

Robot case study

Static design:

Modules:

Drivers:

- Timer
- DC motors
- LCD

Software components:

- Power up
- Run

APIs:

Timer:

- Void Timer_Init(TIMER_NO, struct Config_Params* Ptr)
- Void Timer_ISR(void)
- Void Timer_SetTime(TIMER_NO, u32 Time)
- Void Timer_SetPWM(TIMER_NO, u8 PWM, u32 Freq)
- Void Timer_Clear(TIMER_NO)
- u8 Timer_GetTime(TIMER_NO, u32* Time)
- u8 Timer_Stop(TIMER_NO)

DC motor:

- void DC_Init(DC_NO)
- void DC_Move(DC_NO, u8 Direction)

LCD:

- void LCD_Init(BUS_SELECTION)
- u8 LCD_PutChar(char Character)
- u8 LCD_PutString(char* Str)

- u8 LCD_SendCommand(char command)
- void LCD_SetCursorPos(u8 row, u8 col)

Power up:

- void PowerUp_Init(void)
- void PowerUp_Update(void)
- void MoveToDir(DC_NO, u8 Direction)

Run:

- void Run_Init(void)
- void Run_Update(void)
- void MoveToDir(DC_NO, u8 Direction)