Project 2 Report
Smart Home

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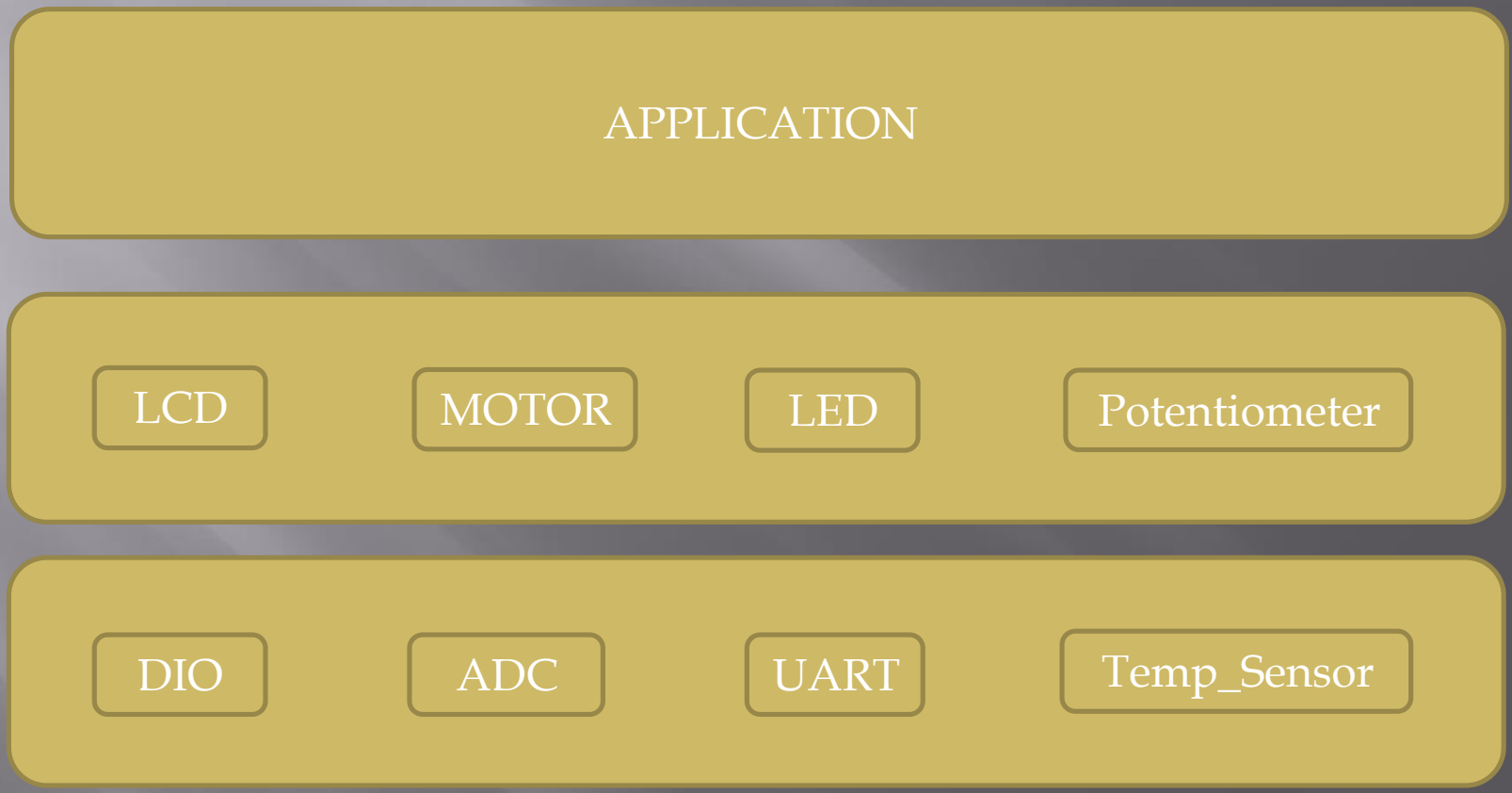
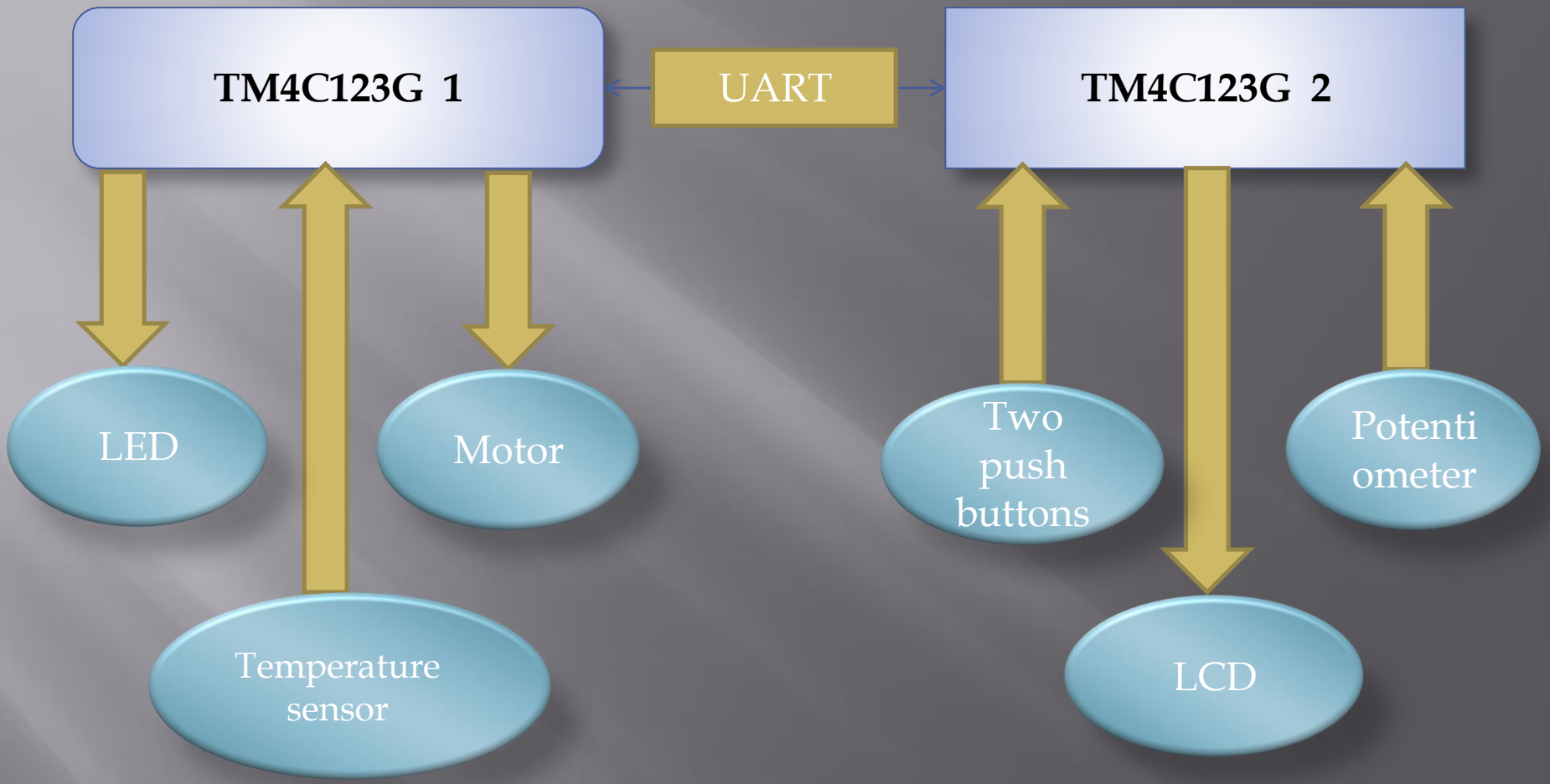
Layers Description



