Commander Architect Python Raspberry Pi

Raspberry Pi Python Mates Controller Library

Introduction

This library is developed to easily control Breadboard Mates modules from a Raspberry Pi Computer. This is based on the Python Mates Controller library. Therefore, all methods are directly derived from it.

Supported Devices

This library is developed for Python3 and designed to be used with any Raspberry Pi with the BBM display module connected to the GPIO pins. It is possible to connect BBM display modules to Raspberry Pi via USB connection using a BBM Programmer or similar. However, for this case, it is recommended to use the BBM Python Mates Controller Library instead.

Installation

This library can be installed from the Python Packaging Index (PyPI) by running the command:

```
pip3 install rpi-mates-controller
```

Constructors

This section serves to provide brief discussion about the constructors that can be used to initialize the library.

MatesController(portName, resetFunction, debugStream, debugFileLength)

Constructs all the necessary attributes associated with an instance of a Mates Controller Object.

Parameters	Type	Description
portName	str	the name of the port to be opened. Example: `/dev/ttyUSB0` for Linux
resetPinIndex (optional)	int, str	index of pin connected to reset pin of Mates device
resetActiveHigh (optional)	bool	whether the reset pin is driven from logic low or logic high to reset the device
debugStream (optional)	io.TextIOWrapper	Text file object to write debugging code to, supply of none will result in no debugging. Ex. `sys.stdout`, `open('log.txt', 'r+')`
debugFileLength (optional)	int	Determines the extent of debug history kept with respect to lines in a file, given a circular log. O indicates full history kept with no circular logging. Users must be careful here to manage storage space effectively

Note

If a debug file is specified, it should be opened using either 'w+' or 'r+' before running the begin() function of this library.

Example

Simple | Specify Reset Pin and Mode | Specify Debug Output

```
# Creates a new
instance named 'mates'
which utilizes:
#  - /dev/ttyS0 as the
serial port
#  - with default reset
pin (4) and no output
stream
MatesController mates =
MatesController("/dev/
ttyS0")

# Creates a new
instance named 'mates'
which utilizes:
#  - /dev/ttyS0 as the
serial port
#  - pin 4 as the reset
pin
#  - LOW pulse as
active pulse
MatesController mates =
MatesController("/dev/
ttyS0", resetPinIndex=4,
resetActiveHigh=False)

# Creates a new
instance named 'mates'
which utilizes:
#  - /dev/ttyS0 as the
serial port
#  - output_file as
debug file stream
#  - debugFileLength of
zero indicating no
circular logging
MatesController mates =
MatesController("/dev/
ttyS0",
debugStream=output_file,
debugFileLength=0)
```

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