Involving the User

There tend to be four levels of user involvement discussed for software/hardware design/interaction, codified by Allison Druin around the year 2000.

- User (things are created, distributed, used, complaints/suggestions/etc. come in)
- Tester (commonly the “beta test” stage where an almost-completed system is used by actual users before it goes into full release, sometimes at the “alpha” stage – this has shifted to “live beta” which is really just “User” above)
- Informant (example users are consulted on a regular basis for design ideas and feedback)
- Design Partner (example users are brought in as members of the design team)
HCI Research: Cooperative Design

Have potential users participate in the design process with researchers/designers.

– Not the same as user-centered design but can be a part of user-centered design.

Born in Scandinavia (Norway, Sweden, and Denmark) in the 1970s out of the feelings represented by the labor movement and strong trade unions of the time.

– UTOPIA (Training, Technology, and Product in the Quality of Work Perspective) work on graphical interfaces of the early 1980s.

New ideas need new techniques…

Saying “let’s involve the user” might sound easier than it actually is.

– Different levels of involvement lead to different outcomes.

– Need techniques to provide ways for the user to express their ideas and opinions.

  • Different techniques for different types of users.

– Cultural shifts might be needed to have “buy-in” on both sides (and to see it as all one big side).
Children as Design Partners

The idea of cooperative (or participatory) design has expanded into different domains in different ways.

Allison Druin was one of the first to bring it to the world of designing technology for children by involving children as design partners through what she called Cooperative Inquiry.

  

– Kidsteam, ongoing since 1998.

Sticky Note Brainstorming

A question is presented and the team (usually each member but sometimes in pairs) writes one word or phrase on each sticky note.

Session leaders collect the individual notes and organize them on a wall or board, looking to cluster similar ideas together to discover common themes and give a brief name to each.

This approach works well across many different contexts.
**Likes, Dislikes, Design Ideas**

This approach also uses sticky notes, but in a guided form and experiential context.

- A design target is selected and the team spends some time trying out this software or hardware (or even paper) prototype.

- As they use it, every time they see something they like or dislike or they have an idea for a new feature, they write it down (very briefly) on a sticky note.

- Similar to sticky note brainstorming, the notes are collected, but this time the are organized not only by themes, but in columns for Likes, Design Ideas, and Dislikes.

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**Low Fidelity Prototyping**

One way to support the involvement of different types of users is to use non-electronic/software solutions.

- This allows for faster and cheaper iterations of ideas and removes issues of technical failures and debugging.

- It can lower the technical expectations/needs of the team’s users, allowing a wider range of participants.

- Without needing to build things, in theory you aren’t limited to existing technologies and core ideas can more easily surface.

- It can support storytelling, which helps provide context along with specific ideas.
Arts&Crafts: Paper Prototyping

Using simple supplies like cardboard boxes, colored paper, markers, sticky notes, scissors, and tape you can construct low fidelity mock-ups representing design ideas.

This can remove many of the technical and financial hurdles that can slow down design idea generation and iteration.

In class we experienced this through the HVAC Control System exercise.

Big Paper

There are times when you want to support even faster brainstorming and sketching out ideas or writing down thoughts that come to mind is enough of a starting point.

Markers and a big sheet of paper in the middle of a group might be enough to help the team members to express ideas and for others to build upon them.

We saw this in the Diamondback exercise.
Mixing Ideas

After doing a “big paper” initial session, one possible elaboration is to then mix ideas from different teams by creating a collage of ideas from across all big sheets of paper.

– This is a physically destructive process, so it’s a good idea to photograph the sheets before cutting them up and it’s a good idea to let the teams know there will be some mixing in this way after the first round of presentations.

– In the Diamondback exercise, I could have cut the drawing of President Loh and one of the search ideas and taped them onto one of the full layout sketches to mix elements of the three teams.

Layered Elaboration

Supports creative / novel ideas since if you can draw it, it’s in your design.

Allows multiple non-destructive iterations of the design (inspired in part due to reactions to the mixing ideas approach).

Often start with a printout of a current design idea and then iterate / revise from there.

Typically we have three different “starting points” for different (but related) designs and rotate not only designs but also contexts.
Bags of Stuff

There are many ways to get creativity flowing, and with children and adults both fun and carefully designed limitations can be a part of that.

The “Bags of Stuff” technique supports all of the things we’ve discussed already but can also add a stronger element of fun.

It can also present a challenge through limiting the types of supplies to ones that mostly remove drawing from the equation and can make literal representations difficult. The story the team tells about the props they build is often the most valuable outcome.

Is crowd sourcing a form of PD?

It has been suggested by some that crowd sourcing is actually a form of participatory design.
– What do you think?
Why not “get rid of” the UI?

While these don’t get rid of the user interface, they do change it in significant ways.

– Voice control
– Predictive AI

In theory, such approaches could require less technical knowledge on the part of the user.

– What’s the potential down side?