Prototyping

Prototypes are an initial simulation of a design. They may take the form of 3-D materials or any representation of a product or idea. The goal of a prototype is to express and discover how the completed design might be experienced in real life.
Interaction design research explores the convergence of products, activities and technology. One goal of interaction design research is to capture all aspects of an experience. Therefore, prototyping techniques may need to develop in order to take into consideration subtle aspects of an experience comprised of layers of senses, cognition, and emotion.

The style of prototyping called experience prototyping is an intriguing option for deeper expression involving the subjective, collective thinking and feeling of the designer and the user.
Experience prototyping can take many forms: acting out, making mockups, describing future conditions…it is less about these techniques, and more about the attitude or the creation of an environment that helps designers think about an integrated experience rather than artifacts in isolation. Prototyping enables designers, users and clients to gain firsthand appreciation of existing or future conditions through active engagement. The important influences of contextual factors such as social circumstances, time pressures, environmental conditions, and others play a part.

It is easy to see the value of placing prototypes in context. One basic example is where the designers are trying to learn about grocery shopping, so they go into a grocery store, shop and experience what it feels like to be the consumer. In another experience prototyping model, potential end users are brought into an environment or simulation of a grocery store to interact with a prototype under the watchful eyes of the designers.

Both these approaches have limitations. On the most basic level, designers are not end users: they typically have many expectations that may skew their experience with the prototype while in the store. Similarly, placing potential end-users in a controlled environment while under observation may substantially alter the end-user's experience of the prototype.

Addressing these limitations suggests taking the approach one step further. One possible solution is combining experience prototyping, artifact prototyping and another type of experiential learning – role-playing. Role playing, here, adds two important elements to the mix. It is more than just the designer impersonating an end user; it also involves taking the experience of the prototype into the real world. This brings the designer into a much more powerful position to evaluate the prototype, taking the idea of being influenced by contextual factors one step further.

Acting Out

Patricia Moore, a gerontologist, is someone who has been actively engaged in role-playing. In order to understand issues of aging, Moore dressed and altered her body to experience the world as an older person. For example, in taking the bus, she witnessed first hand what it was like to have to climb up the steps, find a seat and rest her cane.

Another example (albeit one raising ethical issues) of role-playing that uncovered incredible "end-user implications" is the journey of John Griffin, the journalist who assumed the role of a black man in the South of the 1960s.

His experiences are chronicled in the book Black Like Me. This radical role-playing experiment is remembered to this day, and arguably led to a greater understanding (at least among those who read his book) of the plight of southern blacks. His major discovery was that when people are mistreated or deprived of rights, they in turn do mischievous and bad things in order to manage their lives or to ease the pain which they receive from their abuses, such as killing people, drinking, taking drugs, etc. Because their acts are considered hurtful to society, racist whites only hate the blacks more, resulting in deeper segregation.

Griffin's book is a clear example of the power of role-playing as a tool for discovery about the experiences of others. I would also suggest this as a prime (albeit extreme) environment for a prototype. If Griffin had taken with him a prototype that affected his experience in some way, he would have been in a prime spot to test the product in a context as close to that of a user as possible.
Granted, there are many ethical considerations that need to be considered with role playing. More recent examples, such the poverty simulations organized by Carnegie Mellon's Techbridge world during which participants assume the roles of different families facing poverty, continue to raise issues of the participants' own subjectivity. Still, the potential value with regard to prototyping in these states of role-playing is compelling.

Co-Design
One might also consider a co-design experience using prototyping. To continue with the example of Pattyoore's work, an elder participant might travel with someone such as Moore on the bus, testing a prototype, such as a personal safety monitor. As conversation around the prototype unfolds, the experience becomes a venue for actual co-design with the designer and senior.
Another example, not so ethically charged, would be the dining fad called "Dining in the Dark" in which restaurant guests enter in order to spend their entire dining experience in complete darkness. This would be a perfect way to introduce a prototype designed to aid those who are blind. In this scenario, a designer might go to dinner with a blind person and the prototype, then record a "think aloud" walk through. The designer would have her subjective experience, as well as the recorded prototype run-through.

Combining Prototyping Methods
One way for prototyping to evolve is to blend role-playing and co-design with the goal of a more rounded experience design. This combination of methods may seem overwhelming, but when thinking about an attempt to learn more about the important influences of contextual factors such as social circumstances, time pressures and environmental conditions what could be a better way to glean this subtle, implicit information than to don the character and physicality of the user and the potential product (prototype) oneself in the actual environment and think aloud with the user?
For example, If I want to design a device to manage child transportation for parents with busy lives, ideally I would create the prototype, take it in the field and become the driver for the family — assuming some or all of the driver's responsibilities. In addition, I would interact with people as they experience the prototype, activity and technology in a real world setting.
With this in mind, if we as designers are designing for an experience, the results in the combining prototyping methods will be a rich multi-sensory combination of field studies that takes the prototype to the field rather than trying to bring the field to the prototype, embracing subjectivity and co-design creating a more complete and useful model for discovery.