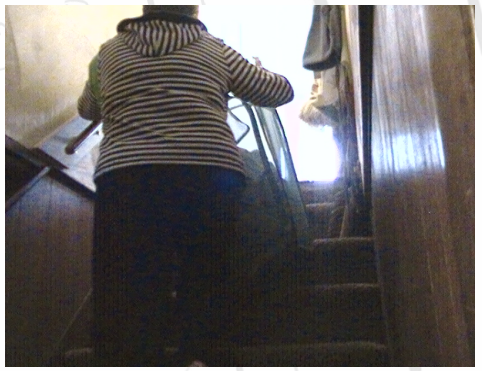
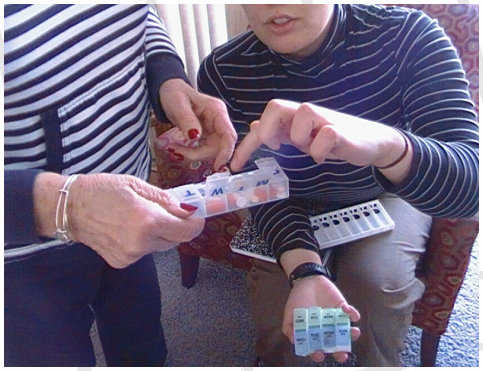
kitchenware for low vision | product ideation

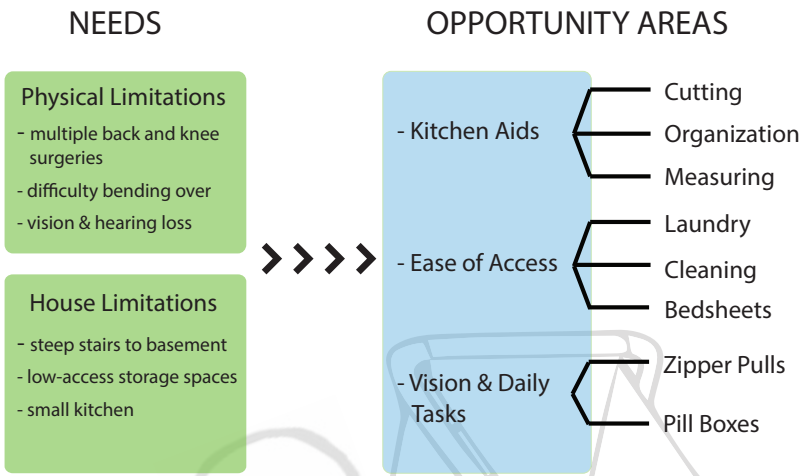
Engineering for Humanity

user interviews





Over 10 weeks, our 3-person team developed a customized product for an older couple. Lauren and John live independently and proud of it, though not without multiple joint replacements each. Lauren is also recently diagnosed with macular degeneration and atrophy, which will soon lead to complete loss of vision. Regardless, Lauren and John count themselves lucky and plan to enjoy life to the fullest. They care deeply about their family and friends and provide for them as much as possible.



We began the **codesign** process, using both their and our backgrounds to ideate a wide range of solutions addressing both cutting and measuring with low vision.

Through visiting often, helping them all around the house and asking many questions, we narrowed down to three

areas of opportunity.

Food plays a huge role in their continued cultural and social connections. Given the couple's (especially Lauren's) penchant for cooking and hosting, both they and our team agreed that kitchen aids would help the most with maintaining their sense of fulfilmment, especially as Lauren's vision worsens.

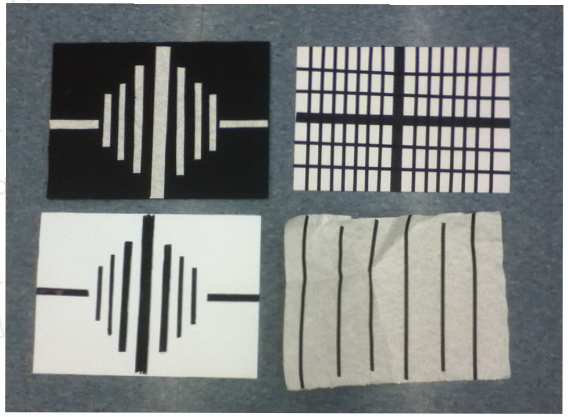
* Lauren and John are pseudonyms. Their true names, photos of their faces and their home are withheld to to protect the identities of our community partners.

