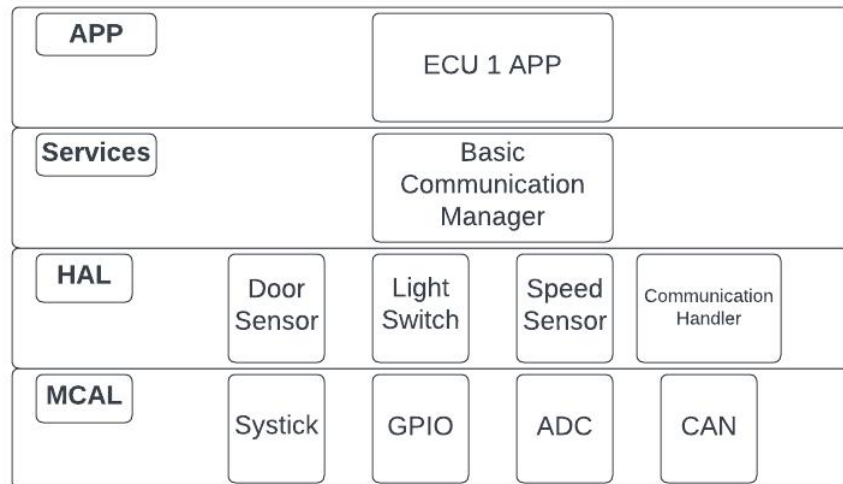


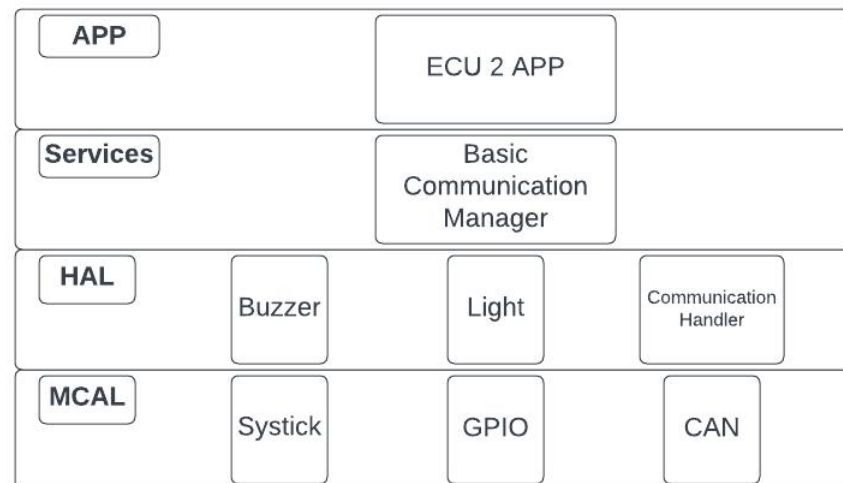
## Static Design

### Layered Architecture including components and modules.

#### ECU 1:



#### ECU 2:



## APIs

API		GPIO_init	
Description		Initialize the GPIO module	
Reentrancy	Non-Reentrant	Parameter	None
Sync	Synchronous	Return	None

API		GPIO_read	
Description		Read the required pin	
Reentrancy	Non-Reentrant	Parameter	Port - Pin
Sync	Synchronous	Return	LevelType

API		GPIO_write	
Description		Write a value to the required pin	
Reentrancy	Non-Reentrant	Parameter	Port - Pin - Value
Sync	Synchronous	Return	None

API		STK_init	
Description		Initialize the SysTick module	
Reentrancy	Non-Reentrant	Parameter	Clock Source
Sync	Synchronous	Return	None

API		ADC_init	
Description		Initialize the ADC module	
Reentrancy	Non-Reentrant	Parameter	None
Sync	Synchronous	Return	None

API		ADC_read	
Description		Reads the required channel value	
Reentrancy	Non-Reentrant	Parameter	ChannelID
Sync	Synchronous	Return	U16/u32

API		ADC_startConversion	
Description		Starts the conversion of a channel	
Reentrancy	Non-Reentrant	Parameter	ChannelID
Sync	Synchronous	Return	None

API		CAN_init	
Description		Initialize the CAN module	
Reentrancy	Non-Reentrant	Parameter	None
Sync	Synchronous	Return	None

