Hackathons as Participatory Design

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Hope et al. (2019)

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What are Hackathons?

- Events centered around digital space and technology
- Have very specific expectation in terms of orientation, goal and participants
- Often rigid and intimidating as it functions on ingenuity and structures.
- Estrange qualities that is very alien to the outside world due its inherent connection to the world of technology, its culture and its members
- Almost the polar opposite to inclusivity and equity

The context of breastfeeding

- Breastfeed is a healthy practice for both child and parents.
- However, it is difficult to archive for most families in the US due variety of reasons (lack of paid leaves, social pressures and conditions, discrimination, etc)
- This practice is often reserved for the privileged few (families of high income/ social status)
- Small projects and efforts have been conducted in the past to help the situation (mobile apps, specialized devices, organizations, etc)

Make the Breast Pump Not Suck

- A first *Make the Breast Pump Not Suck* Hackathon (2014) was organized
- The aim was to create better breast pumps for mothers
- It was a success in a strict sense: better performing breast pumps were created by Hackathon engineers, designers, doctors and mothers.
- Also brought attention to the issue in the society
- But, it doesn't help with the problem fundamentally: disconnect between the creators and the reality that having to use breast pumps in the first place is the problem

Make the Breast Pump Not Suck 2.0

- A 2nd Hackathon (2018) with revamped structure, ideology and orientation
- Highlights with participatory design that the technical aspect should not be the only focus, but our approach to the whole picture
- Expanding field of intersectional voices
- Inclusivity towards ideas originated from foreign/ separate sources
- Refocus the the concept at heart of design: not just technology, but the system aswell.
- Involvement of those that matters

What is the Internet of things?

- Interconnected smart devices
- Term was coined in 1999

WHY Internet of things?

- Make things accessible
- Facilitate tasks for the user

Example: Smart home objects

- Stop your task at hand > get up from desk > go to the light switch > Adjust light > go back to desk
- 5 steps

- “Ok google set light to 20 percent”
- 1 step

Internet of Things / What makes a good design?

"The digital enhancement should respect the object's traditional function and interaction, and avoid any conflicts between its digital and the traditional function and interaction."

- Chi et al, "Designing Smart Living Objects", 2007

Practical Design

- Human-centered
- Intuitive
- Cost-efficient
- Form follows functions

Impractical Design

- Object-centered
- Unintuitive
- Inefficient
- Function follows form

Why do bad design happen?

Designer’s lack of experience as the user > designer’s inability to relate to the user

