

Static
design

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Infotainment System Static Design

Dio Driver

Function name		U8 Dio_init(void)		
Arguments	I/P	Name	Type	Description
		-	-	-
	O/P	-	-	-
	I/O	-	-	-
Return		Function has a return u8, which is an unsigned char returning the status of function for checking.		
Description		Function Dio_init is used to initialize the Dio driver with the configurations we used and all the configurations are pre configurations. Function returning character and having no arguments.		

Function name		U8 Dio_read(u8 port,u8 pin,u8 *val)		
Arguments	I/P	Name	Type	Description
		-port	-unsigned character	-input for choosing the port
		-pin	-unsigned character	-input for choosing the pin number
	O/P	-val	-pointer to an unsigned character	-output from function to get the read of specific pin.
Return	I/O	-	-	-
		Function has a return u8, which is an unsigned char returning the status of function for checking.		
Description		Function Dio_read is used to read a value from a specific pin in a specific port. Function returning character and gets three arguments.		

Dio Driver

Function name		U8 Dio_write(u8 port,u8 pin,u8 val)		
Arguments	I/P	Name	Type	Description
		-port	-unsigned character	-input for choosing the port
		-pin	-unsigned character	-input for choosing the pin number
		-val	-unsigned character	-input value of the pin
	O/P	-	-	-
Return	I/O	-	-	-
	Description	Function Dio_write is used to write a value on a specific pin in a specific port, which can be high or low value. Function returning character and gets three arguments.		

Function name		void Dio_Deinit(void)		
	Name	Type	Description	
Arguments	I/P	-	-	-
	O/P	-	-	-
	I/O	-	-	-
Return		-		
Description		Function is used to de-initialize the Dio driver.		

Timer Driver

Function name U8 Timer_init(u8 Timerspecs)

Arguments	I/P	Name -Timerspecs	Type -unsigned character	Description -Input used to check on the type of timer used
	O/P	-	-	-
	I/O	-	-	-

Return

Function has a return u8, which is an unsigned char returning the status of function for checking.

Description

Function Timer_init is used to initialize the Timer driver with the configurations we used and all the configurations are pre configurations. Function returning character and having no arguments.

Function name U8 Timer_start(u8 Timername,u8 prescaler_conf)

Arguments	I/P	Name -Timername -prescaler_conf	Type -unsigned character -unsigned character	Description -input used to choose the timer type to be started -input used to use a specific prescaler for
	O/P			
	I/O	-	-	
		-	-	-

Return

Function has a return u8, which is an unsigned char returning the status of function for checking.

Description

Function Timer_start is used to start the counts of the timer with using the arguments to choose which type of a timer is going to be started. Function returns an unsigned character and having one argument.

Timer Driver

Function name **U8 Timer_stop(u8 Timername)**

Arguments	I/P	Name -Timername	Type -unsigned character	Description -input used to choose the timer type to be stopped.
	O/P	-	-	-
	I/O	-	-	-

Return

Function has a return u8, which is an unsigned char returning the status of function for checking.

Description

Function Timer_stop is used to stop the counts of the time with using the arguments to choose which type of a timer is going to be stopped. Function returns an unsigned character and having one argument.

Function name **void Timer_count(u16 delay)**

Arguments	I/P	Name -delay	Type -unsigned short	Description -input used to enter the delay of time wanted by the timer
	O/P	-	-	-
	I/O	-	-	-
			-	

Return

Description

Function Timer_count is used to count the time with the configurations we used in Timer driver and all the configurations are pre configurations. Function returning void and having one argument.

Timer Driver

Function name

void Timer_Deinit(void)

Arguments

Name

Type

Description

I/P

-

-

-

O/P

-

-

-

I/O

-

-

-

-

**Return
Description**

Function is used to de-initialize the Timer driver.

LCD Driver

Function name		U8 LCD_init(void)		
Arguments		Name	Type	Description
	I/P	-	-	-
	O/P	-	-	-
	I/O	-	-	-
Return		Function has a return u8, which is an unsigned char returning the status of function for checking.		
Description		Function LCD_init is used to initialize the LCD as a hardware and also for knowing its mode, whichever a 4-bits mode or 8-bits-mode. Function returning an unsigned character and having no arguments.		