API		CAN_send	
Description		Sends the required message	
Reentrancy	Non-Reentrant	Parameter	Message - CANID
Sync	Synchronous	Return	None

API		CAN_receive	
Description		Receives the required message	
Reentrancy	Non-Reentrant	Parameter	None
Sync	Synchronous	Return	Message

API		DoorSensor_init	
Description		Initialize the Door Sensor	
Reentrancy	Non-Reentrant	Parameter	None
Sync	Synchronous	Return	None

<b>API</b>		LightSwitch_init	
<b>Description</b>		Initialize the Light Switch	
<b>Reentrancy</b>	Non-Reentrant	<b>Parameter</b>	None
<b>Sync</b>	Synchronous	<b>Return</b>	None

<b>API</b>		SpeedSensor_init	
<b>Description</b>		Initialize the Speed Sensor	
<b>Reentrancy</b>	Non-Reentrant	<b>Parameter</b>	None
<b>Sync</b>	Synchronous	<b>Return</b>	None

<b>API</b>		DoorSensor_status	
<b>Description</b>		Read status of the door sensor	
<b>Reentrancy</b>	Non-Reentrant	<b>Parameter</b>	None
<b>Sync</b>	Synchronous	<b>Return</b>	Door status

<b>API</b>		LightSwitch_status	
<b>Description</b>		Read status of the light switch	
<b>Reentrancy</b>	Non-Reentrant	<b>Parameter</b>	None
<b>Sync</b>	Synchronous	<b>Return</b>	Switch status

<b>API</b>		SpeedSensor_status	
<b>Description</b>		Read status of the speed sensor	
<b>Reentrancy</b>	Non-Reentrant	<b>Parameter</b>	None
<b>Sync</b>	Synchronous	<b>Return</b>	Speed

<b>API</b>		Light_init	
<b>Description</b>		Initialize lights module	
<b>Reentrancy</b>	Non-Reentrant	<b>Parameter</b>	None
<b>Sync</b>	Synchronous	<b>Return</b>	None

<b>API</b>		Light_ON	
<b>Description</b>		Turn lights ON	
<b>Reentrancy</b>	Non-Reentrant	<b>Parameter</b>	None
<b>Sync</b>	Synchronous	<b>Return</b>	None

<b>API</b>		Light_OFF	
<b>Description</b>		Turn lights ON	
<b>Reentrancy</b>	Non-Reentrant	<b>Parameter</b>	None
<b>Sync</b>	Synchronous	<b>Return</b>	None

<b>API</b>		Buzzer_init	
<b>Description</b>		Initialize Buzzer module	
<b>Reentrancy</b>	Non-Reentrant	<b>Parameter</b>	None
<b>Sync</b>	Synchronous	<b>Return</b>	None

<b>API</b>		Buzzer_ON	
<b>Description</b>		Turn buzzer ON	
<b>Reentrancy</b>	Non-Reentrant	<b>Parameter</b>	None
<b>Sync</b>	Synchronous	<b>Return</b>	None

<b>API</b>		Buzzer_OFF	
<b>Description</b>		Turn Buzzer OFF	
<b>Reentrancy</b>	Non-Reentrant	<b>Parameter</b>	None
<b>Sync</b>	Synchronous	<b>Return</b>	None

<b>API</b>		ECU1_sendDoorStatus	
<b>Description</b>		Send door status to ECU2	
<b>Reentrancy</b>	Non-Reentrant	<b>Parameter</b>	None
<b>Sync</b>	Synchronous	<b>Return</b>	None

<b>API</b>		ECU1_sendSwitchStatus	
<b>Description</b>		Send door status to ECU2	
<b>Reentrancy</b>	Non-Reentrant	<b>Parameter</b>	None
<b>Sync</b>	Synchronous	<b>Return</b>	None

<b>API</b>		ECU1_sendSpeedStatus	
<b>Description</b>		Send door status to ECU2	
<b>Reentrancy</b>	Non-Reentrant	<b>Parameter</b>	None
<b>Sync</b>	Synchronous	<b>Return</b>	None

<b>API</b>		ECU2_receiveStatus	
<b>Description</b>		Send door status to ECU2	
<b>Reentrancy</b>	Non-Reentrant	<b>Parameter</b>	None
<b>Sync</b>	Synchronous	<b>Return</b>	Status