

# Some thoughts on an inclusive design process

Design is traditionally understood as a *process* (formal or otherwise) that gives rise to *products*, which are ultimately used and consumed by end users. Despite the apparent flexibility of the digital medium, software is often more brittle and less accommodating of unexpected use—less *real* and more "finished" than its counterparts in the physical world. Since it is not practical for a designer to include every user and every feature within a single piece of software, nor to understand and obtain expertise in the infinite variety of creative, serendipitous, and unexpected uses that software can be subjected to, we need a different kind of design economy. A goal of Inclusive design is to extend the design process into the designed artifact itself, to give users the ability to continue the design process themselves, after the specialized design effort has been finished and the product has shipped. Here, we are shifting the focal point of inclusion from the *process of design* into the *material form* of the thing itself. This is a kind of inversion of Universal Design methods derived from architecture, which aim to create "products and environments... \[that are\] usable by all people, to the greatest extent possible, without the need for adaptation or specialized design," (Center for Universal Design) we aim to make adaptation and specialized design—in other words, the ability for the environment to be personalized—universal.

"People should design for themselves their own houses, streets and communities. This idea... comes simply from the observation that most of the wonderful places of the world were not made by architects but by the people" (Alexander).

For practitioners, design is the process of *becoming specific*. For users, design is a process of personally *undoing, extending, or changing* this initial specificity to suit themselves; to better match their environment, needs, preferences, personal tastes, and creative imperatives. Software designs form a kind of "space" which individuals inhabit—they live, create, adapt, and influence this space as a *natural extension of use*. Inclusive designers specifically design new forms of influence for users over their software spaces.

"Artists belong to that class which makes the new out of the old, which transforms forms. It includes not just artists but also scientists and engineers" (Wark). Our goal, as inclusive designers, is to share with our users this ability to create new forms from our initial designs—to transform the old form that is our "final product" into new and personalized designs.

NC State University Center for Universal Design. *The Principles of Universal Design*. 1997. Web. [https://www.ncsu.edu/ncsu/design/cud/about\\_ud/udprinciplestext.htm](https://www.ncsu.edu/ncsu/design/cud/about_ud/udprinciplestext.htm)

Alexander, Christopher. *A Pattern Language*. [http://library.uniteddiversity.coop/Ecological\\_Building/A\\_Pattern\\_Language.pdf](http://library.uniteddiversity.coop/Ecological_Building/A_Pattern_Language.pdf)

Wark, McKenzie. *Designs for a New World*. e-Flux <http://www.e-flux.com/journal/designs-for-a-new-world/>

- As a result of this effort to make software less static and more personalizable, we favour *artifacts over processes*. Co-design provides a means for engaging users in the initial design process (as fellow designers), while inclusively-designed software sustains this design process by actively supporting its own unexpected, creative, and ongoing redesign (by users). A product becomes a living system.
- Processes should primarily serve to help inclusive designers focus on questions such as "How can I enable the user to undo this decision I have just made?" ... (in the physical world, this is often a question of material; e.g. choosing wood instead of hard metals makes an object easier to cut and to use fasteners and glues in order to attach new elements to it, etc.)
- Each instance of a piece of content (any piece of software—a pie chart, a digital textbook, a physics simulation, or even an authoring environment) should also represent an opportunity to create a variation, personalization, or alternative of it
- In education, this means that learners, too, should be provided with the means to construct (or derive) and share their own learning materials, to be their own teachers and curriculum creators while engaging with the materials provided to them. This ability to create content should not be solely reserved for their teachers and experts, hidden behind "authoring" or "administrative" modes
  - Think of Hypercard (or Smalltalk), where learning material was delivered to students within the same environment that it was authored in
- Example: A learner has the ability to adapt the appearance of a learning resource to be larger, easier to see, and simpler. They also have the ability to share this adapted version with others, rather than simply retaining the adaptation as their own "personal needs and preferences." Useful adaptations and variations become opportunities for creating communities of interconnected learners who support each other.

"Inclusive design recognizes the importance of self-determination and self-knowledge. Design choices or configuration choices vest with the user and the adaptive design fosters the growth of self-knowledge wherever possible." (Treviranus, *The Three Dimensions of Inclusive Design*)

Examples of "ongoing design":

- The "reknitted" work of Amy Trigger Holroyd ([more information about reknitting research](#))

Notes:

- what are the ways in which we can let end-users be designers?
- this goes beyond the (very necessary) "little iterations" of research-design-prototype-test-tweak-test-tweak-repeat -> final product
- that is, we want users to be able to customize, modify, remix - basically just living life/responding to life
  - e.g. analogy of hiring an interior designer, but then moving my arm chair to a new spot in the room (I probably wouldn't consider this to be designing)
- idea>process>product
  - this can be circular, but typically still ends in The Final Product
  - what if the feedback loops were more complex?
  - what is the metaphor for this?
  - it's more than just incorporating user feedback
  - it's users changing and influencing The Final Product once it's Out There

- little ways of "self-designing"
- ways to a) adapt things yourself and b) provide a way to connect/translate/relate different diverse things
- pushing iterating forward? ?
- users as designers, but we still need design expertise
  - what is co-design?
  - designing alongside users?
- we need to make connections between our design processes and specific things that we create
- what level of structure is necessary in our design process?
  - we tend to move in and out of structure
  - should be context-dependent: what is the design problem, who is working on it, who the users might be?