Function name		U8 LCD_sendCommand(u8 command)		
Arguments		Name	Type	Description
	I/P	-command	-unsigned character	-input is used to specify the command the LCD is going to take
	O/P	-	-	-
	I/O	-	-	-
Return		Function has a return u8, which is an unsigned char returning the status of function for checking		
Description		Function LCD_sendCommand is used to make the LCD hardware make a specific function as required with specific commands in datasheet. Function returning unsigned character and having one argument.		

LCD Driver

Function name		U8 LCD_displayCharacter(u8 data)		
Arguments	I/P	Name -data	Type -unsigned character	Description -input to function to be displayed on LCD
	O/P	-	-	-
	I/O	-	-	-
	Return	Function has a return u8, which is an unsigned char returning the status of function for checking.		
Description		Function LCD_displayCharacter is used to display a single character on LCD hardware. Function returning an unsigned character and having one character		

Function name		U8 LCD_displayString(const u8 *str)		
Arguments	I/P	Name -str	Type -pointer to a constant unsigned character	Description -input to the function as a string to display on LCD hardware
	O/P	-	-	-
	I/O	-	-	-
	Return	Function has a return u8, which is an unsigned char returning the status of function for checking		
Description		Function LCD_displayString is used to display a string on LCD hardware. Function returning unsigned character and having one argument.		

LCD Driver

Function name

U8 LCD_displayNum(u8 num)

Arguments

	I/P	Name -num	Type -unsigned character	Description -output for function to be displayed on LCD
	O/P	-	-	-
	I/O	-	-	-

Return

Function has a return u8, which is an unsigned char returning the status of function for checking.

Description

Function LCD_displayNum is used to display a number on LCD hardware. Function returning an unsigned character and having one character

Function name

void LCD_Deinit(void)

Arguments

		Name	Type	Description
	I/P	-	-	-
	O/P	-	-	-
	I/O	-	-	-
			-	

Return Description

Function LCD_Deinit is used to de-initialize the LCD driver. Function returning void and having no arguments.

Keypad Driver

Function name		U8 Keypad_init(void)		
Arguments		Name	Type	Description
	I/P	-	-	-
	O/P	-	-	-
	I/O	-	-	-
Return		Function has a return u8, which is an unsigned char returning the status of function for checking.		
Description		Function Keypad_init is used to initialize the keypad as a hardware and dealing with Dio driver to specify the pins. Function returning an unsigned character and having no arguments.		

Function name		U8 Keypad_getPressedKey(u8 *key)		
Arguments		Name	Type	Description
	I/P	-	-	-
	O/P	-key	-pointer to an unsigned character	-input to get the exact number pressed on keypad
	I/O	-	-	-
Return		Function has a return u8, which is an unsigned char returning the status of function for checking		
Description		Function Keypad_getPressedKey is used to loop on the keypad hardware to get the specific switch pressed. Function returning unsigned character and having one argument.		

SOS Driver

Function name EnumSOSError_t SOS_Init(void)

Arguments	Arguments			
		Name	Type	Description
	I/P	-	-	-
	O/P	-	-	-
	I/O	-	-	-
Return Description		Function has a return u8, which is an unsigned char returning the status of function for checking		
		Function SOS_Init is used to init the operating system with choosing the timer used.		
		Function returning unsigned character and having no arguments.		

Function name EnumSOSError_t SOS_CreatTask(StrTask_t *PtrStrT)

Arguments	Arguments			
		Name	Type	Description
	I/P	-PtrStrT	-Pointer to structure	-input to function to creat a task
	O/P	-	-	-
	I/O	-	-	-
Return Description		Function has a return u8, which is an unsigned char returning the status of function for checking		
		Function SOS_CreatTask is used to creat a task in the buffer of the OS.		
		Function returning unsigned character and having one argument.		

SOS Driver

Function name

void SOS_Scheduler(void)

Arguments

	Name	Type	Description
I/P	-	-	-
O/P	-	-	-
I/O	-	-	-

Return Description

Function has a return u8, which is an unsigned char returning the status of function for checking

Function SOS_Scheduler is used to run the project with looping on the tasks. Function returning void and having no arguments.

Function name

EnumSOS_Error_t SOS_DeleteTask(PtrVFunctionV PtrT)

Arguments

	Name	Type	Description
I/P	-	-	-
O/P	-	-	-
I/O	-PtrT	-Pointer to function	-argument used to delete a specific task in OS

Return Description

Function has a return u8, which is an unsigned char returning the status of function for checking

Function SOS_Init is used to init the operating system with choosing the timer used.

Function returning unsigned character and having one argument.