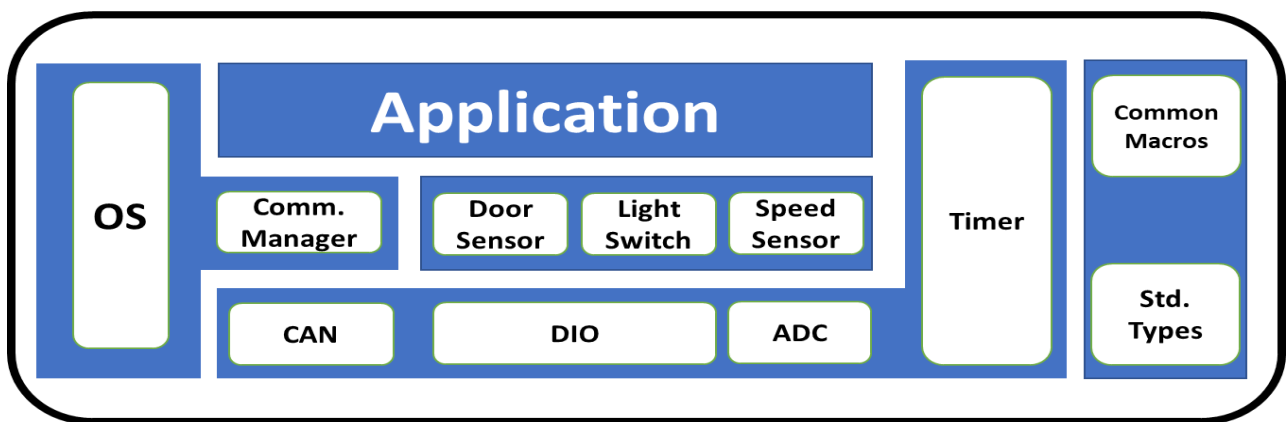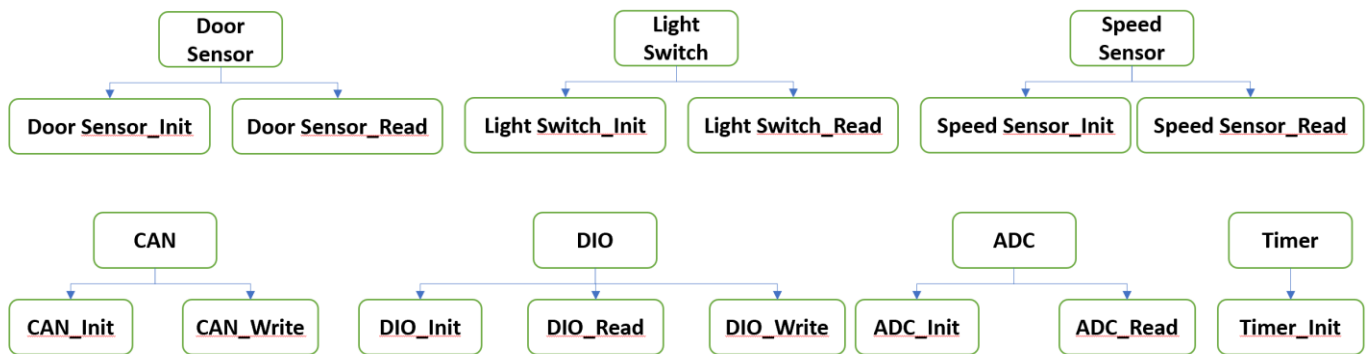# Static Design Analysis

