

Project Title:- Moving Car System Design

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Layered architecture :-

SERVICE	APPLICATION		
	HAL		
	MCAL		
	MicroController		

utiles	APPLICATION		
	Button	LED	Motor
STD_Types	Interrupt	Timer	DIO
	MicroController		

System Models/Drivers:-

- **Application**

- Application

- **HAL**

- 1)Motor
- 2)Button
- 3)LED

- **MCAL**

- 1)DIO
 - 2)TIMER
 - 3)INTERRUPT
-

APIS:-

- **DIO**

1)DIO_ERROR_TYPE DIO_INITPIN

(DIO_PIN_TYPE PIN,DIO_PINSTATUS_TYPE STATUS);

2)DIO_ERROR_TYPE DIO_WRITEPIN

(DIO_PIN_TYPE PIN,DIO_VOLTAGE_TYPE VOLTAGE);

3)DIO_ERROR_TYPE DIO_READPIN

(DIO_PIN_TYPE PIN,DIO_VOLTAGE_TYPE VOLT);*

• Interrupt

1) INTERRUPT_ERROR_TYPE

EXI_Enable(EXInterruptSource_type interrupt);

2) INTERRUPT_ERROR_TYPE

EXI_Disable (EXInterruptSource_type interrupt);

3) INTERRUPT_ERROR_TYPE

EXI_TriggerEdge

(EXInterruptSource_type interrupt,
TriggerEdge_type edge);

4) INTERRUPT_ERROR_TYPE EXI_SetCallBack

(EXInterruptSource_type interrupt,
void (*pf_local)(void));

• Timer

1) TIMER_ERROR_TYPE Timer0_Init

(Timer0Mode_type mode, Timer0SCALER_type
scaler, OC0Mode_type oc_mode);

2) TIMER_ERROR_TYPE timer0_SetCounter

(uint8_t offset);

3) TIMER_ERROR_TYPE

Timer0_OVF_InterrupEnable(void);

4) TIMER_ERROR_TYPE

Timer0_OVF_InterrupDisable(void);

5) TIMER_ERROR_TYPE

Timer0_OVF_Setcallback(void
(*timer0_Fptr_ovf)(void));

• LED

1)LED_ERROR_TYPE LED_INIT(DIO_PIN_TYPE PIN);

2)LED_ERROR_TYPE LED_ON(DIO_PIN_TYPE PIN);

3)LED_ERROR_TYPE LED_OFF(DIO_PIN_TYPE PIN);

• BUTTON

1)BUTTON_ERROR_TYPE Button_INIT(DIO_PIN_TYPE PIN);

2)BUTTON_ERROR_TYPE Button_read(DIO_PIN_TYPE PIN,DIO_VOLTAGE_TYPE*VOLT);

• MOTOR

1) ADC_ERROR_TYPE ADC_Init
(ADC_Vref_type vref,ADC_Scaler_type scaler);

2) ADC_ERROR_TYPE ADC_Read(ADC_Channel_type ch);

3) ADC_ERROR_TYPE ADC_InterruptEnable(void);

4) ADC_ERROR_TYPE ADC_InterruptDisable(void);

5) ADC_ERROR_TYPE ADC_SetCallBack

(void (*pf_local)(void));

