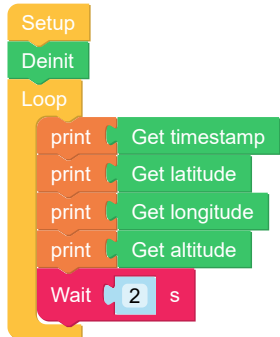


Atomic GPS Base

| Example

Retrieves and prints time, latitude, longitude, and altitude data to the serial port.



```
from m5stack import *
from m5ui import *
from uiflow import *
from base.GPS import GPS
import time

gps.deinit()
while True:
    print(gps.timestamp)
    print(gps.latitude)
    print(gps.longitude)
    print(gps.altitude)
    wait(2)
    wait_ms(2)
```

| API

Deinit

```
gps.deinit()
```

- Deinitializes the GPS module, releasing resources.

Init timezone 0 formatting " " "

```
gps = GPS(0, '')
```

- Initializes the GPS module and sets the timezone.
 - `timezone` specifies the time offset.
 - `formatting` specifies the time format.

SD card io config MISO 33 MOSI 19 SCK 23 frequency 20000000

```
gps._tf.init_sdcard(33, 19, 23, 20000000)
```

- Configures the SD card communication pins and SPI frequency, specifying MISO (Pin 33), MOSI (Pin 19), SCK (Pin 23), and frequency (20000000Hz).

Get altitude

```
gps.altitude
```

- Retrieves altitude data from the GPS module.

Get course

```
gps.course
```

- Retrieves the current course (direction of travel) from the GPS module.

Get date

```
gps.date
```

- Retrieves the current date from the GPS module.

Get geoid height

```
gps.geoid_height
```

- Retrieves the geoid height at the current position.

Get hdop

```
gps.hdop
```

- Retrieves the horizontal dilution of precision (HDOP), representing GPS positioning accuracy.

Get last sv sentence

```
gps.last_sv_sentence
```

- Retrieves the last received satellite visibility (SV) sentence, typically used for debugging GPS signal.

Get latitude

`gps.latitude`

- Retrieves the current latitude value.

Get longitude

`gps.longitude`

- Retrieves the current longitude value.

open file path " " mode a

```
with open('/sd/', 'a')  
    pass
```

- Opens a file on the SD card in the specified mode. `path` specifies the file path, `mode` specifies the mode (e.g., read, write, append).

Get pdop

`passprint(gps.pdop)`

- Retrieves the position dilution of precision (PDOP), indicating positioning accuracy.

Get satellites in use

`gps.satellites_in_use`

- Retrieves the number of satellites currently in use for positioning.

Get satellites in view

`gps.satellites_in_view`

- Retrieves the number of satellites currently in view, representing all detected satellites.

Get satellites used

`gps.satellites_used`

- Retrieves the number of satellites actually used for positioning.

Get satellite data

gps.satellite_data

- Retrieves current satellite data from the GPS module.

file get seek

fs.tell()

- Retrieves the current position of the read pointer in a file.

file read 0 bytes

fs.read(0)

- Reads a specified number of bytes from a file.

file read all

fs.read()

- Reads all content from a file.

file read line

fs.readline()

- Reads one line of data from a file.

file set seek 0

fs.seek(0)

- Sets the file read pointer position.

file write text " " "

fs.write('')

- Writes specified text to a file.

is folder exist ? path

```
gps._tf.is_folder_exist('')
```

- Checks if a folder exists at the specified path.

is file exist ? path

```
gps._tf.is_file_exist('')
```

- Checks if a file exists at the specified path.


```
gps._tf.show_directory('')
```

- Displays the list of files and folders at the specified path.

create folder path

```
gps._tf.create_folder('')
```

- Creates a new folder at the specified path.

delete file path

```
gps._tf.delete_file('')
```

- Deletes a file at the specified path.

rename file old path new path

```
gps._tf.rename_file('', '')
```

- Renames a file from the old path to a new path.

delete folder path

```
gps._tf.delete_folder('')
```

- Deletes a folder at the specified path.

Get speed

gps.speed

- Retrieves current speed data from the GPS module.

Get timestamp

gps.timestamp

- Retrieves the current timestamp, typically acquired from satellite signals.

Get total sv sentences

gps.total_sv_sentence

- Retrieves the total count of satellite visibility (SV) sentences.

Get vdop

gps.vdop

- Retrieves the vertical dilution of precision (VDOP), indicating vertical positioning accuracy.