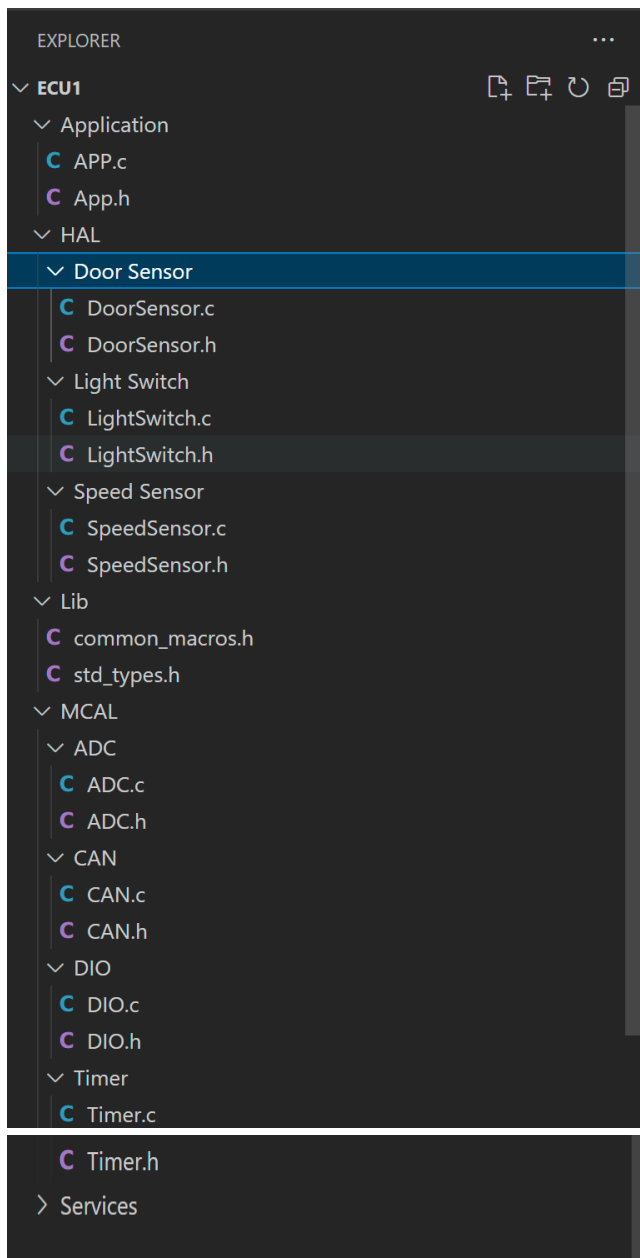## For ECU١:

Layerd Architecture

ECU1

Full detailed APIs

```c
void CAN_Init(void){
    /*Initializes CAN Driver*/
}
void CAN_Write(void){
    /*Writes data to CAN bus*/
}
void DIO_Init(void){
    /*Initializes DIO Driver*/
}
void DIO_Write(port_pin_t portPin, Pin_state_t value){
    /*Writes High or Low on GPIO Pin*/
}
Pin_state_t DIO_Read(port_pin_t portPin){
    /*return the Pin State (HIGH or LOW)*/
}
void ADC_Init(void){
    /*Initializes CAN Driver*/
}
ADC_val_t ADC_Read(void){
    /*return the ADC value*/
}
void Timer_Init(void){
    /*Initializes Timer Driver and start Timer*/
}
void DoorSensor_Init(void){
    /*Initializes DoorSensor Driver*/
}
Pin_state_t DoorSensor_Read(void){
    /*return the DoorSensor value*/
}
void LightSwitch_Init(void){
    /*Initializes LightSwitch Driver*/
}
Pin_state_t LightSwitch_Read(void){
    /*return the LightSwitch value*/
}
void SpeedSensor_Init(void){
    /*Initializes SpeedSensor Driver*/
}
int16_t SpeedSensor_Read(void){
    /*return the SpeedSensor value*/
}
```

```
typedef enum Pin_state_e {
    LOW,
    HIGH
} Pin_state_t;
typedef  signed short int16_t;
typedef signed short ADC_val_t;
```
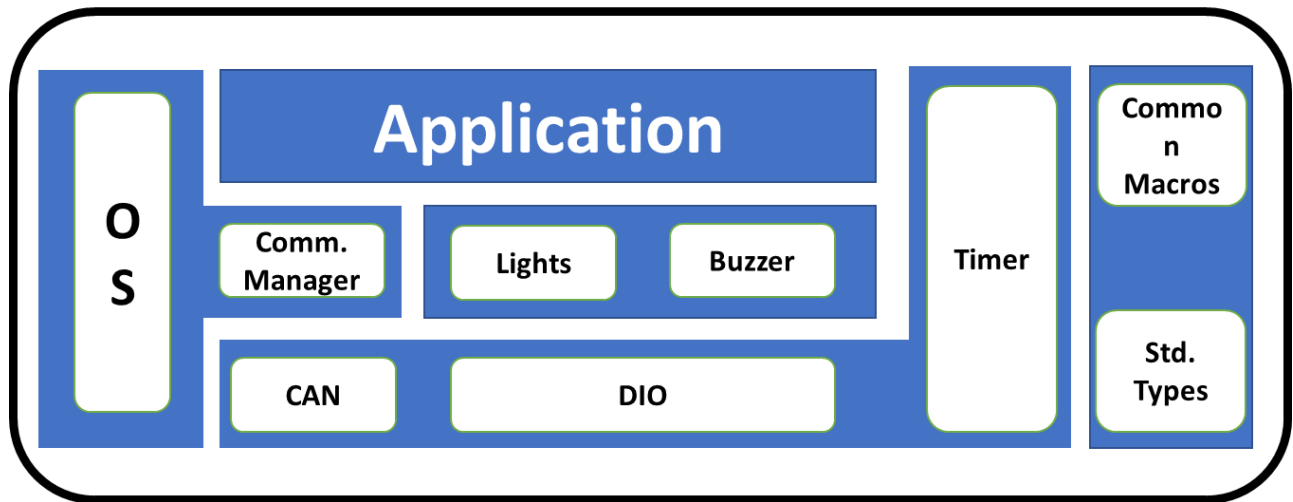
Folder Structure

