# Modules

Here is a list of all modules:

<table>
<thead>
<tr>
<th>Modules</th>
</tr>
</thead>
<tbody>
<tr>
<td>▼ MIDDLEWARES</td>
</tr>
<tr>
<td>▼ MOTION_PW</td>
</tr>
<tr>
<td>MOTION_PW_Exported_Types</td>
</tr>
<tr>
<td>MOTION_PW_Exported_Functions</td>
</tr>
</tbody>
</table>

Generated on Fri Nov 24 2017 16:53:21 for MotionPW Software Library by [doxygen](http://www.doxygen.org) 1.8.9.1
<table>
<thead>
<tr>
<th>Main Page</th>
<th>Modules</th>
<th>Data Structures</th>
<th>Files</th>
<th>Modules</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Modules</td>
</tr>
</tbody>
</table>

**MIDDLEWARES**
<table>
<thead>
<tr>
<th>Modules</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MOTION_PW</strong></td>
<td></td>
</tr>
<tr>
<td>Main Page</td>
<td>Modules</td>
</tr>
<tr>
<td>-----------</td>
<td>---------</td>
</tr>
<tr>
<td><strong>MOTION_PW</strong></td>
<td>Modules</td>
</tr>
<tr>
<td>MIDDLEWARES</td>
<td></td>
</tr>
<tr>
<td>Modules</td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
<td></td>
</tr>
<tr>
<td>MOTION_PW_Exported_Types</td>
<td></td>
</tr>
<tr>
<td>MOTION_PW_Exported_Functions</td>
<td></td>
</tr>
</tbody>
</table>
MotionPW Software Library

MotionPW Software Library Documentation

<table>
<thead>
<tr>
<th>Main Page</th>
<th>Modules</th>
<th>Data Structures</th>
<th>Files</th>
</tr>
</thead>
</table>

**MOTION_PW_Exported_Types**

MIDDLEWARES » MOTION_PW
## Data Structures

<table>
<thead>
<tr>
<th>struct</th>
<th>MPW_input_t</th>
</tr>
</thead>
<tbody>
<tr>
<td>struct</td>
<td>MPW_output_t</td>
</tr>
</tbody>
</table>
Enumerations

```c
enum MPW_activity_t {
    MPW_UNKNOWN_ACTIVITY = 0x00,
    MPW_WALKING = 0x01,
    MPW_FASTWALKING = 0x02,
    MPW_JOGGING = 0x03
};
```
Detailed Description

Enumeration Type Documentation

enum MPW_activity_t

<table>
<thead>
<tr>
<th>Enumerator</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPW_UNKNOWN_ACTIVITY</td>
</tr>
<tr>
<td>MPW_WALKING</td>
</tr>
<tr>
<td>MPW_FASTWALKING</td>
</tr>
<tr>
<td>MPW_JOGGING</td>
</tr>
</tbody>
</table>

Definition at line 62 of file motion_pw.h.

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MPW_input_t Struct Reference

MIDDLEWARES » MOTION_PW » MOTION_PW_Exported_Types

#include <motion_pw.h>
# Data Fields

<table>
<thead>
<tr>
<th>Type</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>float</td>
<td>AccX</td>
</tr>
<tr>
<td>float</td>
<td>AccY</td>
</tr>
<tr>
<td>float</td>
<td>AccZ</td>
</tr>
<tr>
<td>MPW_activity_t</td>
<td>CurrentActivity</td>
</tr>
</tbody>
</table>
Detailed Description

Definition at line 70 of file `motion_pw.h`. 
Field Documentation

float AccX

Definition at line 72 of file motion_pw.h.

float AccY

Definition at line 73 of file motion_pw.h.

float AccZ

Definition at line 74 of file motion_pw.h.

MPW_activity_t CurrentActivity

Definition at line 75 of file motion_pw.h.

The documentation for this struct was generated from the following file:

- Middlewares/ST/STM32_MotionPW_Library/Inc/motion_pw.h
#include <motion_pw.h>
### Data Fields

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>uint8_t</td>
<td>Cadence</td>
</tr>
<tr>
<td>uint32_t</td>
<td>Nsteps</td>
</tr>
<tr>
<td>uint8_t</td>
<td>Confidence</td>
</tr>
</tbody>
</table>
Detailed Description

Definition at line 78 of file motion_pw.h.
Field Documentation

**uint8_t Cadence**

Definition at line 80 of file `motion_pw.h`.

**uint8_t Confidence**

Definition at line 82 of file `motion_pw.h`.

**uint32_t Nsteps**

Definition at line 81 of file `motion_pw.h`.

