

MotionAR Software Library

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Modules

Here is a list of all modules:

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▼ MIDDLEWARES

▼ MOTION_AR

[MOTION_AR_Exported_Types](#)

[MOTION_AR_Exported_Functions](#)

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MIDDLEWARES

Modules

MOTION_AR

Detailed Description

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Modules

MOTION_AR


MIDDLEWARES

Modules

MOTION_AR_Exported_Types

MOTION_AR_Exported_Functions

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MOTION_AR_Exported_Types

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Data Structures

```
struct MAR_input_t
```

Enumerations

```
enum MAR_output_t {  
    MAR_NOACTIVITY = 0x00, MAR_STATIONARY = 0x01,  
    MAR_WALKING = 0x02, MAR_FASTWALKING = 0x03,  
    MAR_JOGGING = 0x04, MAR_BIKING = 0x05,  
    MAR_DRIVING = 0x06  
}
```

Detailed Description

Enumeration Type Documentation

enum `MAR_output_t`

Enumerator	
<code>MAR_NOACTIVITY</code>	
<code>MAR_STATIONARY</code>	
<code>MAR_WALKING</code>	
<code>MAR_FASTWALKING</code>	
<code>MAR_JOGGING</code>	
<code>MAR_BIKING</code>	
<code>MAR_DRIVING</code>	

Definition at line **70** of file `motion_ar.h`.

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[Data Fields](#)

MAR_input_t Struct Reference

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[MOTION_AR_Exported_Types](#)

```
#include <motion_ar.h>
```

Data Fields

float **AccX**

float **AccY**

float **AccZ**

Detailed Description

Definition at line **63** of file **motion_ar.h**.

Field Documentation

float AccX

Definition at line **65** of file [motion_ar.h](#).

float AccY

Definition at line **66** of file [motion_ar.h](#).

float AccZ

Definition at line **67** of file [motion_ar.h](#).

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

- [algorithms/Middlewares/ST/STM32_MotionAR_Library/Inc/motion_](#)

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MOTION_AR_Exported_Functions

[MIDDLEWARES](#) » [MOTION_AR](#)

Functions

void **MotionAR_Initialize** (void)
Initialize the MotionAR engine. [More...](#)

void **MotionAR_SetOrientation_Acc** (const char
*acc_orientation)
Set the MotionAR accelerometer data orientation. [More...](#)

void **MotionAR_Update** (**MAR_input_t** *data_in, **MAR_output_t**
*data_out)
Run activity recognition algorithm. [More...](#)

void **MotionAR_Reset** (void)
Reset activity recognition algorithm. [More...](#)

uint8_t **MotionAR_GetLibVersion** (char *version)
Get the library version. [More...](#)

Detailed Description

Function Documentation

uint8_t MotionAR_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 MotionAR_Initialize (void)

Initialize the MotionAR engine.

Parameters

none

Return values

none

void MotionAR_Reset (void)

Reset activity recognition algorithm.

Parameters

none

Return values

none

void

MotionAR_SetOrientation_Acc (const char * **acc_orientation)**

Set the MotionAR accelerometer data orientation.

Parameters

***acc_orientation** reference system of the accelerometer raw data (for instance: south west up became "swu", north east up became "ned")

Return values

none

void MotionAR_Update (MAR_input_t * **data_in,
MAR_output_t * **data_out**
)**

Run activity recognition algorithm.

Parameters

data_in pointer to accaleration in [g]

data_out pointer to activity index

Return values

none

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Data Structures

Here are the data structures with brief descriptions:

[MAR_input_t](#)

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M

M

[MAR_input_t](#)

M

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All	Variables			

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

- AccX : [MAR_input_t](#)
- AccY : [MAR_input_t](#)
- AccZ : [MAR_input_t](#)

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All	Variables			

- AccX : [MAR_input_t](#)
- AccY : [MAR_input_t](#)
- AccZ : [MAR_input_t](#)

MotionAR Software Library







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File List

Here is a list of all files with brief descriptions:

[detail level 1 2 3 4 5 6]

▼  algorithms	
▼  Middlewareas	
▼  ST	
▼  STM32_MotionAR_Library	
▼  Inc	
 motion_ar.h	Header for motion_ar module

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algorithms Directory Reference

Directories

directory **Middleware**s

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[Middlewares](#)

Middlewares Directory Reference

Directories

directory **ST**

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[ST](#)

ST Directory Reference

Directories

directory **STM32_MotionAR_Library**

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STM32_MotionAR_Library Directory Reference

Directories

directory **Inc**

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MotionAR Software Library

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Inc Directory Reference

Files

file [motion_ar.h](#) [code]
Header for motion_ar module.

