



Design of Keyboard for Improved Accessibility to Electronics

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WARF: P08092US03

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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a compact keyboard designed for use with the EZ Access™ family of products.

Overview

Modern public information and transaction machines such as kiosks and automated teller machines (ATMs) frequently employ a touch screen in conjunction with a computer to provide multimedia capabilities intended to help members of the public obtain information or conduct transactions. Despite the advantage of touch screens in such applications, they present a barrier to many people with disabilities. Those with impaired vision may be unable to distinguish the features and virtual “buttons” on the screen. Those unfamiliar with the language or with difficulties reading may not be able to analyze the information on-screen and those with hearing impairments may not be able to analyze audio information. Those with limited mobility may be unable to reach or operate the touch screen surface.

Incorporating accessibility into touch screen systems typically has involved adding buttons, keyboards or mechanical controls to the systems. In many designs, these additions may be limited by a lack of space, expense or other constraints. The EZ Access set of design guidelines, techniques and hardware components has been developed previously to provide cross-disability access to people who use information technologies (see WARF reference number P95259US). WARF reference number P08093US describes the system and method for providing a keyboard to facilitate improved accessibility. This invention describes the physical design of such a keyboard.

The Invention

UW-Madison researchers have developed an extension to the EZ Access set of design guidelines, techniques and hardware components. Compact EZ Access keys and functionality can be incorporated into existing or new public information and transaction machines to provide both standard and special keyboard behaviors needed by people with different disabilities. The system incorporates the EZ UP and DOWN, EZ ACTION, EZ BACK and NEXT and EZ HELP buttons of the original EZ Access system into a typical keyboard to improve accessibility of the system and add convenience to users without disabilities. These buttons enhance the functionality of the original arrow and enter keys of a keyboard to allow easy navigation by page, screen or element, while maintaining typical functionalities such as moving the text cursor and typing carriage returns. The first figure below shows the intended design of the EZ Access buttons. These buttons can be arranged in different configurations to meet the needs of the machine or electronic device being modified.

Applications

- Cross-disability access to public information and transaction machines

Key Benefits

- Incorporates EZ Access keys into a typical keyboard
- Improves accessibility to public information machines to those with disabilities
- Enhances convenience to users of public information machines without disabilities

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Additional Information

Related Technologies

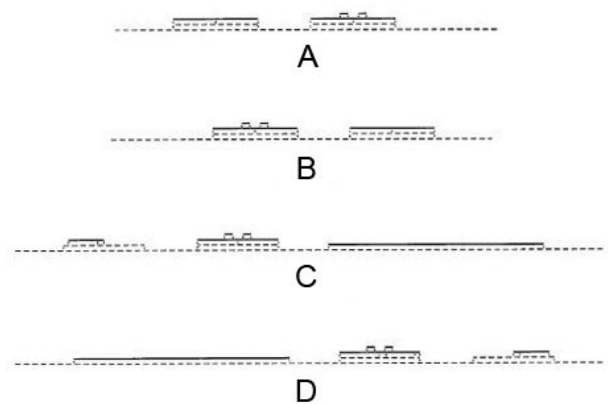
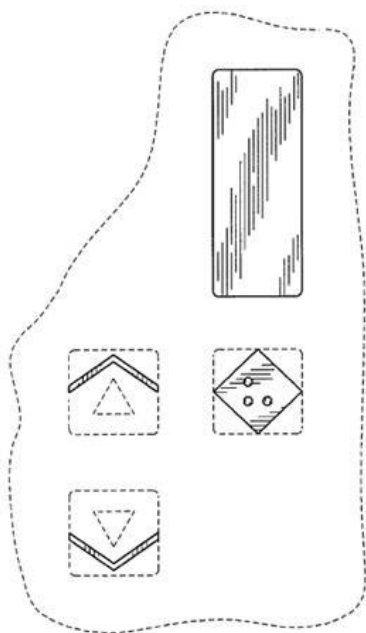
- [For more information about the system and method of incorporating an EZ Access keyboard into electronic systems, see WARF reference number P08093US.](#)
- [For more information about the EZ Access design guidelines, techniques and hardware components, see WARF reference number P95259US.](#)
- [For information about additional features of the EZ Access touch screen system including a page guard, see WARF reference number P00245US.](#)
- [For information about an EZ Access touch screen system for the vision impaired, see WARF reference number P95077US.](#)
- [For information on the design of the control panel of the EZ Access system, see WARF reference number P00268US.](#)
- [EZ Access® is a trademark of the UW-Madison Trace Center. For more information on EZ Access, including examples of how the technology is used, visit the inventor's website.](#)

Tech Fields

- [Information Technology: Hardware](#)

For current licensing status, please contact Emily Bauer at emily@warf.org or 608-960-9842

Figures



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