The documentation for this struct was generated from the following file:

- Middlewares/ST/STM32_MotionPW_Library/Inc/motion_pw.h
## MotionPW Software Library

MotionPW Software Library Documentation

<table>
<thead>
<tr>
<th>Main Page</th>
<th>Modules</th>
<th>Data Structures</th>
<th>Files</th>
<th>Functions</th>
</tr>
</thead>
</table>

### MOTION_PW_Exported_Functions

**MIDDLEWARES » MOTION_PW**
## Functions

<table>
<thead>
<tr>
<th>Type</th>
<th>Function</th>
<th>Description</th>
<th>More...</th>
</tr>
</thead>
<tbody>
<tr>
<td>void</td>
<td><code>MotionPW_Initilize (void)</code></td>
<td>Initialize the MotionPW engine.</td>
<td></td>
</tr>
<tr>
<td>void</td>
<td><code>MotionPW_Update (MPW_input_t *data_in, MPW_output_t *data_out)</code></td>
<td>Run pedometer algorithm.</td>
<td></td>
</tr>
<tr>
<td>uint8_t</td>
<td><code>MotionPW_GetLibVersion (char *version)</code></td>
<td>Get the library version.</td>
<td></td>
</tr>
<tr>
<td>void</td>
<td><code>MotionPW_ResetPedometerLibrary (void)</code></td>
<td>Reset library.</td>
<td></td>
</tr>
<tr>
<td>void</td>
<td><code>MotionPW_ResetStepCount (void)</code></td>
<td>Reset step count.</td>
<td></td>
</tr>
</tbody>
</table>
Detailed Description

Function Documentation

`uint8_t MotionPW_GetLibVersion ( char * version )`

Get the library version.

**Parameters**

*version* pointer to an array of 35 char

**Return values**

*Number* of characters in the version string

`void MotionPW_Initialize ( void )`

Initialize the MotionPW engine.

**Parameters**

*None*

**Return values**

*None*

`void MotionPW_ResetPedometerLibrary ( void )`

Reset library.

**Parameters**

*None*
Return values
None

void MotionPW_ResetStepCount ( void )

Reset step count.

Parameters
None

Return values
None

void MotionPW_Update ( MPW_input_t * data_in,
                        MPW_output_t * data_out )

Run pedometer algorithm.

Parameters
data_in  pointer to acceleration in [g]
data_out pointer to MPW_output_t structure

Return values
None
Data Structures

Here are the data structures with brief descriptions:

- **MPW_input_t**
- **MPW_output_t**
### Data Structure Index

<table>
<thead>
<tr>
<th>Data Structures</th>
<th>Data Structure Index</th>
<th>Data Fields</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPW_input_t</td>
<td>MPW_output_t</td>
<td></td>
</tr>
</tbody>
</table>

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Here is a list of all struct and union fields with links to the structures/unions they belong to:

- AccX : MPW_input_t
- AccY : MPW_input_t
- AccZ : MPW_input_t
- Cadence : MPW_output_t
- Confidence : MPW_output_t
- CurrentActivity : MPW_input_t
- Nsteps : MPW_output_t
• AccX : `MPW_input_t`
• AccY : `MPW_input_t`
• AccZ : `MPW_input_t`
• Cadence : `MPW_output_t`
• Confidence : `MPW_output_t`
• CurrentActivity : `MPW_input_t`
• Nsteps : `MPW_output_t`
File List

Here is a list of all files with brief descriptions:

<table>
<thead>
<tr>
<th>Detail level 1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

- **Middlewares**
  - **ST**
    - **STM32_MotionPW_Library**
      - **Inc**
        - **motion_pw.h**
          - Header for motion_pw module

Generated on Fri Nov 24 2017 16:53:21 for MotionPW Software Library by **doxygen** 1.8.9.1
<table>
<thead>
<tr>
<th>Main Page</th>
<th>Modules</th>
<th>Data Structures</th>
<th>Files</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middlewares</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Middlewares Directory Reference**
Directories

directory  ST

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<table>
<thead>
<tr>
<th>Main Page</th>
<th>Modules</th>
<th>Data Structures</th>
<th>Files</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middlewares</td>
<td>ST</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ST Directory Reference**
# MotionPW Software Library

MotionPW Software Library Documentation

<table>
<thead>
<tr>
<th>Main Page</th>
<th>Modules</th>
<th>Data Structures</th>
<th>Files</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middlewares</td>
<td>ST</td>
<td>STM32_MotionPW_Library</td>
<td></td>
</tr>
</tbody>
</table>

## STM32_MotionPW_Library Directory Reference
| directory | Inc |

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# Inc Directory Reference

<table>
<thead>
<tr>
<th>Main Page</th>
<th>Modules</th>
<th>Data Structures</th>
<th>Files</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middlewares</td>
<td>ST</td>
<td>STM32_MotionPW_Library</td>
<td>Inc</td>
</tr>
</tbody>
</table>
### Files

<table>
<thead>
<tr>
<th>file</th>
<th>motion_pw.h [code]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Header for motion_pw module.</td>
</tr>
</tbody>
</table>

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motion_pw.h File Reference

Header for motion_pw module. More...

