chdkptp.py Documentation

Release 0.1

Johannes Baiter

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Contents

Python bindings for chdkptp via an embedded, thread-safe Lua runtime (thanks to Stefan Behnel's lupa).

CHAPTER 1

Requirements

- C compiler
- Lua 5.2, with headers
- libusb, with headers
- lupa, installed with the *–no-luajit* flag

CHAPTER **2**

API Reference

class `chdkptp.`**`ChdkDevice`**(*device_info*)

Create a new device instance and connect to the CHDK device.

Parameters **device_info** (`DeviceInfo`) – Information about device to connect to

`batch_download`(*remote_paths*, *local_path='./'*, *overwrite=False*)

Download multiple files/directories from the device.

Parameters

- **remote_paths** (*collection of str/unicode*) – Multiple paths on the device. The leading 'A/' is optional, it will be automatically prepended if not specified
- **local_path** (*str/unicode*) – Target path on the local file system
- **overwrite** (*bool*) – Overwrite existing files

`batch_upload`(*local_paths*, *remote_path='A/'*)

Upload multiple files/directories to the device.

Parameters

- **local_paths** (*collection of str/unicode*) – Multiple locals paths
- **remote_path** (*str/unicode*) – Target path on the device

`delete_files`(*remote_paths*)

Delete one or more files/directories from the device.

Parameters **remote_paths** – One or more paths on the device. The leading 'A/' is optional, it will be automatically prepended if not specified

`download_file`(*remote_path*, *local_path=None*)

Download a single file from the device.

If no local path is specified, the file's content is returned as a bytestring.

Parameters

- **remote_path** (*str/unicode*) – Path on the device. The leading 'A/' is optional, it will be automatically prepended if not specified
- **local_path** (*str/unicode*) – (Optional) local path to store file under.

Returns If *local_path* was not specified, the file content as a bytestring, otherwise None

Return type str/None

`get_frames`(*format='ppm'*, *scaled=None*)

Get a generator that yields frames from the device's viewport.

Parameters

- **format** (*One of 'ppm', 'jpg', 'png'*) – Target format for frames, if *None* the raw image data is returned
- **scaled** (*bool*) – The raw image has the wrong aspect ratio, with this flag this can be corrected on the device, which results in some quality degradation, but is very fast. Defaults to *True* when format is 'ppm', otherwise *False*.

Returns Generator that yields bytestrings with frame data in the specified format

`get_messages`()

Get all messages from device buffer

Returns Messages

Return type generator, yields `Message`

`kill_scripts`(*flush=True*)

Terminate any running script on the device.

Parameters **flush** (*bool*) – Discard script messages

`list_files`(*remote_path='A/DCIM'*, *detailed=False*)

Get directory listing for a path on the device.

Parameters

- **remote_path** (*str/unicode*) – Path on the device
- **detailed** (*bool*) – Return detailed information about each file/dir

Returns All files and directories in the path

`lua_execute`(*lua_code*, *wait=True*, *do_return=True*, *remote_libs=*[ ])

Execute Lua code on the device.

Parameters

- **lua_code** (*str/unicode*) – Lua code to execute
- **wait** (*bool*) – Block until code has finished executing

Do_return Return value of lua code, only if *wait=True*

Return type bool/int/unicode/dict/tuple

`mkdir`(*remote_path*)

Create a directory on the device. Intermediate directories will be created as needed.

Parameters **remote_path** (*str/unicode*) – Path on the device

`reboot`(*wait=3500*, *bootfile=None*)

Reboot the device.

Parameters

- **wait** (*int*) – Time in miliseconds to wait before attempting to reconnect
- **bootfile** (*str/unicode*) – Optional file to boot. Must be the path to an existing file on the device that is either an unencoded binary or (for DryOS) an encoded .FI2

`reconnect`(*wait=2000*)

Reset the connection to the device.

Parameters **wait** (*int*) – Time in miliseconds to wait before attempting to reconnect

send_message (*message*, *script_id=None*)

Send a message to the device

Parameters

- **message** (*str/unicode*) – Message to be sent
- **script_id** (*int/None*) – ID of script that the message should be sent to, defaults to the most recently started script

shoot (***kwargs*)

Shoot a picture

For all arguments where *None* is a legal type, it signifies that the current value from the camera should be used and not be overriden.

Parameters

- **shutter_speed** (*int/float/None*) – Shutter speed in APEX96 (default: None)
- **real_iso** (*int/float/None*) – Canon 'real' ISO (default: None)
- **market_iso** (*int/float/None*) – Canon 'market' ISO (default: None)
- **aperture** (*int/float/None*) – Aperture value in APEX96 (default: None)
- **isomode** (*int/None*) – Must conform to ISO value in Canon UI, shooting mode must have manual ISO (default: None)
- **nd_filter** (*boolean/None*) – Toggle Neutral Density filter (default: None)
- **distance** (*str/unicode/int*) – Subject distance. If specified as an integer, the value is interpreted as the distance in milimeters. You can also pass a string that contains a number followed by one of the following units: 'mm', 'cm', 'm', 'ft' or 'in' (default: None)
- **dng** (*boolean*) – Dump raw framebuffer in DNG format (default: False)
- **wait** (*boolean*) – Wait for capture to complete (default: True)
- **download_after** (*boolean*) – Download and return image data after capture (default: False)
- **remove_after** (*boolean*) – Remove image data after shooting (default: False)
- **stream** (*boolean*) – Stream and return image data directly from device (will not be saved on camera storage) (default: True)

upload_file (*local_path*, *remote_path='A/'*, *skip_checks=False*)

Upload a file to the device.

Parameters

- **local_paths** (*str/unicode*) – Path to a local file
- **remote_path** (*str/unicode*) – Target path on the device
- **skip_checks** – Skip sanity checks on the device, required if a script is running on the device while uploading.

chdkptp.**list_devices**()

Lists all recognized PTP devices on the USB bus.

Returns All connected PTP devices

Return type List of *DeviceInfo* named tuples

class `chdkptp.`**`DeviceInfo`**

DeviceInfo(model_name, bus_num, device_num, vendor_id, product_id, serial_num, chdk_api)

`bus_num`

Alias for field number 1

`chdk_api`

Alias for field number 6

`device_num`

Alias for field number 2

`model_name`

Alias for field number 0

`product_id`

Alias for field number 4

`serial_num`

Alias for field number 5

`vendor_id`

Alias for field number 3

class `chdkptp.device.`**`Message`**

Message(type, script_id, value)

`script_id`

Alias for field number 1

`type`

Alias for field number 0

`value`

Alias for field number 2

class `chdkptp.lua.`**`LuaContext`**

Proxy object around `lupa.LuaRuntime` that wraps all Lua code inside of *pcall* and raises proper Exceptions.

CHAPTER 3

Indices and tables

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