

APP

MOTOR

Push_Button

Timer

PWM

DIO

MICROCONTROLLER

1) MCAL

a) DIO

```
(i)   DIO_ERROR_state_t DIO_setPortDirection(uint8_t PORTID,
      uint8_t PortDirection);
(ii)  DIO_ERROR_state_t DIO_setPinDirection(uint8_t PortID ,
      uint8_t PinNumber, uint8_t PinDirection);
(iii) DIO_ERROR_state_t DIO_writePinValue(uint8_t PortID,
      uint8_t PinNumber, uint8_t PinDirection);
(iv)  DIO_ERROR_state_t DIO_readPort(uint8_t PortID,
      uint8_t* PortState);
(v)   DIO_ERROR_state_t DIO_readPin(uint8_t PortID, uint8_t
      PinNumber, uint8_t* PinState);
(vi)  DIO_ERROR_state_t DIO_SetPullupRes(uint8_t PortID,
      uint8_t PinNumber);
```

b) TIMER

```
(i)   TIMER_ERROR_state_t TIMER_init(const
      STR_TIMER_config_t * configurations);
(ii)  TIMER_ERROR_state_t TIMER_start(uint8_t timer_no,
      uint16_t ticks);
(iii) TIMER_ERROR_state_t TIMER_read(uint8_t timer_no,
      uint8_t * value);
(iv)  TIMER_ERROR_state_t TIMER_set(uint8_t timer_no,
      uint8_t value);
(v)   TIMER_ERROR_state_t
      TIMER_checkStatus(uint8_t timer_no, uint8_t * status);
```

c) PWM

```
(i)   uint8_t PwmInit(void);
(ii)  uint8_t PwmStart(uint8_t PwmChannelNumber);
(iii) uint8_t PwmStop(uint8_t PwmChannelNumber);
(iv)  uint8_t PwmConnect(uint8_t PwmChannelNumber);
(v)   uint8_t PwmDisconnect(uint8_t PwmChannelNumber);
```

```
(vi) uint8_t PwmSetDuty(uint8_t PwmChannelNumber,uint8_t  
PwmDuty);
```

2) HAL

a) BUTTON

```
(i) PSHBTTN_ERROR_RETVAL_t PSHBTTN_Init (DIO_PORT_ID_t  
port, DIO_PIN_ID_t pin, PSHBTTN_PULLUP_Status_t status);  
(ii) PSHBTTN_ERROR_RETVAL_t PSHBTTN_EnablePullUp  
(DIO_PORT_ID_t port, DIO_PIN_ID_t pin);  
(iii) uint8_t PSHBTTN_Status (DIO_PORT_ID_t port,  
DIO_PIN_ID_t pin);
```

b) MOTOR

```
(i) void MOTOR_init(void);  
(ii) void MOTOR_stop(uint8_t motor_no);  
(iii) void MOTOR_start(uint8_t motor_no,uint8_t  
speed,uint8_t dir);  
(iv) void MOTOR_speed(uint8_t motor_no,uint8_t speed);  
(v) void MOTOR_dir(uint8_t motor_no,uint8_t dir);
```

3) APP

a) CAR

```
(i) CAR_ERROR_state CAR_INIT(void);  
(ii) CAR_ERROR_state CAR_DIR(uint8_t carDir);
```