

The Rehabilitation Engineering Research Center for the Advancement of Cognitive Technologies (RERC-ACT)

Development of Uniform Standards for Cognitive Technologies

Children at distinct stages of development, aging adults, and people with brain injury or other cognitive impairments all have unique needs for using popular products. This project will advance design and product information for people with various levels of cognitive ability and function.

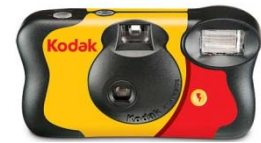
Many consumer technologies augment memory, organization, and social relationships. Phone numbers stored on cell phones, search features for email messages, or even smoke alarms are heavily used aspects of contemporary life. Unfortunately, many of these tools are not designed to be usable by a population that could benefit greatly from them—those who have difficulty learning, processing, remembering, communicating, or making decisions.

While universal design for differing physical abilities has become increasingly sophisticated, basic groundwork is needed to identify aspects of technology that have implications for people with cognitive disabilities. We plan to identify these features, draft voluntary technical standards, and promote their adoption by working with a range of organizations.

Notably, cognitive accessibility work for internet resources is already underway through such organizations as Fluid, AEGIS, and the Raising the Floor initiative. Japan has extensive standards for product design that can best serve an aging population. Our goal for this project is to support and extend such model efforts.

As a key component of this project, we will develop a Cognitive Reporting System that can define measures of a product's complexity, motor control demands, prompts, and other features of importance to people with cognitive impairments.

Simple Camera (disposable film)



Cognitive Result: A

- No excess programs
- Reliable center focus
- Simple one click button to take a picture
- Larger button size
- Easy to grasp shape
- Loud "click" tones

The Cognitive Reports will help people with cognitive disabilities or their caretakers identify tools that are best suited to their individual needs. The measurements for a "point and shoot" camera, for example, would lead to different buying decisions for the person who needs a quick image to remember a face compared to the hobbyist photographer. Related guidelines can assist manufacturers who want to reach new markets.

The reporting system and the standards are intended to address a broad range of household products, communication devices, internet resources, and social networking technologies. In addition to phones, email, and smoke alarms, the system will be able to evaluate personal computers, microwave ovens, medication organizers, toasters, televisions, answering machines, message services, and an array of other commonly used tools.

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