

Interactive table (CapTap) - API

How to communicate with CapTap server software

1. Open a TCP/IP socket to port 1234 and the CapTap network address
2. Two ways to communicate with the server: commands and data telegrams.

Commands are used, to controll the server's behaviour, commands are sent as Strings of the following pattern:

```
[CommandName,arg1,arg2,....]\n
```

The arguments may be optionally as described below.

Command Name Overview:

SETPORTS, START, STOP, RESET, EN_SEND_IMG, EN_SEND_GEST, SET_THRESHOLD, SET_ERODE, GET_PORTS, GET_MAX

Command Syntax:

Command: SETPORTS

Description: Causes the server to set the serial port names to the names given in the argument list

Syntax: [SETPORTS,leftPortName,middlePortName,rightPortName]\n

Example: [SETPORTS,/dev/ttyUSB0,/dev/ttyUSB1,/dev/ttyUSB2]\n

Command: START

Description: Causes the server to start listening to the serial ports, requieres SETPORTS first!

Syntax: [START]\n

Example: [START]\n

Command: STOP

Description: Causes the server to stop listening to the serial ports

Syntax: [STOP]\n

Example: [STOP]\n

Command: RESET

Description: Causes a reset of the current sensor values.

Syntax: [RESET]\n

Example: [RESET]\n

Command: EN_SEND_IMG

Description: Enables/disables sending the image visualizing the sensor values and processed images

Syntax: [EN_SEND_IMG,{true/false}]\n

Example: [EN_SEND_IMG,true]\n

Command: EN_SEND_GEST

Description: Enables/disables sending the found gestures

Syntax: [EN_SEND_GEST,{true/false}]\n

Example: [EN_SEND_GEST, false]\n

Command: SET_THRESHOLD

Description: Sets the threshold value, used to calculate the user's hand positions

Syntax: [SET_THRESHOLD,thresholdValue]\n

Example: [E SET_THRESHOLD,10]\n

Command: SET_ERODE

Description: Sets the erode value, used to calculate the user's hand positions

Syntax: [SET_ERODE,erodeValue]\n

Example: [SET_ERODE,5]\n

Command: GET_PORTS

Description: Causes the server to send a data telegram of the type PORTS (see below)

Syntax: [GET_PORTS]\n

Example: [GET_PORTS]\n

Command: GET_MAX

Description: Causes the server to send a data telegram of the type MAX (see below)

Syntax: [GET_MAX]\n

Example: [GET_MAX]\n

Data telegram types:

POS, IMG, GEST, PORTS, ERROR, MAX

Data telegram syntax:

Name: POS

Description: Contains the positions of the user's hands. If a hand is not detected, the values are -1. Valid hand positions are greater than zero, with a maximum at xmax (ymax)

Syntax: [POS,leftX,leftY,leftZ,rightX,rightY,rightZ]\n

Example: [POS,25,250,1,-1,-1,-1]\n

Name: IMG

Description: telegram containing the visualisation image. The size is the image size in bytes, the \n is followed by size bytes, containing the image data

Syntax: [IMG,size(bin)]\nbin

Example: [img,360000]\nbyte[360000]

Name: GEST

Description: Contains a reconized gesture

Syntax: [GEST,{SWIPE_LEFT, SWIPE_RIGHT, SWIPE_UP, SWIPE_DOWN}]\n

Example: [GEST,SWIPE_UP]\n

Name: PORTS

Description: Contains a list of available serial port names

Syntax: [PORTS,port1,port2,...]\n

Example: [PORTS,/dev/ttyUSB0,/dev/ttyUSB1,/dev/ttyUSB2]\n

Name: ERROR

Description: Something went wrong

Syntax: [ERROR,message]\n

Example: [ERROR,Couldn't open port]\n

Name: MAX

Description: Contains the maximum x and y value

Syntax: [MAX,xmax,ymax]\n

Example: [MAX,400,300]\n