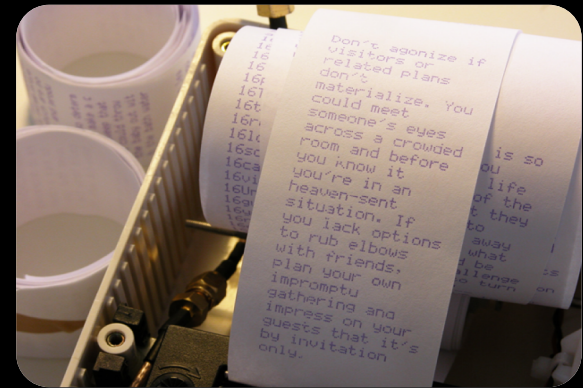


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# placement

let the participants choose  
let them develop meaning for the design



## step 3: initial home visit

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# data collection

## diaries

tell the household members to write down  
their thoughts  
send reminders periodically



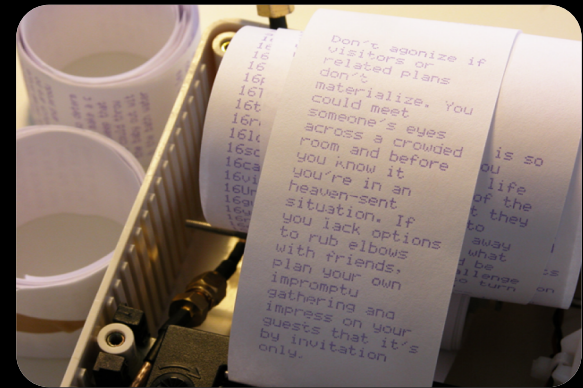
# data collection

ethnographic observations  
spend some time at the home  
choose an appropriate time  
observe and make notes



# example

write notes on the back of horoscopes  
video documentary of the household's experience  
ethnographic observations



step 4: deployment  
(conduct observations, remind about diaries)

step 5: final visit



## step 5: final visit

a. remove the design

b. understand their activities with the design

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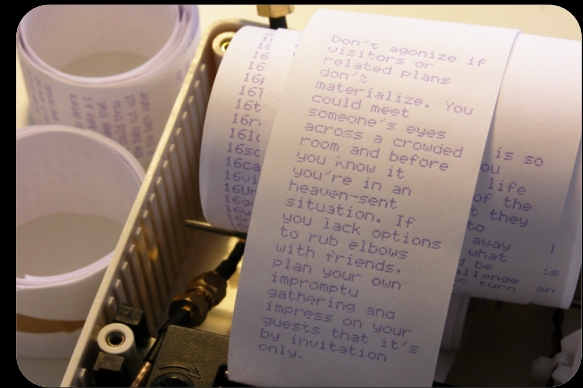
b. understand their activities with the design

# choosing interview questions

what was their routine like with the design?  
as it relates to your area of focus

get an understanding of change: you want to  
see how your design affected the routine and  
their viewpoint

# example



what was your daily routine like?

did it change at all?

what did you use the design for?

tell me about the last time you used it

tell me about the most memorable time

...

*“Z, in particular, was frustrated that he could not understand the relationship between what the horoscope was saying and what the activity was or had been around the house. He considered doing experiments to investigate how they might work – maybe testing a particular box to see if it was sensitive to the sound of raised voices – but this didn’t seem like a particularly urgent thing to do for a man tired after he gets home from work. Instead, he began to question whether something else was going on.”*

*“F did act on the horoscope’s advice on one notable occasion, however. She was in the midst of buying a house, and, impatient with progress, was on the verge of ringing the solicitor. On reading the horoscope that day (“...Thinking before you speak and act will keep you out of trouble. The real source of your trouble is a lack of selfcontrol.”), she reported: “I decided to say little and find out what they had to say before I opened my big trap!” The upshot was that the sale went through – a fact that F, at least, attributed to the following the horoscope’s advice.”*

# what was actually happening

sensors determined activity levels

e.g., movement, doors opening/closing

(often activity is a proxy for well being)

large set of horoscopes were classified

metrics used to pick and concatenate horoscopes



# question

You are interviewing me about the design you deployed in my home and ask me the question, "How did you use our design during the week?". I respond by saying, "I would look at it a couple of times a day." How should you rephrase your original question to get more details from me about my actual usage and not generalized usage?