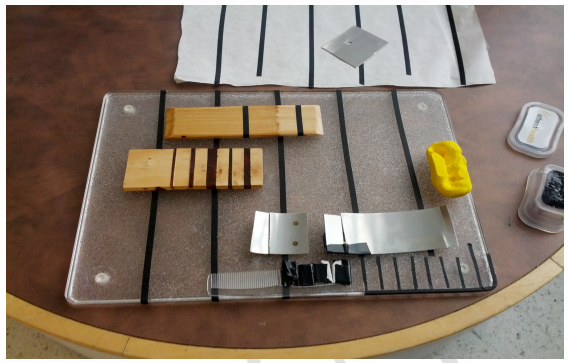
kitchenware for low vision | product development

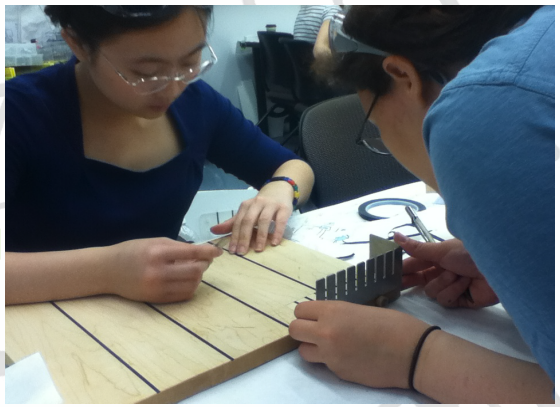
Engineering for Humanity

As we ideated, we rapidly prototyped and tested our most promising ideas in parallel, applying learnings almost immediately.

iterative refinement







function testing

Using paper models and tape, we quickly discovered our initial designs made positioning food complicated and confusing. Now realizing the lines acted as reference points as Lauren moved her eyes to find an object, we switched to a simple design of vertical lines.

Lauren wanted a “dry” board, so we switched out the juice grooves for meat with John’s suggestion of a cutting guide for butter, a need we hadn’t been aware of.

interaction & character

Confident in the functionality of the design, we tested and refined line weights, spacing, tactile feedback, look and feel of the board. The results informedour decision to integrate the guidelines into the aesthetic of a high-end maple cutting board.

in-home user testing (IHUT)

We sent a high-fidelity prototype to Lauren’s kitchen for a week, along with an easy-to-read interaction log. The log confirmed its use, but pointed to cleaning and storage considerations and a need for rubber feet, finger grooves, and refined fit of the cutting guide.

kitchenware for low vision | product development

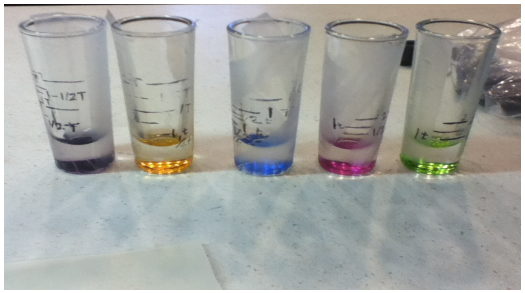
Engineering for Humanity

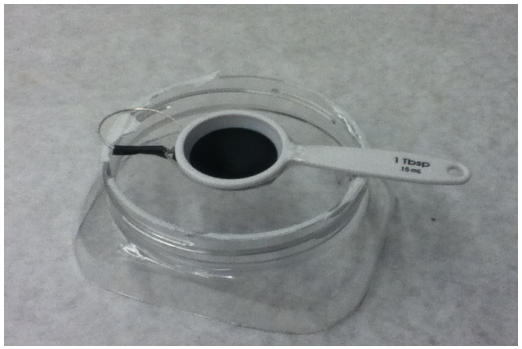
As we ideated, we created quick sketch models, modified existing products, utilized 3D printing, so that we could test our most promising ideas in parallel, and apply the learnings almost immediately.

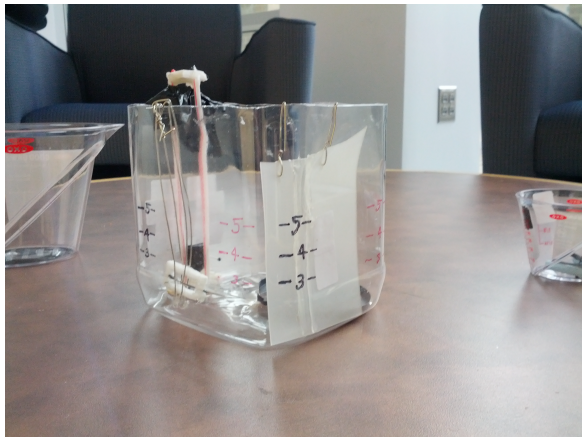
rapid prototyping

user testing (FIC, IHUT)

iterative refinement







kitchenware for low vision | final product

Engineering for Humanity

Product Specifications:

Minimalist white maple cutting board with black inlay.
Finished with tung oil (food-safe).

Removable aluminum cutting guide for butter sticks.

Dimensions: 15″x 12″ x 1″

Features:

Easy to clean with sponge

Removable guide for easy storage

Comfortable grooves for handling

Non-slip rubber feet