Static Design

Layered Architecture

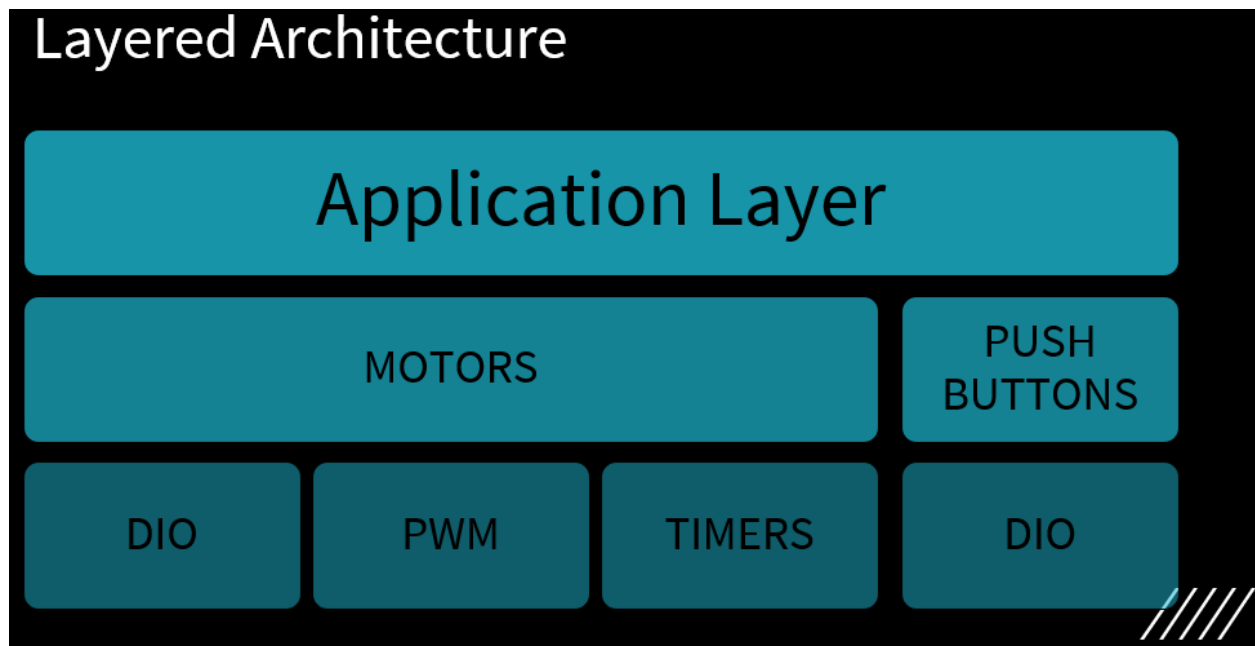Application Layer

MOTORS | PUSH BUTTONS

DIO | PWM | TIMERS | DIO

API'S:

1.   GPIO

```
uint8_t DIO_SetPinDirection(uint8_t PORT , uint8_t PIN , uint8_t DIRECTION);

uint8_t DIO_SetPinValue(uint8_t PORT , uint8_t PIN , uint8_t VALUE);
```

2.   TIMERS

```
void void_timersInit(void) ;

uint8_t u8_timerIntModesEn(uint8_t u8_wantedIntModeEn) ;

uint8_t u8_timerIntModesDis(uint8_t u8_wantedIntModeDis) ;

uint8_t u8_setTimer0CompareRegTicksBeforeOV(uint8_t u8_wantedTicksToCompare) ;

uint8_t u8_setTimer0OverFlowRegTicksBeforeOV(uint8_t u8_wantedTicksBeforeOV) ;
```

3.   PWM

```
void void_pwmPinsInit(void)                          ;

uint8_t u8_pwmMotorsControl(uint8_t u8_wantedPWMDuty,uint8_t u8_wantedMotorForPwm) ;
```

4.   Motor Control

```
uint8_t Motor_Init(uint8_t u8_MotorId);

uint8_t Motor_Move(uint8_t MotorId, uint8_t u8_MotorDirection,uint8_t u8_MotorPower);

uint8_t MoveAllMotors(uint8_t u8_Motor01Direction,uint8_t u8_Motor02Direction,uint8_t u8_MotorsPower);

uint8_t Motor_setDirection(uint8_t u8_MotorId, uint8_t u8_MotorDirection);
```

5.   Push Buttons

```
void keypad_init(void);

uint8_t keypad_scan(void);
```