

## Research team introduces natural light eye tracker

By Wu Po-hsuan and Jonathan Chin / Staff reporter, with staff writer

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A National Taiwan Normal University (NTNU) research team has unveiled a natural light eye tracker that it says causes less eye fatigue and is cheaper than conventional infrared devices.

Eye trackers measure eye movement or the object of gaze during reading or viewing.

The devices are widely used as learning aids and research tools for studies in psychology, marketing and other related

fields, said the team, composed of NTNU psychology professors Sung Yao-ting (宋曜廷) and Wu Chao-jung (吳昭容), and electrical engineer Kao Wen-chung (高文忠).

Most commercial eye trackers use LED or infrared light illumination, but illuminators are costly and cause eye fatigue, which make them unsuitable for use by children or outdoors, they said.

The team's eye tracker takes advantage of better-coded software algorithms instead of an illuminator, enabling eye tracking with an ordinary high-speed camera without the aid of artificial light, they said.

The natural light eye tracker's program has application modules for eye-controlled magnification for displays, eye-controlled e-book readers and a user experience design module, they said.

As the device is less taxing than illuminator-equipped units, it is suitable for use by children and older people, they said.

The university's faculty often uses eye trackers for teaching and research, but they cost up to several million New Taiwan dollars per unit, Gao said.

With his background in optical device research and development, Gao four years ago started to work on eye trackers with the university's support.

The device can be used in study groups to test how well various sentences, images or icons attract reader attention, which is a useful tool for publishers, marketing advertisers and other researchers, he said.

Additional reporting by CNA

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