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Sprints

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[STATIC DESIGN]

Microcontroller static design for architecture layers

Dio Driver

Function name	U8 Dio_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 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	Name	Type	Description
I/P	-port -pin	-unsigned character -unsigned character	-input for choosing the port -input for choosing the pin number
O/P	-val	-pointer to an unsigned character	-output from function to get the read of specific pin.
I/O	-	-	-
Return	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	Name	Type	Description
I/P	-port -pin -val	-unsigned character -unsigned character -unsigned character	-input for choosing the port -input for choosing the pin number -input value of the pin
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_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)		
Arguments	Name	Type	Description
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	Name	Type	Description
I/P	-Timerspecs	-unsigned character	-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	Name	Type	Description
I/P	-Timername -prescaler_conf	-unsigned character -unsigned character	-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	Name	Type	Description
I/P	-Timername	-unsigned character	-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	Name	Type	Description
I/P	-delay	-unsigned short	-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	Name	Type	Description
I/P	-data	-unsigned character	-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	Name	Type	Description
I/P	-str	-pointer to a constant unsigned character	-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_dsiplayString 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	Name	Type	Description
I/P	-num	-unsigned character	-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	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 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	Name	Type	Description
I/P	-PtrStrT	-Pointer to structure	-input to function to creat a task
O/P	-	-	-
I/O	-	-	-
Return	Function has a return u8, which is an unsigned char returning the status of function for checking		
Description	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	Function has a return u8, which is an unsigned char returning the status of function for checking		
Description	Function SOS_Scheduler is used to run the project with looping on the tasks. Function returning void and having no arguments.		

Function name	EnumSOSError_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	Function has a return u8, which is an unsigned char returning the status of function for checking		
Description	Function SOS_Init is used to init the operating system with choosing the timer used. Function returning unsigned character and having one argument.		