**Project Goal: Accessibility Matters**

Lexmark manufactures multifunction workstations in a worldwide market. The U.S. government, Lexmark’s largest consumer, purchases equipment in compliance with accessibility standards.

Our team sought to design an interface that would enable users with disabilities or impairments to engage effectively with next-generation Lexmark workstations.

We worked to understand how impaired users interact with multifunction devices and develop or employ appropriate paradigms of interaction to improve their experience.

**User Research**

- **11 users**
- **90 ideas generated**

**Co-Design**

- **8 users**
- **7 concepts selected**

**Usability Study**

- **12 users**
- **3 prototypes tested**

**Analysis**

- **2 months**
- **1 month**
- **2 weeks**
- **1 week**

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**COMMAND TOKENS**

**Tangible Interfaces for Lexmark Workstations**

**Stackable Command Tokens**

allow a user to send commands to a workstation by stacking labeled tokens on top of a reader.

1. The user selects the necessary functions to perform a copy job.
2. The user places the document on the feed tray and presses Go.
3. The workstation confirms the tokens, visually and through speech.
4. The user types the number of copies on the keypad, and presses Go.
5. The workstation completes the job, and the user returns to his office.

**Command Sheets**

run through the automatic feed tray along with the user’s document and send commands to the printer.

**Command Disks**

rotate on a post, allowing a user to select each function from its associated group, one at a time.

**A Positive Impact**

Users were excited to hear that we were making multifunction workstations more accessible. They enjoyed working with our prototypes and providing feedback. We see promise in all three Command Token variants and recommend that Lexmark pursue Command Tokens as a means of increasing the accessibility to workstations.

We developed positive relationships with several users who were pleased that we were focusing on their needs. We met some extraordinary people throughout the course of this project and gained valuable experience every step of the way. We thank Lexmark for sponsoring this project and Olin College SCOPE for facilitating our work this year.

**Tangible is Accessible**

Blind users indicated that tactile feedback is crucial to a successful interaction. We determined that our concept interface should communicate its state in a tangible manner.

We generated several concepts to meet requirements we gleaned from our users’ values. With the help of our users, and with Lexmark’s feedback, we selected 3 concepts to prototype and take forward.

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**Project Team**

- **Student Leads**
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