Finch C# API Documentation

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Connecting and Miscellaneous

bool FinchAPI.Finch.connect ( )

Connects to the Finch; this method **must** be called before any other Finch methods can be called.

Returns: True if connection succeeded or already existed, false otherwise

Void FinchAPI.Finch.disConnect ( )

Disconnects the Finch and puts it back in idle mode. Methods that set outputs or get sensor data will fail after disconnect is called. We recommend you call this just before your program ends to send Finch back to idle mode.

void FinchAPI.Finch.wait (int *ms*)

Utility function to block program execution. Useful if you wish to, for example, have the Finch go forward for 1 second and then stop.

Parameters:

ms	Time to wait in milliseconds

Outputs

void FinchAPI.Finch.setMotors (int *left*, int *right*)

Sets the power to the Finch's wheels

Parameters:

left	Left motor power (-255 to 255)
right	Right motor power (-255 to 255)

void FinchAPI.Finch.setLED (int *r*, int *g*, int *b)*

Sets the color of the Finch's beak.

Parameters:

r	Red LED intensity, 0 to 255
g	Green LED intensity, 0 to 255
b	Blue LED intensity, 0 to 255

void FinchAPI.Finch.noteOn (int *frequency*)

Turns the finch buzzer on at a certain frequency

Parameters:

frequency	Frequency in Hertz

void FinchAPI.Finch.noteOff ( )

Turns off Finch Buzzer

Sensors

int [] FinchAPI.Finch.getLightSensors ( )

Get left and right light sensor readings

Returns: Two element array with the left and right light sensor values (0 to 255)

int FinchAPI.Finch.getLeftLightSensor ( )

Returns the value of the left light sensor

Returns: Left light sensor value, 0(dark) to 255(bright)

int FinchAPI.Finch.getRightLightSensor ( )

Returns the value of the right light sensor

Returns: Right light sensor value, 0(dark) to 255(bright)

bool [] FinchAPI.Finch.getObstacleSensors ( )

Gets a two element boolean array representing the left (element 0) and right (element 1) obstacle sensors. True if an obstacle is detected, false otherwise.

Returns: Array contain Finch obstacle data

bool FinchAPI.Finch.isObstacleLeftSide ( )

Checks if there's an obstacle on the left side

Returns: True if there's an obstacle, false otherwise

bool FinchAPI.Finch.isObstacleRightSide ( )

Checks if there's an obstacle on the right side

Returns: True if there's an obstacle, false otherwise

double FinchAPI.Finch.getTemperature ( )

Gets the temperature measured by the Finch's small temperature sensor.

Returns: Ambient temperature in Celcius

double [] FinchAPI.Finch.getAccelerations ( )

Returns the accelerations experienced by Finch's accelerometer. Values are -1.5g to 1.5g.

Returns: An array of 3 doubles holding X, Y, and Z acceleration, null if the read failed.

double FinchAPI.Finch.getXAcceleration ( )

Returns the X (beak to tail) acceleration

Returns: Acceleration in gees

double FinchAPI.Finch.getYAcceleration ( )

Returns the Y (wheel to wheel) acceleration

Returns: Acceleration in gees

double FinchAPI.Finch.getZAcceleration ( )

Returns the Z (top to bottom) acceleration

Returns: Acceleration in gees

bool FinchAPI.Finch.isBeakDown ( )

Finch orientation check

Returns: True if the beak is pointed down, false otherwise

bool FinchAPI.Finch.isBeakUp ( )

Finch orientation check

Returns: True if the beak is pointed up, false otherwise

bool FinchAPI.Finch.isFinchLevel ( )

Finch orientation check

Returns: True if the Finch is level, false otherwise

bool FinchAPI.Finch.isFinchUpsideDown ( )

Finch orientation check

Returns: True if the Finch is upside down, false otherwise

bool FinchAPI.Finch.isLeftWingDown ( )

Finch orientation check

Returns: True if the Finch's left wheel/wing is pointed down, false otherwise

bool FinchAPI.Finch.isRightWingDown ( )

Finch orientation check

Returns: True if the Finch's right wheel/wing is pointed down, false otherwise