

## Prototypes and Preservation: The IBM Leapfrog

Sarah Barack

We talk a lot about stories at the Cooper Hewitt Smithsonian Design Museum in New York City. Specifically, we talk about the hidden histories embedded in our collection objects, which, when knitted together, tell us about design. We prioritize questions of process, stretching from how something was made to who made it, and when, and why, and its present chapter at the museum. We acquire drawings, sketches, and their three-dimensional equivalence, all of which are materials that may or may not represent the final design or finished product. The Leapfrog mobile computing tablet, a prototype made by the International Business Machines Corp. (IBM), fits perfectly within this scope. It also illustrates the complexity of discussions around contemporary material culture, addressing the very idea of what an “object” actually is.

A truly visionary design, the Leapfrog presaged the way that we use technology today in our mobile, work-from-anywhere culture. And yet, the tablet’s lead designers Richard Sapper (1932–2015) and Sam Lucente (b. 1958) never intended it to be a commercial product. Rather, like many prototypes, it was a “working” object for IBM’s strategic design team—one to test ideas and serve as a launching point for innovation and discussion. Their experimental focus honed in on questions of form and portability. Though this version of the prototype no longer operates as an electronic device, its operating system was the ubiquitous Windows 3.1. As conservators charged with caring for the Leapfrog, this knowledge has reinforced our understanding that its industrial design was a key priority, rather than a novel software or other bespoke interface. Additionally, this knowledge informs our decisions regarding preservation priorities and future presentation options.

The Leapfrog conveys a particular narrative about how records of material culture innovation are just as vital as the aging physical media. It is a story about how prototypes inform design as well as how plastics become tacky, elastomeric feet start to crumble, and common operating systems slip into oblivion. The Leapfrog’s sophisticated form also obscures, hiding the messier components within. During its condition examination, our team had to rely on x-radiography to discern how best to open the case in order to assess the computing tablet’s circuitry. This reveal held both a functional role, illustrating the placement of screws holding the case together, and one that felt oddly violating, laying bare the necessary interior work otherwise unseen. Once opened, the presence of tape with handwritten notations among the wires—an indelible human mark on an otherwise industrial-seeming product—reminded us of the truly bespoke nature of the prototype. We felt a direct connection to the original design team.

A relationship with the Advanced Media Lab at New York University, New York City, provided our team with an opportunity to include 3D scanning as part of the Leapfrog’s study. This sort of documentation allows for extremely precise recording of the physical shape of the piece, potentially to the point where changes due to deterioration may be tracked. It also allows for wider possibilities when considering future display options, particularly when evaluating items created for user interaction that cannot be offered due to concerns related to condition and

Sarah Barack, “Prototypes and Preservation: The IBM Leapfrog,” *Conserving Active Matter* (2022), Bard Graduate Center, <https://exhibitions.bgc.bard.edu/cam/>. © Bard Graduate Center and the author.

material degradation. For instance, we might envision 3D printing a copy of the Leapfrog and allowing visitors to engage directly with the copy via an embedded hard drive operating Windows 3.1. But would we risk devaluing the material authenticity of the original object through its copy? Certainly a printed version would present a very different appearance and feel from IBM's Soft Touch coated plastic. If we consider our task to preserve the object for the future and also safely guide its accessibility today, perhaps this sort of surrogacy suggests a fuller restoration of the Leapfrog's original purpose as a functioning prototype.

Through this thought experiment, we started to understand how preservation concerns align with and become an extension of questions related to the display of commercial and hybrid digital objects. We found ourselves asking how we, as the conservators, might support flexibility in parsing through these questions and provide opportunities for the object's significance to shift and blur as needed. This conversation, and its impact on how we consider the tablet in the context of the Cooper Hewitt's collections, reflects our thoughts on conservation overall. To put it another way, the way that we discuss objects reflects how we think about what we do. Our work is both clinical and mystical in a sense, as we carefully think through what we are seeing, using scientific tools and knowledge. But we build history as much as reveal it, finding those scrap remains of human touch in the pieces that we study, and sharing our observations with others. In the case of the Leapfrog, opening the tablet to glimpse its inner workings meant a physical reveal, but it is also a metaphor for conservation overall as our field matures and evolves.

Questions of access percolate throughout this discussion. We are continually asked to approve exhibition checklists, outgoing loans, and other uses of collection objects. For instance, we examined the crumbling feet of the Leapfrog's base in order to ensure that they were stable enough to make their way across Central Park to the Bard Graduate Center Gallery. We agreed that the opportunity for this object to join the collections on view—to be seen, interpreted, enjoyed—merited the risks associated with the travel and installation. An object really only exists in a potential form while in museum storage, and the Leapfrog depends on social engagement to reclaim its visionary place in history. The narrative of the tacky plastic and its demise might continue slowly on the shelves of museum storage, but it becomes something more when it is situated in a place that presents context.

These deliberations are not always as transparent as we might anticipate or like them to be. As conservators, we often think of ourselves as advocates for objects, working together with colleagues to make decisions about their present and future. Conversely, in approaching the object itself, we switch hats to become the ambassador for the museum. The role of a conservator, a bit like a two-way street, is one for which we have trained. But what if we were to challenge ourselves to expand and consider our wider impact on cultural heritage, and how we might use our specialized knowledge to foster conversations? Increased public engagement broadens who gets to contribute to preservation discussions, such as various communities of users, and builds a more inclusive practice. Certainly many colleagues have written about the need for a multitude of perspectives when making conservation decisions. The key to useful

Sarah Barack, "Prototypes and Preservation: The IBM Leapfrog," *Conserving Active Matter* (2022), Bard Graduate Center, <https://exhibitions.bgc.bard.edu/cam/>. © Bard Graduate Center and the author.

dialogue is to become comfortable opening up about our process and taking off the case that obscures the complexity of considered choices within. The results might offer stories that touch on all aspects of the object in question, material and beyond.