For ECU٢:

Layerd Architecture

ECU2

Full detailed APIs
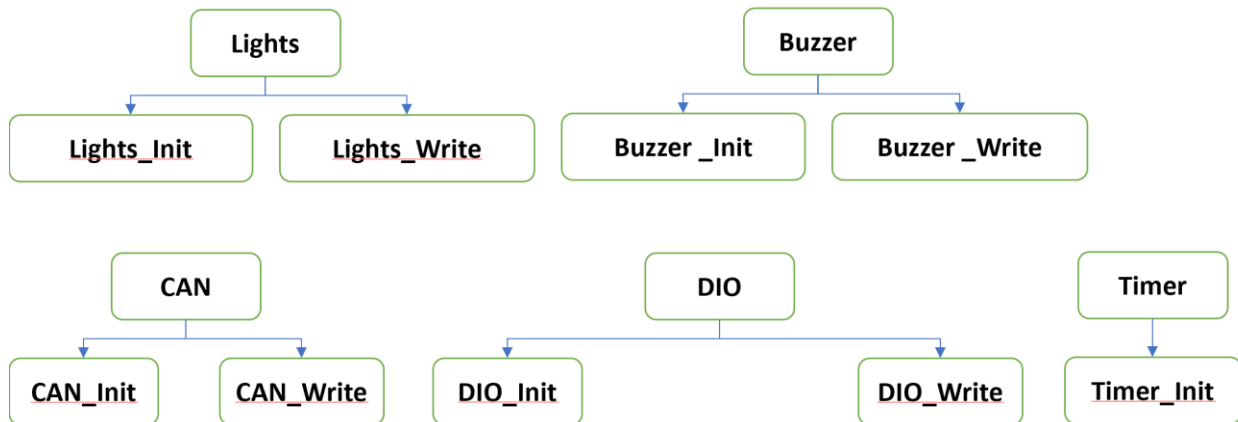
```c
void CAN_Init(void){
    /*Initializes CAN Driver*/
}
void CAN_Read(unsigned char * variable){
    /*Raead data from CAN bus*/
}
void DIO_Init(void){
    /*Initializes DIO Driver*/
}
void DIO_Write(port_pin_t portPin, Pin_state_t value){
    /*Writes High or Low on GPIO Pin*/
}
void Timer_Init(void){
    /*Initializes Timer Driver and start Timer*/
}
void Lights_Init(void){
    /*Initializes Lights Driver*/
}
void Lights_Write(void){
     /*Writes High or Low on GPIO Pin*/
}
void Buzzer_Init(void){
    /*Initializes Buzzer Driver*/
}
void Buzzer_Write(void){
     /*Writes High or Low on GPIO Pin*/
}
```

```c
typedef enum Pin_state_e {
    LOW,
    HIGH
} Pin_state_t;
typedef  signed short int16_t;
typedef signed short ADC_val_t;
```

Folder Structure

EXPLORER   ...

∨ **ECU2**   ⊡ ⊞ ↻ ⊟

  ∨ Application

    C APP.c

    C App.h

  ∨ HAL

    ∨ Buzzer

      C Buzzer.c

      C Buzzer.h

    ∨ Lights

      C Lights.c

      C Lights.h

  ∨ Lib

    C common_macros.h

    C std_types.h

  ∨ MCAL

    ∨ CAN

      C CAN.c

      C CAN.h

    ∨ DIO

      C DIO.c

      C DIO.h

    ∨ Timer

      C Timer.c

      C Timer.h

  ∨ Services