Request Information

Sonification-Facilitated Cognitive Training System to Enhance Visual Learning and Memory

Tech ID: 29118 / UC Case 2016-99L-0

SUMMARY

UCLA researchers in the Department of Psychology have developed a new cognitive training tool to enhance visual learning and memory using sound.

BACKGROUND

Typical sensory substitution devices such as those that convert visual scenes into auditory scenes (i.e. soundscapes), can be utilized to help blind people see objects using sound (i.e. human echolocation). However, few devices for people with normal visual acuity have been developed that enhance visual perception using sensory substitution technology.

This is important because it is demonstrated that people tend to be better at remembering visual objects if they were originally presented with sounds; similarly, memory is better for sounds if they were originally presented with visual objects. This may be particularly useful in training for perceptual learning tasks, which involve detecting patterns or meaningful features in sensory information such as; learning to identify tumors from abstract features in radiology images, or detecting hazardous items in airplane luggage, or useful in simple memory tasks.

INNOVATION

UCLA researchers led by Prof. Ladan Shams have developed a new sonification-facilitated cognitive training system to enhance visual learning and memory. The technology converts complex, detailed objects to soundscapes. This technology can be applied to learning and memory of complex visual objects, such as those often encountered in educational environments (e.g., x-rays, paintings) or in work environments that require rapid and high-fidelity visual perception (e.g. security screening). This is the first innovation of its kind specifically designed for people with normal visual acuity to enhance memory and learning.

ADVANTAGES

- Only technology designed for sighted people to enhance visual perception, memory, and learning
- May drastically reduce training time and cost associated with visual perception tasks

CONTACT

UCLA Technology Development Group
ncd@tdg.ucla.edu
tel: 310.794.0558.

INTRODUCING UC TechAlerts
New technology matches delivered to your email at your preferred schedule
SEARCH ▸ SAVE SEARCH
Learn More

INVENTORS

▸ Shams, Ladan

OTHER INFORMATION

KEYWORDS

perceptual learning tasks, learning and memory, memory training, cognitive training, visual perception, learning, echolocation, human visual perception

CATEGORIZED AS

- ▸ **Biotechnology**
  - ▸ Other
- ▸ **Computer**
  - ▸ Other
- ▸ **Medical**
  - ▸ Diagnostics
  - ▸ Other
  - ▸ Research Tools
- ▸ **Research Tools**
  - ▸ Other

RELATED CASES

2016-99L-0