# step 6: data analysis

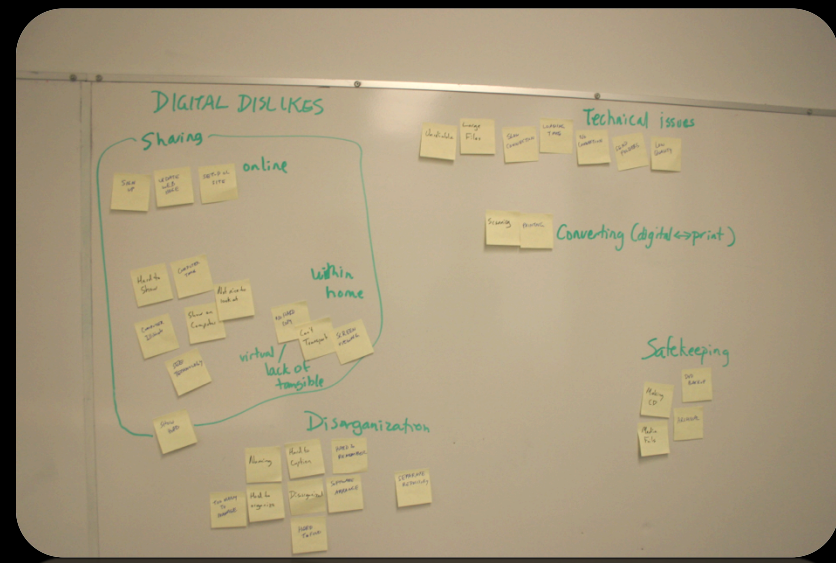
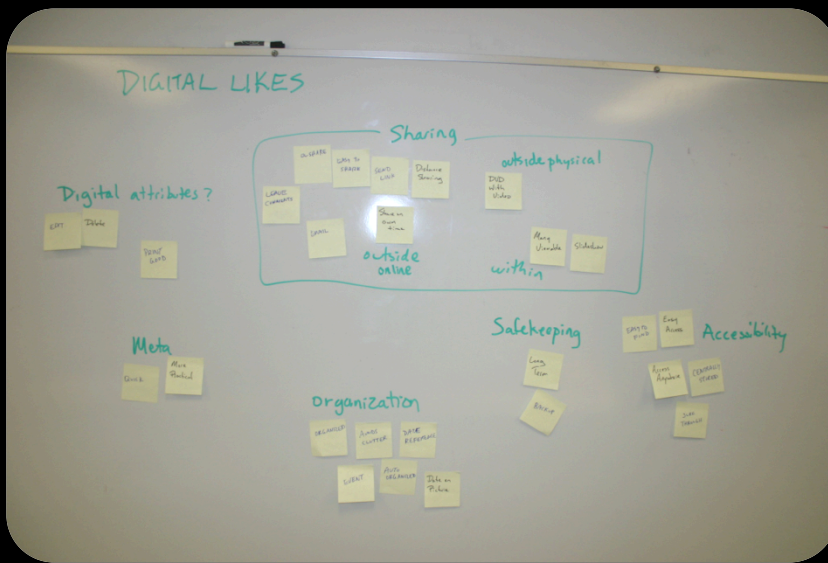
# data analysis

what are the key themes

frequency not equal to importance

find representative quotes/stories

# affinity diagramming



write down observations on post-it notes  
one idea per note  
stick on the wall in random positions

*The husband thought  
the boxes might be  
sensitive to sound*

*The husband said he  
paid more attention  
to his wife's daily  
activities because of  
the horoscope*

*The husband was too  
tired to try to read the  
horoscopes at the end  
of some days*

*The wife kept her  
mouth shut on a sales  
call because of the  
horoscope*

*The wife suspected the  
sensors could see them  
so she tried to stay  
clothed all the time*

move related notes spatially close together  
discuss placement as a group

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## put affinity labels next to each group

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awareness

*The wife kept her mouth shut on a sales call because of the horoscope*

sensing

# develop higher level statements about labels

*The husband was too tired to try to read the horoscopes at the end of some days*

*The husband thought the boxes might be sensitive to sound*

*The wife suspected the sensors could see them so she tried to stay clothed all the time*

**awareness:** the design caused people to think more about their own routine and that of others

*The husband said he paid more attention to his wife's daily activities because of the horoscope*

*The wife kept her mouth shut on a sales call because of the horoscope*

**sensing:** people found different interpretations for what the sensors were doing

step 7: final report