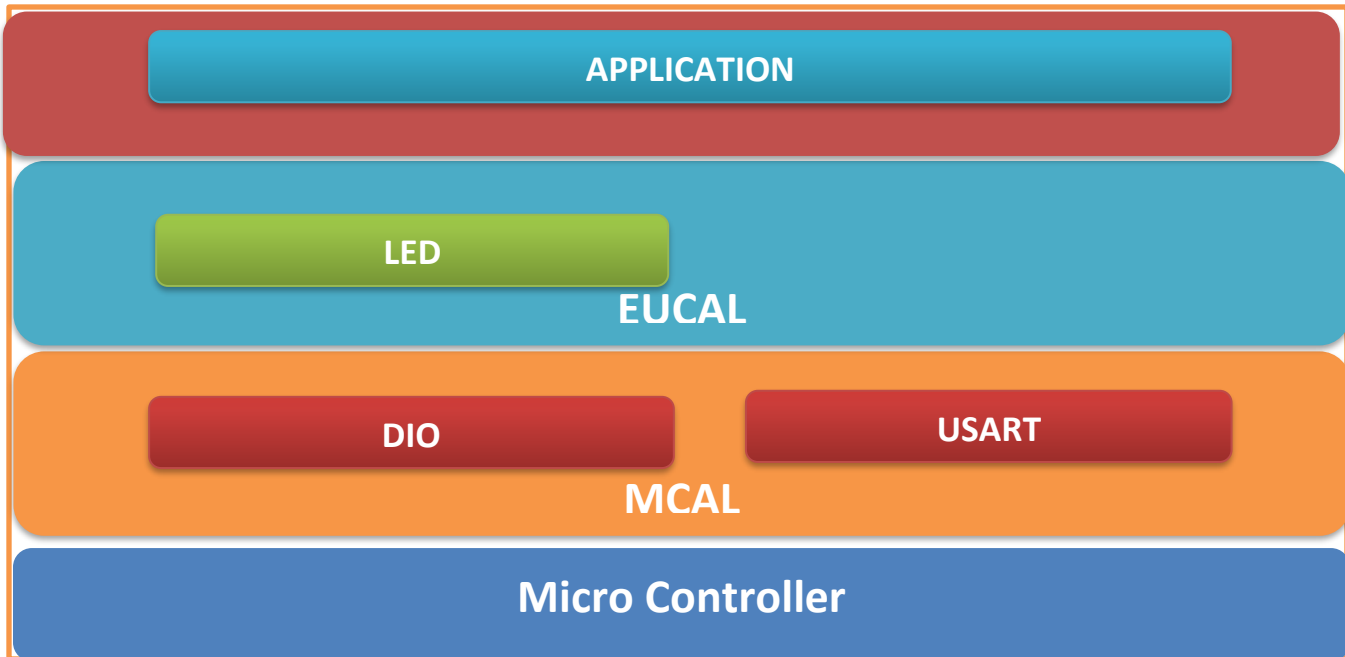# Static Design For USART TASK

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- **Design of The System, and Layered Architecture**

- **API For The System**

DIO API's :-

void MDIO_voidSetPinDirection (u8 copy_u8Port , u8 copy_u8Pin , u8 copy_u8Direction) ;

void MDIO_voidSetPortDirection (u8 copy_u8Port , u8 copy_u8Direction) ;

void MDIO_voidSetPinValue (u8 copy_u8Port , u8 copy_u8Pin , u8 copy_u8Value) ;

void MDIO_voidSetPortValue (u8 copy_u8Port , u8 copy_u8Value) ;

u8 MDIO_voidGetPinValue (u8 copy_u8Port , u8 copy_u8Pin);

void MDIO_voidTogglePin (u8 copy_u8Port , u8 copy_u8Pin) ;

USART API's :-

void MUSART_voidUsartInit(void);

void MUSART_voidUsartSendChar(u8 copy_u8Data);

u8 MUSART_u8UsartReceiveChar(void);

void MUSART_voidUsartSendString(u8 *copy_u8PtrData);

void MUSART_voidUsartReceiveString(u8 *copy_u8PtrStr);

LEDs API's :-

void EULED_voidLEDInit(u8 copy_u8Port , u8 copy_u8PinNum);

void EULED_voidLedON(u8 copy_u8Port, u8 copy_u8PinNum) ;

void EULED_voidLedOFF (u8 copy_u8Port, u8 copy_u8PinNum) ;

void EULED_voidLedToggle(u8 copy_u8Port, u8 copy_u8PinNum) ;

Application API's:-

void APP_voidInit(void);

void APP_voidUpdate(void);

void APP_voidAT (void);

void APP_voidStart(void);

void APP_voidStop (void);

void APP_voidWait (void);

State Machine For The System :-

Receive "GREEN"

Green Led ON
Send "Green Led Is ON"

Turn ON

Receive "GREEN"

Receive "YELLOW"

Receive "YELLOW"

Yellow Led ON
Send "Yellow Led Is ON"

Receive "RED"

Receive "GREEN"

Receive "GREEN"

Receive "YELLOW"

Receive "RED"

Receive "RED"

Red Led ON
Send "Red Led Is ON"

Receive "RED"

Receive "YELLOW"

Receive "AT"

Receive "RED"

Receive "AT"

Receive "YELLOW"

Receive "AT"

AT
Send "OK"

Receive "AT"