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| Application |
| Motor  Push Buttons |
| DIO  Timer  PWM |
| Microcontroller |

APP

HAL

MCAL

1. MCAL
   1. DIO APIs

/\* This Function determine the Pin direction Whether input or output \*/

E\_status **DIO\_SetPinDirection(**ST\_DIO\_config\_t \* Configurations**);**

typedef ST\_DIO\_config\_t{

uint8\_t port\_no;

uint8\_t pin\_no;

uint8\_t state; // input or output

}ST\_DIO\_config\_t;

E\_status **DIO\_SetPinValue(**uint8\_t au8\_port\_no, uint8\_t au8\_pin\_no, uint8\_t au8\_value;**);**

E\_statusDIO\_GetPinValue(uint8\_t au8\_port\_no, uint8\_t au8\_pin\_no, uint8\_t \* data);

E\_statusDIO\_TogglePin(uint8\_t au8\_port\_no, uint8\_t au8\_pin\_no);

* 1. TIMER APIs

E\_status TIMER\_init(ST\_TIMER\_config\_t\* configurations);E\_status TIMER\_Start(uint64\_t au64\_ticks);E\_status TIMER\_Read(uint8\_t \*au8\_value);E\_status TIMER\_Set(uint8\_t au8\_value);E\_status TIMER\_Checkstatus(uint8\_t \* au8\_status);

typedef ST\_TIMER\_config\_t{

EN\_timerno\_t timer\_no;

EN\_timerclk\_t timer\_clk;

EN\_timermode\_t mode;

}ST\_ TIMER \_config\_t;

1. 3. PWM APIs

E\_status PWM\_init(ST\_PWM\_config\_t\* configurations);E\_status TIMER\_Start(EN\_frequency\_t frequency, EN\_duty\_t dutycycle);E\_status TIMER\_Steering(EN\_sterring\_t steering);E\_status TIMER\_Stop(void);

1. HAL
   1. Buttons APIs

**E\_status Button\_init(EN\_BTN\_config\_t configurations);  
E\_status Button\_GetState(uint8\_t\* au8\_status);**

* 1. MOTOR APIs

**E\_status MOTOR\_init(void);  
E\_status MOTOR\_SetDirection(EN\_DIR\_t Direction);  
E\_status MOTOR\_SetSpeed(EN\_Speed\_t DutyCycle);  
E\_status MOTOR\_Stop(void);**

1. APP APIs

**E\_status CAR\_init(void);  
E\_status CAR\_update(void);**