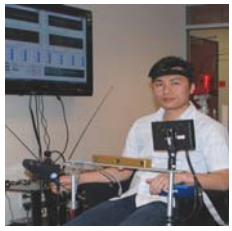

Wireless Thought Control Technology

Thought technology for dynamic control of equipment and machinery

The Technology

Key research from University of Technology, Sydney (UTS) addresses the issue of mobility and control through the use of a wireless thought technology, using mental activity tasks.

The invention is a method and system to identify and classify thought patterns, and to use these to control devices. A key feature of this invention is that the classification of thought pattern is processed with sufficient speed and accuracy to control the device without extended delays between the generation of the thought pattern by the user and the instruction being implemented by the device that is being controlled.

A second key feature is that the thought pattern obtained from the user can be processed by just one EEG channel.

Potential Applications

While the invention has many future applications, the technology has proven to provide an immediate solution for those with severe disability or locked-in syndrome. The real-time nature of the system makes it ideal as a means of directing a vehicle, such as a wheelchair.

Other applications include thought control for use in gaming and entertainment devices.

The technology could also be incorporated for greater safety in processing and manufacturing equipment as a possible hands-free override.

Competitive Advantages

For the severely disabled, the most popular hands-free control systems are chin-stick, sip-and-puff, ultrasonic head movement, and proximity switch head array systems. All of these control systems have major disadvantages, which can be overcome using a hands-free control system. For example, some potential chin-control users are unable to accept the presence of equipment immediately in front of their face, and therefore, by rejecting this option, forgo independent mobility.

The Brain Computer Interface (BCI) technologies in the market for gaming applications tend to use multiple channels in cumbersome head pieces to achieve what could be done by a single, unobtrusive sensor by the UTS-developed technology.

It may also be possible to use an independent signal from another EEG sensor to monitor the accuracy of the instruction from the first sensor. For example, the second signal may provide the mental or emotional state of the user (such as fatigue or stress). This information could be used to activate a particular safety aspect of an apparatus providing a unique advantage over existing technologies.

Market

In the immediate term, disabilities involving loss of mobility, such as spinal cord injuries, cost over $12 billion and affect more than 680,000 people worldwide (WinterGreen Research 2007). Wheelchair users worldwide exceed 200 million, with 100 million estimated as permanent users (Malassigne 2007).

The interactive entertainment market has experienced explosive growth over recent years. DFC market intelligence reports forecast revenue in this industry to reach $57 billion in 2009.

IP Position

A provisional patent application has been by UTS. Copyright on the source code of software is also owned by UTS.

Commercialisation Strategy

UniQuest seeks to further develop the technology for industry specific applications which would then be licensed to a relevant third party for manufacturing and distribution.

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