AlertCap™

Status

Patent:
US 8,285,372

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Title: Alertness/ Drowsiness and Cognitive Capacity Index

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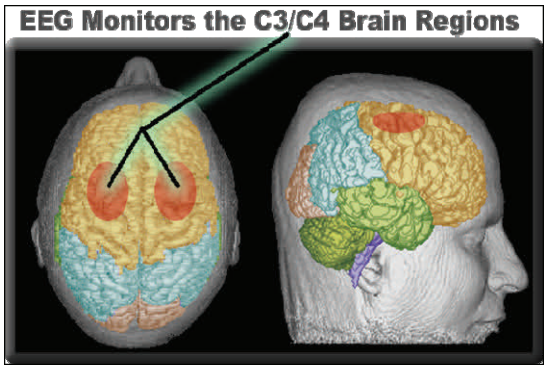
Available For Licensing

The Army seeks a partner interested in commercializing this technology

The Technology



The cited patent covers a method and system for determining the alertness state of an individual based on signals obtained from an electroencephalogram (EEG). This is accomplished by computing an Index based on the ratio of high to low frequency amplitudes.

Various products can be made that utilize this invention to provide a real-time, objective measure of cognitive fitness to perform a task. For example, this invention can be used in the form of an AlertCap™ product with dry EEG sensors built into a cap, hat, or helmet along with an alertness warning vibrator and/or a supervisor notification function. Such a product would offer the potential for dramatically reducing the number of accidents that occur from falling asleep while driving an automobile, operating industrial equipment, and the like.

Application

The technology can be used in numerous occupations that experience sleep deprivation and challenges in maintaining alertness throughout a shift. Examples include transportation, security, military, and industrial work. In addition, an AlertCap™ product could be targeted at the individual consumer market as a means for enhancing driver safety. Also, it could be used as a research tool in settings such as a sleep clinic for studying the impact of sleep on performance.

Benefits

- Provides an objective measure of alertness based on the user's EEG signals.
- Can identify decreases of alertness in real time.
- Efficient algorithm runs on devices with limited processor and memory capacities.
- Compatible with wireless electrodes and portable consumer electronic devices.
- Can be coupled with a stimulus, such as vibration, to be activated when a user's Index reading becomes too low, thus prompting increased alertness.
- Tool for supervisors to monitor alertness levels and cognitive fitness for a task, thus enhancing safety and effectiveness.

Contact

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