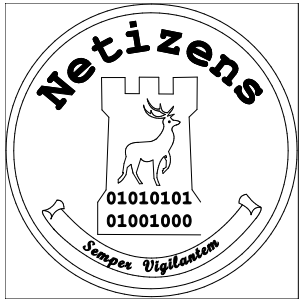
How EEG headsets adds a new way of interacting with software

By George.E (14/04/16)

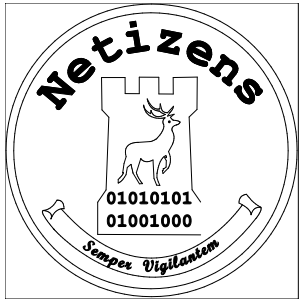


What is a EEG Headset and Its use

Electroencephalogram(EEG) is like a voltmeter that can pickup the electrical signals in the brain.

EEG are being used to:

- Detect and investigate epilepsy. [1]
- Improve attention and focus. [2]
- Achieve Personal Well-Being. [2]
- Neurogaming. [2]



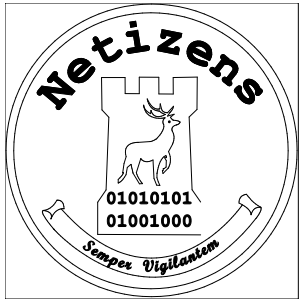
Neurosky - MindWave Mobile

Data that can be gathered by a EEG headset [3]

- RAW Wave Value
- Attention
- Meditation
- Blink
- Mental Effort of a task
- Familiarity of a task

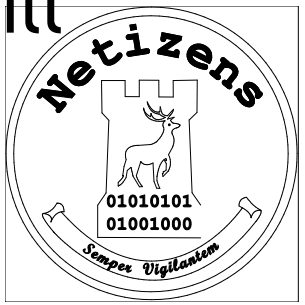
[4]

Visualizer Demo



EEG Interactions

- Based on the data that the Mindwave two possible types of interesting are threshold and relative.
- As Attention, Meditation, Blink, Mental Effort and Familiarity are all percentages.
- An example of threshold is an action will be taken only when the user is attention is above 60%.
- An example of relative is the speed of a motor is the same as the users meditation, so if the user was at 50% the motor will be at half speed.



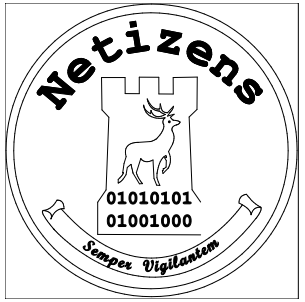
Neuro Control - Minecraft Forge Mod

ThinkGear Connector can provide headset data over a open socket. [5]

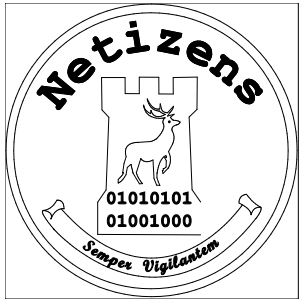
- As a socket is used languages like python, java and lua can be used.
- Data passed in JSON format.

Forge changes Minecraft with aloud me to connect the MindWave with Minecraft

Minecraft Demo



Questions?



References

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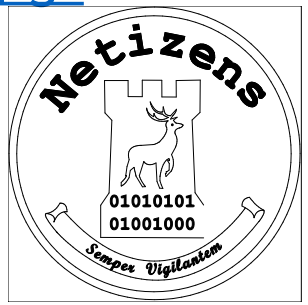

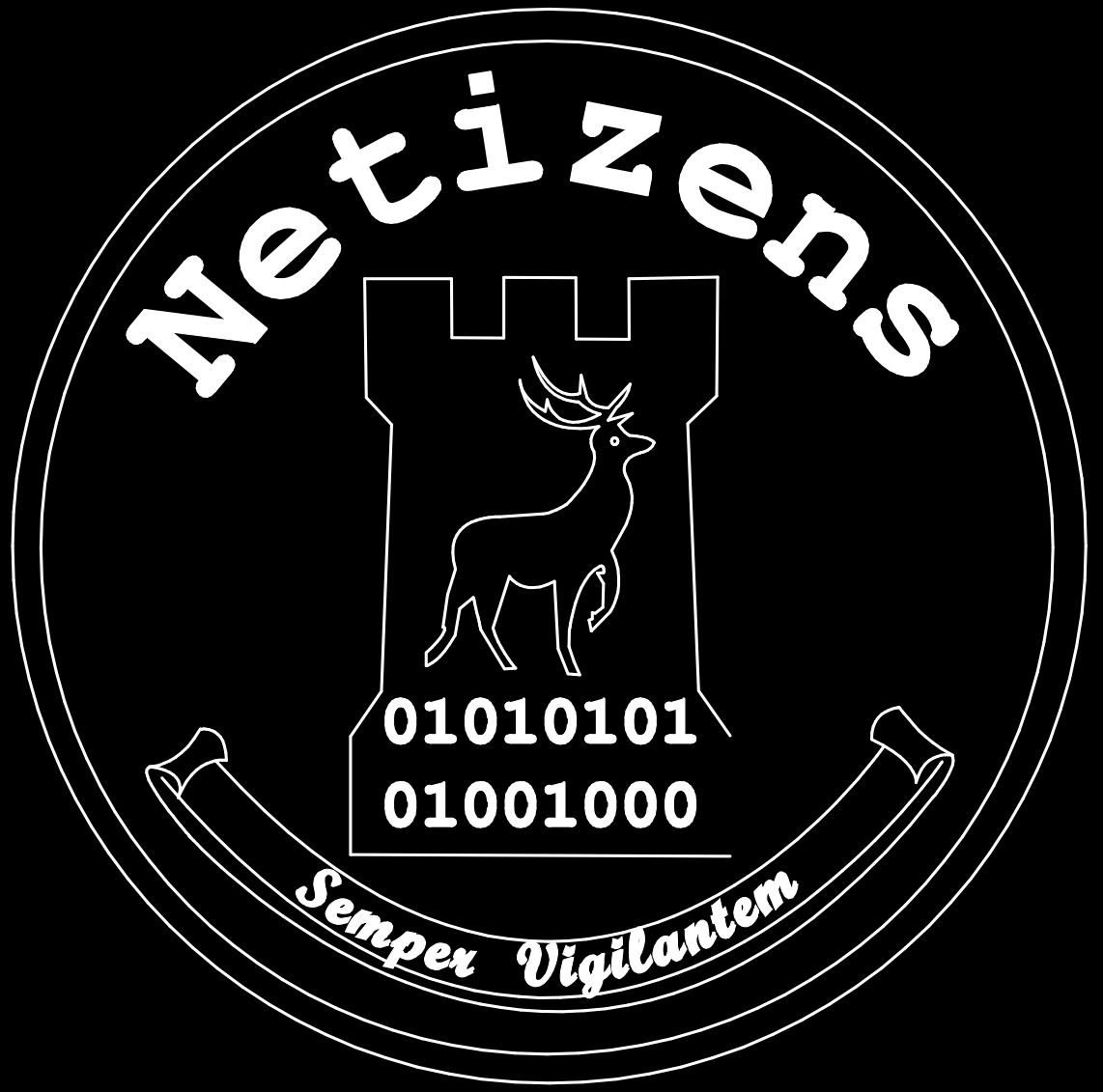
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