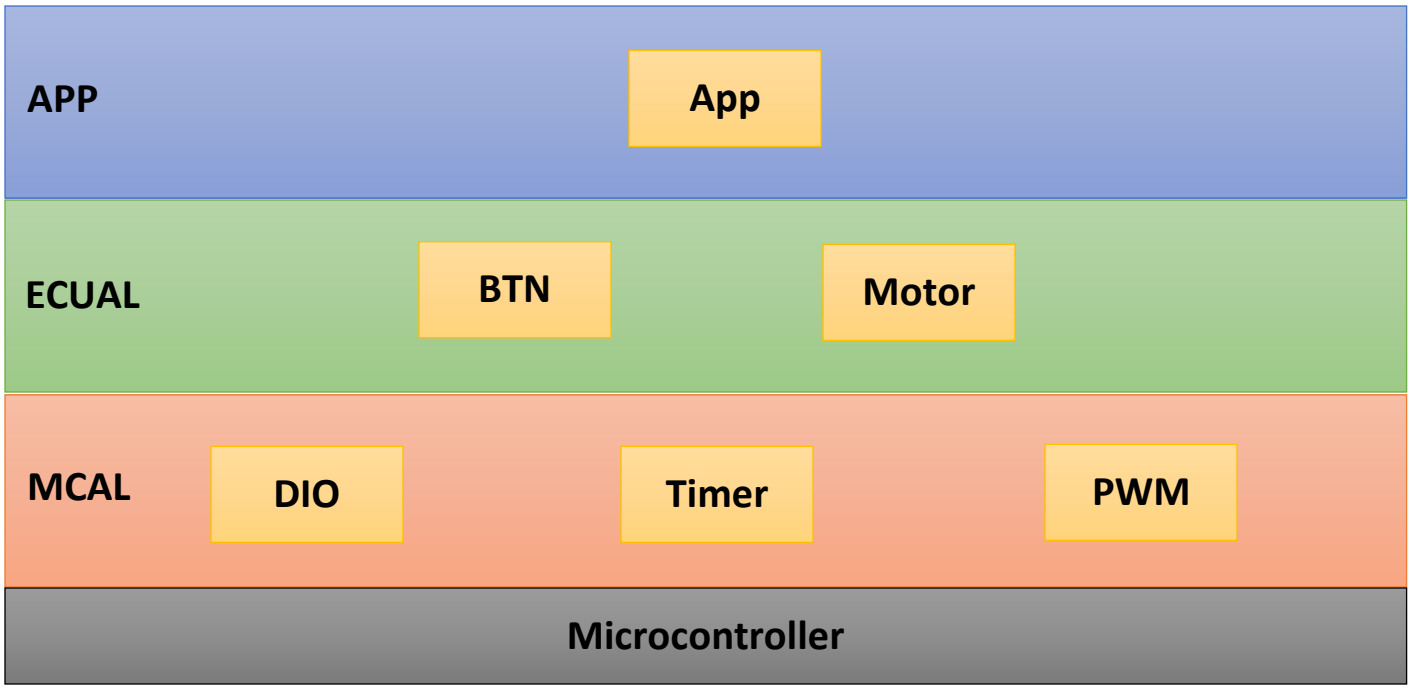
Car Control System

Static Design

- **Layered Architecture:**



- **APIs:**
  - **DIO:**
    - `enuDIOCheckType_t DIO_Init(void);`
    - `enuDIOCheckType_t DIO_Write(uint8_t u8GroupId, uint8_t u8Data);`
    - `enuDIOCheckType_t DIO_Read(uint8_t u8GroupId, uint8_t* ptru8Data);`
    - `enuDIOCheckType_t DIO_SetIntEvent(uint8_t u8GroupId, enuDIOIntEventType_t enuIntEventType);`
  - **Timer:**
    - `enuTMCheckType_t TM_Init(void);`
    - `enuTMCheckType_t TM_StartTimer(uint8_t u8GroupId, uint32_t u32TimerValueUS);`
    - `enuTMCheckType_t TM_ManageOngoingOperation(uint8_t u8GroupId);`

- **PWM**:
  - `enuPWMCheckType_t PWM_Init(void);`
  - `enuPWMCheckType_t PWM_Start(uint8_t u8GroupId, uint8_t u8DutyCycle);`
  - `enuPWMCheckType_t PWM_Stop(uint8_t u8GroupId);`

- **BTN**:
  - `enuBTNCheckType_t BTN_Init(void);`
  - `enuBTNCheckType_t BTN_GetState(uint8_t u8GroupId, enuBTNStates_t* ptrenuState);`

- **Motor**:
  - `enuDCMCheckType_t DCM_Init(void);`
  - `enuDCMCheckType_t DCM_Start(uint8_t u8GroupId, uint8_t u8SpeedDutyCycle, enuDCMDirection_t enuDirection);`
  - `enuDCMCheckType_t DCM_Stop(uint8_t u8GroupId);`

- **App**:
  - `enuCarCheckType_t Car_Init(void);`
  - `enuCarCheckType_t Car_Update(void);`