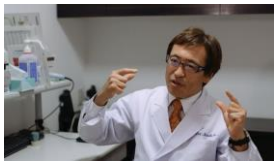
Reference Information

Anticipated Applications for JINS MEME

Physiological data captured from eye and head movements, which accounts for nearly 90% of cognitive information, conceals within it valuable information that is truly worthy of being called “deep data”, and expectations are high for various application fields from medical to marketing.

Advanced Medical and Health Care Science Field

Analyses of changes or abnormalities in eye and body movements raises expectations for possible use in diagnosis of dementia, psychiatric diseases, and other fields such as orthopedic surgery or adult onset diseases, etc., and in the “preemptive medicine” field for early detection and treatment. JINS MEME has been highly lauded for its potential in the health care science field, winning the Judge’s Special Award in the “Human Division” at “Innovative Technologies 2014” sponsored by the Ministry of Economy, Trade and Industry of Japan.



https://www.youtube.com/watch?v=zmzx9s_H-W8

＜Application expectations in the medical domain＞

・Ophthalmology/orthopedic surgery/psychiatry/rehabilitation/internal medicine（neurology, respiratory medicine, other), etc.

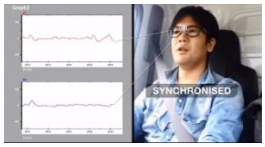
Management Tool for Office Fatigue and Concentration

In “JINS MEME”, based on a unique algorithm of detected eye movement patterns, “fatigue” and “concentration” during office work can be visualized. Through smart phone applications and other solutions, it raises expectations as a management tool in support of efficient working in offices.

http://www.youtube.com/watch?v=6jXjpteeLhw

Safe Driving Support Technology

When a driver becomes increasingly drowsy, it is believed that this appears in the driver’s eye movements. JINS MEME has developed a unique algorithm in joint research with Dr. Shinichiro Kano of Shibaura Institute of Technology. The aim is to build a function that detects driver drowsiness before symptoms appear, and sound an alert. In addition, Denso Corporation, a top supplier of automotive parts, and Graduate School Media Design Research Department of Keio University are engaged in joint industrial-academic research that makes use of JINS MEME to promote development of next-generation safe driving support technology.



https://www.youtube.com/watch?v=KeX6Wi4AIHQ&index=2&list=UUKs1fDW7UrrlGIWzQIoFsOw

Sports and Fitness

Analyzing head movements captured by the six-axis（accelerometer and angular velocity) sensor enables a real-time grasp of body tilt or deviation while running or walking. This enables training with awareness of body axis, body trunk, and other “movement quality” that have been difficult to achieve with conventional wrist band type or other wearables, and is highly anticipated for use in the fitness field.

https://www.youtube.com/watch?v=jWNABpgabgc

Life Log and Marketing Analyses

Line-of-sight movements, eye blinks, and other micro movements as well as “nods” and other head movements can be used as data revealing human interest trends with expectations of applications in the psychology or marketing fields. In addition, applications for monitoring a person’s own interest movements can be used as a record to open up new possibilities such as use of a life log tool to “learn things about yourself that you never knew before”.

https://www.youtube.com/watch?v=y-9QbtBZNWQ&list=UUKs1fDW7UrrlGIWzQIoFsOw

Game and Arts and Entertainment

Use of eye and head movements as input signals can also be harnessed as a control device. Expectations are mainly in the game or art and entertainment fields.