

'Eyes only' system lets computer users type just by sight

SAGA (Kyodo) A professor at Saga University has built a device that allows users to enter data on a personal computer just by looking at characters on the screen.

Kohei Arai, a professor of information science, said the device, which uses a small camera mounted on a PC, offers a range of potential medical and welfare applications.

The device could be used as a word processor by bedridden people, for example, or those with motor disabilities. It could also allow patients who cannot talk or type to communicate their needs, including calling for a nurse or asking for water.



Kohei Arai, a professor of information science at Saga University, demonstrates a system that allows users to enter data by looking at characters on a computer screen. KYODO PHOTO

Arai said the camera determines the center of the user's face by analyzing areas of light and shadow. These are used to identify six spots on the face -- the tips of the eyebrows over the bridge of the nose, the inside corners of the eyes and the center of the pupils. These data determine the orientation of the user's face and track where the eyes are looking.

Similar devices already in use require wearing electrode patches or goggles mounted with infrared cameras that analyze images reflected on the retina.

With Arai's device, no such equipment is needed.

"If users are located 30 cm from the keyboard, they can accurately enter data just by (using) their own eyes, provided that the keys (on the screen) have a 2.5-cm space in between each one," he said.

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