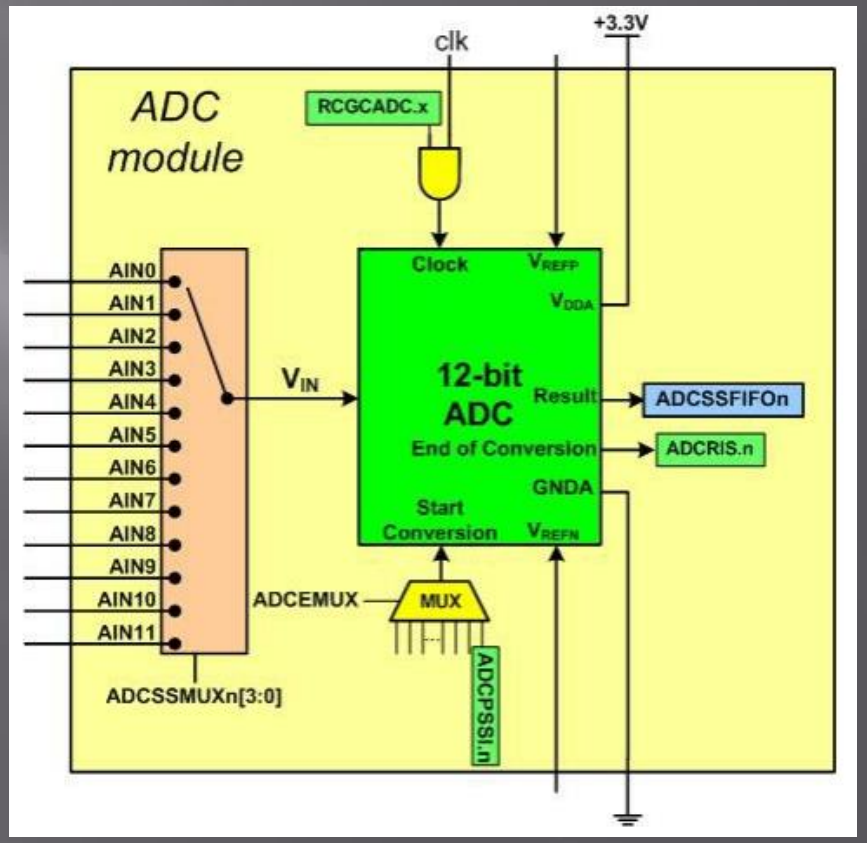

TM4C123G 1
UART
TM4C123G 2
LED
Motor
Temperature sensor
Two push buttons
LCD
Potenti ometer

Our Components

1. Two TM4C123G .
2. LCD
3. Motor
4. Potentiometer
5. LED
6. Temperature sensor
7. Two push buttons
8. wires

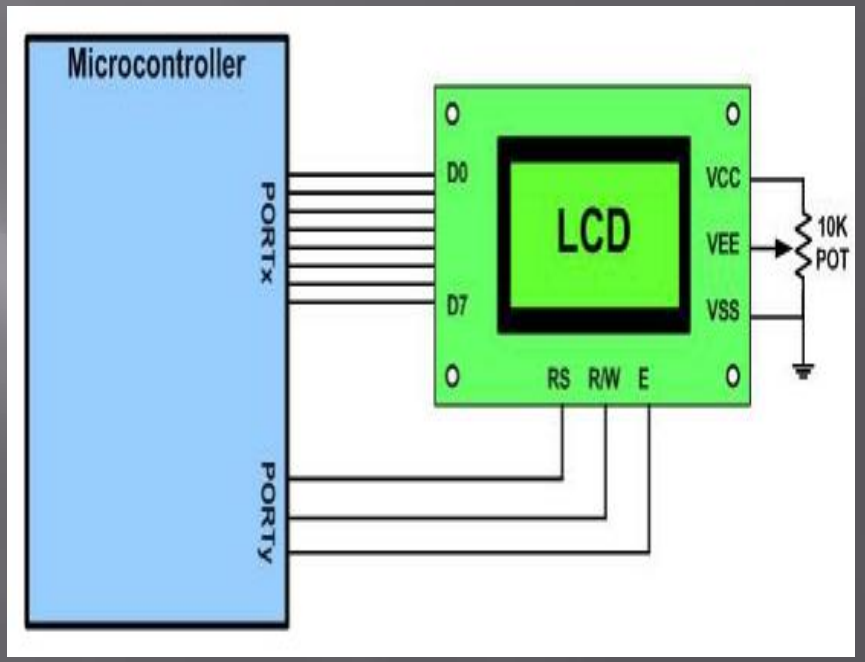
TM4C123G

- The TI ARM Tiva TM4C123GH6PM comes with two on-chip ADC modules.
- These ADC modules have 12-bit resolution To program them



LCD

- To send any of the commands to the LCD,
- make pin RS = 0 and send a High-to-Low pulse on the E pin to enable the internal latch of the LCD.



LED functions

Name of function	Input	output
BlueLED_Init	Void	void
BlueLED_SetDutyCycle	uint8_t duty_cycle	Void

UART functions

Name of function	input	output
UART0_Init	void	void
UART_Write	uint8_t data	void
UART_Read	void	uint8_t
UART1_Available	void	uint8_t

ADC functions

Name of function	input	output
ADC0_Init	void	void
ADC0_SS3_In	uint16_t *data	void
ADC0Seq3_Handler	void	void

temperature sensor

Name of function	input	output
Temperature_sensor	void	double temp

Motor functions

Name of function	Description	Input	output
Motor_init	This function is responsible of initialize GPIO pins used to interface with stepper motor.	Void	void
Motor_rotate	This function is responsible of rotating the stepper motor by 30˚ in the direction entered by user. 'L' or 'R'	uint8_t direction	Void