



APIS DOCUMENTATION

[Document subtitle]



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Task: Task1_APIs Documentation

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1-Dio Module:

Function name	Dio_Init()	
Arguments	Input	void
	Output	void
	Input/Output	void
Return	E_OK	0
	E_NOK	1
Description	Initialize Dio Peripheral Registers according to configurarion file.	

Function name	Dio_Write()		
Arguments	Input	Pin number	U8
		Show the number of pin to write it.	
		value	U8
		It's the value written to pin.	
	Output	void	
	Input/Output	void	
Return	E_OK	0	
	E_NOK	1	
Description	Set Pin Mode and write value on the pin		

Function name	Dio_Read()		
Arguments	Input	Pin number	U8
		Show the number of pin to read it's value.	
	Output	Value	Pointer to u8
	Input/Output	void	void
Return	E_OK	0	
	E_NOK	1	
Description	Read the pin value.		

2-Timer Module:

Function name	timer_Init()	
Arguments	Input	void
	Output	void
	Input/Output	void
Return	E_OK	0
	E_NOK	1
Description	Initialize Timer Peripheral Registers To Work As Timer According To The Configuration file.	

Function name	timer _Stop()	
Arguments	Input	void
	Output	void
	Input/Output	void
Return	E_OK	0
	E_NOK	1
Description	Stop The Timer Peripheral To Stop Counting.	

Function name	timer _Start()		
Arguments	Input	Value	U16
		Determine the number of milliseconds elapsed to set the timer flag.	
	Output	void	
	Input/Output	void	
Return	E_OK	0	
	E_NOK	1	
Description	Start Timer To Count Value.		

3-Pwm Module:

Function name	pwm_Init()		
Arguments	Input	Pin number	U8
		Show the number of pin to use it for pwm.	
		Initialization value	U8
		It's the value written to pin.	
	Output	void	
	Input/Output	void	
Return	E_OK	0	
	E_NOK	1	
Description	Initialize pin.		

Function name	pwm_Stop()		
Arguments	Input	Pin Number	U8
		Show the number of pin to disconnect it from pwm channel.	
	Output	void	
	Input/Output	void	
Return	E_OK	0	
	E_NOK	1	
Description	Stop PWM Channel To Disconnect Pin.		

Function name	pwm_Start()		
Arguments	Input	Pin number	U8
		Show the number of pin to write value on it.	
		value	U8
		It's the value written to pin.	
	Output	void	
	Input/Output	void	
Return	E_OK	0	
	E_NOK	1	
Description	Write value on the pin.		

4-Motor Module:

Function name	Motor_Init()		
Arguments	Input	Array of Pin numbers	U8 *
		Show the number of pins for H bridge interface.	
		Array of Pin numbers	U8 *
		Show the number of pins for pwm.	
	Output	void	
	Input/Output	void	
Return	E_OK	0	
	E_NOK	1	
Description	Initialize H bridge pins and pwm pins.		

Function name	Motor_Start()		
Arguments	Input	Period	U16
		Number of milliseconds, the timer counts and sets the flag.	
	Output	void	
	Input/Output	void	
Return	E_OK	0	
	E_NOK	1	
Description	Determining direction and speed based on state machine and time elapsed.		

Function name	Motor_Stop()		
Arguments	Input	Array of Pin numbers	U8 *
		Show the number of pins for H bridge interface.	
		Array of Pin numbers	U8 *
		Show the number of pins for pwm.	
	Output	void	
	Input/Output	void	
Return	E_OK	0	
	E_NOK	1	
Description	Clear pwm pins and reset H bridge pins.		

5-Robot Module:

Function name	Robot_Init()		
	Inout	void	
	Output	void	
	Input/Output	void	
Return	E_OK	0	
	E_NOK	1	
Description	Use Motor_Init() to Initialize Robot Motors, Pins defined in configuration file.		

Function name	Robot_Update()		
Arguments	Input	Period	U16
		Number of milliseconds, the timer counts and sets the flag.	
	Output	void	
	Input/Output	void	
Return	E_OK	0	
	E_NOK	1	
Description	Use Motor_Start() to Clear pwm pins and reset H bridge pins.		

Function name	Robot_Start()		
	Inout	void	
	Output	void	
	Input/Output	void	
Return	E_OK	0	
	E_NOK	1	
Description	Put Robot in initial value, Pins defined in configuration file.		

Function name	Robot_Stop()		
	Inout	void	
	Output	void	
	Input/Output	void	
Return	E_OK	0	
	E_NOK	1	
Description	Use Motor_Stop() to Initialize Robot Motors, Pins defined in configuration file.		

6-Lcd Module:

Function name	Lcd_Init()		
Arguments	Input	Array of pins	U8
		Pins used by lcd to interface with Dio.	
	Output	void	
	Input/Output	void	
Return	E_OK	0	
	E_NOK	1	
Description	Initialize the pins.		

Function name	Lcd_Display()		
Arguments	Input	Array of pins	U8
		Pins used by lcd to interface with Dio.	
		string	U8 *
		It's the string written on lcd.	
	Output	void	
	Input/Output	void	
Return	E_OK	0	
	E_NOK	1	
Description	Display string on lcd		