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[Data Structures](#) | [Enumerations](#) | [Functions](#)

motion_ar.h File Reference

Header for motion_ar module. [More...](#)

```
#include <stdint.h>
```

[Go to the source code of this file.](#)

Data Structures

```
struct MAR_input_t
```

Enumerations

```
enum MAR_output_t {  
    MAR_NOACTIVITY = 0x00, MAR_STATIONARY = 0x01,  
    MAR_WALKING = 0x02, MAR_FASTWALKING = 0x03,  
    MAR_JOGGING = 0x04, MAR_BIKING = 0x05,  
    MAR_DRIVING = 0x06  
}
```

Functions

void **MotionAR_Initialize** (void)
Initialize the MotionAR engine. [More...](#)

void **MotionAR_SetOrientation_Acc** (const char
*acc_orientation)
Set the MotionAR accelerometer data orientation. [More...](#)

void **MotionAR_Update** (**MAR_input_t** *data_in, **MAR_output_t**
*data_out)
Run activity recognition algorithm. [More...](#)

void **MotionAR_Reset** (void)
Reset activity recognition algorithm. [More...](#)

uint8_t **MotionAR_GetLibVersion** (char *version)
Get the library version. [More...](#)

Detailed Description

Header for motion_ar module.

Author

MEMS Application Team

Version

V2.0.0

Date

01-May-2017

Attention

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Definition in file [motion_ar.h](#).

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Here is a list of all functions, variables, defines, enums, and typedefs with links to the files they belong to:

- `MAR_BIKING` : [motion_ar.h](#)
- `MAR_DRIVING` : [motion_ar.h](#)
- `MAR_FASTWALKING` : [motion_ar.h](#)
- `MAR_JOGGING` : [motion_ar.h](#)
- `MAR_NOACTIVITY` : [motion_ar.h](#)
- `MAR_output_t` : [motion_ar.h](#)
- `MAR_STATIONARY` : [motion_ar.h](#)
- `MAR_WALKING` : [motion_ar.h](#)
- `MotionAR_GetLibVersion()` : [motion_ar.h](#)
- `MotionAR_Initialize()` : [motion_ar.h](#)
- `MotionAR_Reset()` : [motion_ar.h](#)
- `MotionAR_SetOrientation_Acc()` : [motion_ar.h](#)
- `MotionAR_Update()` : [motion_ar.h](#)

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- [MotionAR_GetLibVersion\(\)](#) : [motion_ar.h](#)
- [MotionAR_Initialize\(\)](#) : [motion_ar.h](#)
- [MotionAR_Reset\(\)](#) : [motion_ar.h](#)
- [MotionAR_SetOrientation_Acc\(\)](#) : [motion_ar.h](#)
- [MotionAR_Update\(\)](#) : [motion_ar.h](#)

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- `MAR_output_t` : [motion_ar.h](#)

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- MAR_DRIVING : [motion_ar.h](#)
- MAR_FASTWALKING : [motion_ar.h](#)
- MAR_JOGGING : [motion_ar.h](#)
- MAR_NOACTIVITY : [motion_ar.h](#)
- MAR_STATIONARY : [motion_ar.h](#)
- MAR_WALKING : [motion_ar.h](#)

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		Inc	

motion_ar.h

[Go to the documentation of this file.](#)

```
1
38 /* Define to prevent recursive inclusion ---
   ----- */
39 #ifndef _MOTION_AR_H_
40 #define _MOTION_AR_H_
41
42 #ifdef __cplusplus
43 extern "C" {
44 #endif
45
46 /* Includes -----
   ----- */
47 #include <stdint.h>
48
61 /* Exported types -----
   ----- */
62
63 typedef struct
64 {
65     float AccX;           /* Acceleration in X
   axis in [g] */
66     float AccY;           /* Acceleration in Y
   axis in [g] */
67     float AccZ;           /* Acceleration in Z
   axis in [g] */
```

```

68 } MAR_input_t;
69
70 typedef enum
71 {
72     MAR_NOACTIVITY           = 0x00,
73     MAR_STATIONARY           = 0x01,
74     MAR_WALKING              = 0x02,
75     MAR_FASTWALKING          = 0x03,
76     MAR_JOGGING              = 0x04,
77     MAR_BIKING                = 0x05,
78     MAR_DRIVING              = 0x06
79 } MAR_output_t;
80
81 /* Exported constants -----
82 ----- */
83
84 /* Exported variables -----
85 ----- */
86
87 /* Exported macro -----
88 ----- */
89
90 /* Exported functions -----
91 ----- */
92
93
94
100 void MotionAR_Initialize(void);
101
102
103
104
105
106
107 void MotionAR_SetOrientation_Acc(const char
    *acc_orientation);
108
109
110
111
112
113
114
115 void MotionAR_Update(MAR_input_t *data_in,
    MAR_output_t *data_out);
116
117
118
119
120
121
122 void MotionAR_Reset(void);
123
124
125
126
127
128
129 uint8_t MotionAR_GetLibVersion(char
    *version);
130
131

```

```
144 #ifdef __cplusplus
145 }
146 #endif
147
148 #endif /* _MOTION_AR_H_ */
149
150 /***** (C) COPYRIGHT
    STMicroelectronics *****/
```

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