CaiShen JAVA API

public boolean connect(String ip)

Connect to CaiShen Helmet. Check protocol compatibility. Read stored configurations from CaiShen Helmet.

Parameters:
>ip - The ip of CaiShen Helmet, default ip is 10.10.10.1

Return
>status
>true - success
>false - fail

public boolean disconnect()

Disconnect from CaiShen Helmet.

Return
>status
>true - success
>false - fail

public boolean start()

Set CaiShen helmet to lighting mode. In this mode, CaiShen LED can be set using setElectrodeColor and updateCaiShenColor method.

Return
>status
>true - success
>false - fail

public boolean standby()

Set CaiShen helmet to standby mode. In this mode, CaiShen helmet can be configured which EEG electrodes are used. The configuration can be stored up to 5 configuration.

Return
>status
>true - success
>false - fail

public Mode getMode()

Get the using mode from CaiShen helmet.

Return
>Mode
>RUNNING - lighting mode
>STANDBY - standby mode

public boolean setHighPowerMode()

Set CaiShen hement lighting mode to high power mode. In this mode, LEDs produce higher intensity than power saving mode and effect directly to power consumption. This mode is recommended for strong daylight.

Return

status
true - success
false - fail

public boolean setPowerSavingMode()

Set CaiShen hement lighting mode to high power mode. In this mode, LEDs consume less current for power saving purpose. This mode is recommended for all condition.

Return

status
true - success
false - fail

public LightingMode getLightingMode()

Get the using lighting mode from CaiShen helmet.

Return

LightingMode
POWER_SAVING - power saving mode
HIGH_POWER - high power mode

public double getBatteryLevel()

Get CaiShen helmet battery level in mV

Return

battery level in mV

public void setCurrentConfigId(int configId)

Set the current configuration to API.

Parameters:

configId - configuration ID

public int getCurrentConfigId()

Get the current configuration from API

Return

configuration ID

public boolean enableElectrode(String electrode)

Set used electrode in current configuration. Default value of electrode is unused.

Parameters:
>> electrode - electrode channel *** case sensitive ***

public boolean disableElectrode(String electrode)

Set unused electrode in current configuration. Default value of electrode is unused.

Parameters:
>> electrode - electrode channel *** case sensitive ***

public ElectrodeRef[] getEnabledElectrodeList()

Get enabled electrode list in current configuration.

Return
>> array of enabled electrodes

public void printEnabledElectrodeList()

Print enabled electrode list in current configuration to system output.

public boolean writeAllConfig()

Send all configurations from API to CaiShen helmet. The helmet will be stored all configurations and the current configurations.

Return
>> status
>> true - success
>> false - fail

public boolean setElectrodeColor(String electrode,byte r,byte g, byte b)

Set the colors of each electrode. The electrode must be matched with enabled electrodes. Setting the color of unused electrodes do not effects in lighting.

Parameters:
>> electrode - electrode channel *** case sensitive ***
>> r - red color intensity in range 0 to 255
>> g - green color intensity in range 0 to 255
>> b - blue color intensity in range 0 to 255

Return
>> status
>> true - success
>> false - fail

public LedColor[] getEnabledElectrodeColorList()

Get the colors of all enabled electrodes.

Return

array of enabled electrodes colors

public void printEnabledElectrodeColor()

Print the colors of all enabled electrodes to system output.

public boolean updateCaiShenColor()

Send the color data to CaiShen helmet and update its LEDs.

Return

status
true - success
false - fail

JAVA API Diagram

Running Mode

<u>For all mode</u>
- getEnableElectrodeList()
- printEnabledElectrodeList()
- getEnabledElectrodeColorList()
- printEnabledElectrodeColorList()

Not Connect

Standby

Connected

connect ()

start ()

standby()

disconnect()

disconnect()

<u>Battery</u>
- getBatteryLevel()

<u>Running Mode</u>
- getMode()

<u>Electrode Config</u>
- setCurrentConfigId()
- getCurrentConfigId()
- enableElectrode()
- disableElectrode()
- writeAllConfig()

<u>Lighting Mode</u>
- setHighPowerMode()
- setPowerSavingMode()
- getLightingMode

<u>Battery</u>
- getBatteryLevel()

<u>Running Mode</u>
- getMode()

<u>Electrode Color</u>
- setElectrodeColor()
- updateCaiShenColor()