#include <stdint.h>

Go to the source code of this file.
<table>
<thead>
<tr>
<th>Data Structures</th>
</tr>
</thead>
<tbody>
<tr>
<td>struct MPW_input_t</td>
</tr>
<tr>
<td>struct MPW_output_t</td>
</tr>
</tbody>
</table>
### Enumerations

<table>
<thead>
<tr>
<th>Enum</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPW_activity_t</td>
<td>MPW_UNKNOWN_ACTIVITY = 0x00,</td>
<td>MPW_WALKING = 0x01, MPW_FASTWALKING = 0x02,</td>
</tr>
<tr>
<td></td>
<td>MPW_JOGGING = 0x03 }</td>
<td></td>
</tr>
</tbody>
</table>
## Functions

<table>
<thead>
<tr>
<th>Type</th>
<th>Function</th>
<th>Description</th>
<th>More</th>
</tr>
</thead>
<tbody>
<tr>
<td>void</td>
<td><code>MotionPW_Initialize (void)</code></td>
<td>Initialize the MotionPW engine.</td>
<td>More</td>
</tr>
<tr>
<td>void</td>
<td><code>MotionPW_Update (MPW_input_t *data_in, MPW_output_t *data_out)</code></td>
<td>Run pedometer algorithm.</td>
<td>More</td>
</tr>
<tr>
<td>uint8_t</td>
<td><code>MotionPW_GetLibVersion (char *version)</code></td>
<td>Get the library version.</td>
<td>More</td>
</tr>
<tr>
<td>void</td>
<td><code>MotionPW_ResetPedometerLibrary (void)</code></td>
<td>Reset library.</td>
<td>More</td>
</tr>
<tr>
<td>void</td>
<td><code>MotionPW_ResetStepCount (void)</code></td>
<td>Reset step count.</td>
<td>More</td>
</tr>
</tbody>
</table>
Detailed Description

Header for motion_pw module.

Author
MEMS Application Team

Version
V1.0.0

Date
01-September-2017

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Definition in file motion_pw.h.
Here is a list of all functions, variables, defines, enums, and typedefs with links to the files they belong to:

- `MotionPW_GetLibVersion()`: `motion_pw.h`
- `MotionPW_Initialize()`: `motion_pw.h`
- `MotionPW_ResetPedometerLibrary()`: `motion_pw.h`
- `MotionPW_ResetStepCount()`: `motion_pw.h`
- `MotionPW_Update()`: `motion_pw.h`
- `MPW_activity_t`: `motion_pw.h`
- `MPW_FASTWALKING`: `motion_pw.h`
- `MPW_JOGGING`: `motion_pw.h`
- `MPW_UNKNOWN_ACTIVITY`: `motion_pw.h`
- `MPW_WALKING`: `motion_pw.h`
MotionPW Software Library
MotionPW Software Library Documentation

- MotionPW_GetLibVersion() : `motion_pw.h`
- MotionPW_Initialize() : `motion_pw.h`
- MotionPW_ResetPedometerLibrary() : `motion_pw.h`
- MotionPW_ResetStepCount() : `motion_pw.h`
- MotionPW_Update() : `motion_pw.h`
### MotionPW Software Library Documentation

- **MPW_activity_t**: `motion_pw.h`

Generated on Fri Nov 24 2017 16:53:21 for MotionPW Software Library by [doxygen](https://www.stackexchange.com/users/5154178/doxygen) 1.8.9.1
- MPW_FASTWALKING : `motion_pw.h`
- MPW_JOGGING : `motion_pw.h`
- MPW_UNKNOWN_ACTIVITY : `motion_pw.h`
- MPW_WALKING : `motion_pw.h`
Go to the documentation of this file.

```c
/* Define to prevent recursive inclusion ---
------------------------------------------*/

#ifndef _MOTION_PW_H_
#define _MOTION_PW_H_

#ifdef __cplusplus
extern "C" {
#endif

/* Includes ----------------------------------*/
#include <stdint.h>

/* Exported types --------------------------*/
typedef enum {
    MPW_UNKNOWN_ACTIVITY = 0x00,
    MPW_WALKING = 0x01,
    MPW_FASTWALKING = 0x02,
    MPW_JOGGING = 0x03
} MPW_activity_t;
```

```
typedef struct {
    float AccX;    /* Acceleration in X axis in [g] */
    float AccY;    /* Acceleration in Y axis in [g] */
    float AccZ;    /* Acceleration in Z axis in [g] */
    MPW_activity_t CurrentActivity;   /* Current user activity */
} MPW_input_t;

typedef struct {
    uint8_t Cadence;   /* [steps/min] */
    uint32_t Nsteps;
    uint8_t Confidence;
} MPW_output_t;

/* Exported constants -------------------------------*/

/* Exported variables -------------------------------*/

/* Exported macro -----------------------------------*/

/* Exported functions -------------------------------*/

void MotionPW_Initialize(void);

void MotionPW_Update(MPW_input_t *data_in, MPW_output_t *data_out);

uint8_t MotionPW_GetLibVersion(char *version);
void MotionPW_ResetPedometerLibrary(void);

void MotionPW_ResetStepCount(void);

#ifdef __cplusplus
}
#endif
#endif /* _MOTION_PW_H_ */

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