Participatory Design

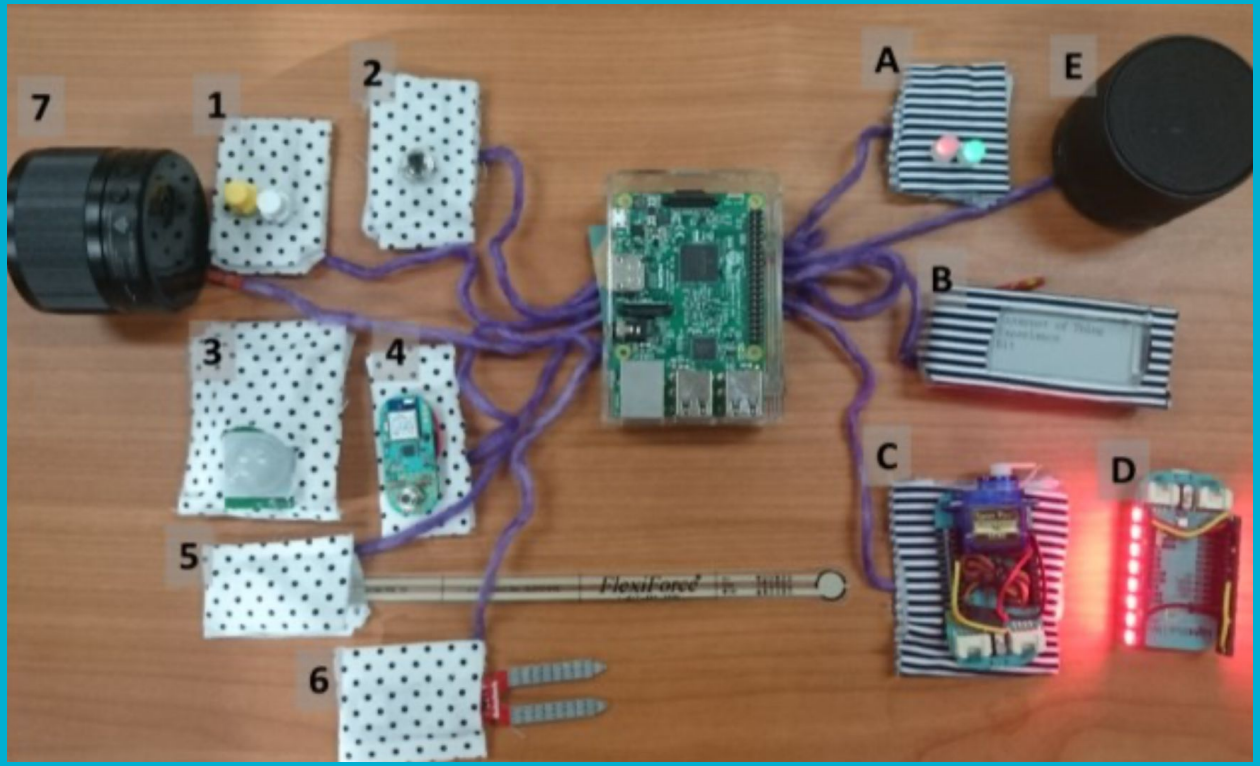
- Involving stakeholders in the design process itself
- Crucial insight you might not have as outside observers of a community
- Not enough just to invite participation-- you have to actively facilitate it
- Avoiding framing marginalized communities as “problems to be solved” or to the technology as a way to “restore ability”
  - New Mothers
  - Visually Impaired
  - Elderly

Hackathon as Participatory Design

- “We also discovered that opening up MIT required far more than declaring our event free for all to attend. We needed to recruit and actively welcome, not just invite.” (Hope et al., p. 10)
- “During an early gathering of the Community Innovation Teams in the building, it became clear that the space read as sterile and uninviting to some newcomers.” (Hope et al., p. 5)
- “[The design process] can frame Marginalized communities as ‘problems to be solved’.” (Hope et al., p. 6)

Loaded Dice (Lefeuvre et al. 2016)

IoT Un-Kit (Ambe et al., 2019)



Goals

Breast-pump technology

- Better machine
  - Comfortable, smart, integrated, mobility, easy cleaning, discretion

IoT Smart Devices

- Helpful designs
  - interpersonal connections, strengthening social bonds

Underlying Goals

Breast-pump technology

+ Difficulties of motherhood

- ❑ Better machine
  - ❑ Comfortable, smart, integrated, mobility, easy cleaning, discretion
- ❑ Fighting for equity in breastfeeding
- ❑ Fighting the lack of paid leave policy (U.S.)
- ❑ Fighting the stigmas & criticism
- ❑ Fighting for affordability/accessibility

IoT Smart Devices

+ Aiding specific scenarios

- ❑ Helpful designs
  - ❑ interpersonal connections, strengthening social bonds
- ❑ Balancing dependance and reliance
- ❑ Find and answer the specific needs

Common Goals

Breast-pump technology

+ Difficulties of

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IoT Smart Devices

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+ Help/Comfort/Facilitate a specific need

+ Accessible and affordable innovations

+ Raise awareness of the deeper issues

Questions

1) Can you think of any other design questions that would benefit from participatory design methods?

2) Can you think of any other design questions that would benefit from considering the broader social, cultural, and political context in which they're situated?

3) How else can we broaden the way we think about the traditional design methodologies, particularly for tech solutions?

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