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/*
 * LCD_2x16.h
 *
 * Created: 7/10/2015 10:26:52 pm
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 */

/*
                                        LCD 2x16 with keyboard 4x4 and 8 buttons

                                        PC160LRS-QWB-B (with GREEK characters)

                                                www.porlidas.gr
*/

#include <avr/io.h>
#include <util/delay.h>

//#define F_CPU 4000000UL

void WrIn (unsigned char tmp);                  //Write Instruction rutine
void WrDa (unsigned char tmp);                  //Write Data rutine
void SeCu (unsigned char addr);                 //Send cursor to a specific address (0-80)
void TypeLogo (unsigned char logo2[]);          //Logo rutine
void InitLCD (void);                            //Start up, initialization rutine
void Keyb (void);                               //Keyboard rutine
void Buttons (void);                            //Buttons rutine

#define CurL 0b00010000                         //Cursor Left (instruction)
#define CurR 0b00010100                         //Cursor Right (instruction)
#define DisL 0b00011000                         //Display Left (instruction)
#define DisR 0b00011100                         //Diaplay Right (instruction)
#define CDRS 0b00000001                         //Clear Display and Reset Cursor (instruction)

#define Da 0b00000100                           //Internal definition
#define En 0b00001000                           //Internal definition

#define pm 0x10                 //plus minus
#define ae 0x1A                 //almost equal
#define ti 0x1D                 //midle ~
#define t2 0x1E                 //^2
#define t3 0x1F                 //^3

#define po 0xA5                 //£
#define ye 0xA6                 //yen
#define pt 0xA7                 //Pt
#define fm 0xA8                 //f(math)
#define zm 0xAD                 //0(math)
#define it 0xB5                 //i2
#define dv 0xB8                 //devide
#define se 0xB9                 //less or equal
#define be 0xBA                 //great or equal
#define dl 0xBB                 //<<
#define dg 0xBC                 //>>
#define ne 0xBD                 //not equal
#define ro 0xBE                 //root
#define in 0xC2                 //infinity
```

```
#define re 0xC4                 //return
#define au 0xC5                 //up
#define ad 0xC6                 //down
#define ar 0xC7                 //right
#define al 0xC8                 //left
#define tm 0xD0                 //trade mark
#define pg 0xD2                 //paragraph
#define gG 0xD4                 //gama cap
#define gD 0xD5                 //delta cap
#define gU 0xD6                 //theta cap
#define gL 0xD7                 //lamda cap
#define gJ 0xD8                 //ksi cap
#define gP 0xD9                 //pi cap
#define gS 0xDA                 //sigma cap
#define gT 0xDB                 //taf cap
#define gF 0xDC                 //fi cap
#define gC 0xDD                 //psi cap
#define gV 0xDE                 //omega cap
#define ga 0xDF                 //alpa
#define gb 0xE0                 //beta
#define gg 0xE1                 //gama
#define gd 0xE2                 //delta
#define ge 0xE3                 //epsilon
#define gz 0xE4                 //zita
#define gh 0xE5                 //ita
#define gu 0xE6                 //theta
#define gi 0xE7                 //iota
#define gk 0xE8                 //kapa
#define gl 0xE9                 //lamda
#define gm 0xEA                 //mi
#define gn 0xEB                 //ni
#define gj 0xEC                 //ksi
#define gp 0xED                 //pi
#define gr 0xEE                 //ro
#define gs 0xEF                 //sigma
#define gt 0xF0                 //taf
#define gy 0xF1                 //ypsilon
#define gf 0xF2                 //fi
#define gv 0xF3                 //psi
#define gw 0xF4                 //omega
#define dn 0xF5                 //down
#define ri 0xF6                 //right
#define le 0xF7                 //left
/*
#define sp 0x20                 //
#define em 0x21                 //!
#define dq 0x22                 //"
#define ns 0x23                 //#
#define ds 0x24                 //$
#define pc 0x25                 //%
#define an 0x26                 //&
#define sq 0x27                 //'
#define lb 0x28                 //(
#define rb 0x29                 //)
#define as 0x2A                 // *
#define pl 0x2B                 //+
#define cm 0x2C                 //,
```

```
#define mi 0x2D                 //-
#define dt 0x2E                 //.
#define sl 0x2F                 // /
#define n0 0x30
#define n1 0x31
#define n2 0x32
#define n3 0x33
#define n4 0x34
#define n5 0x35
#define n6 0x36
#define n7 0x37
#define n8 0x38
#define n9 0x39
#define cl 0x3A                 //:
#define sc 0x3B                 //;
#define la 0x3C                 //<
#define eq 0x3D                 //=
#define ra 0x3E                 //>
#define qm 0x3F                 //?
#define at 0x40                 //@
#define A 0x41
#define B 0x42
#define C 0x43
#define D 0x44
#define E 0x45
#define F 0x46
#define G 0x47
#define H 0x48
#define I 0x49
#define J 0x4A
#define K 0x4B
#define L 0x4C
#define M 0x4D
#define N 0x4E
#define O 0x4F
#define P 0x50
#define Q 0x51
#define R 0x52
#define S 0x53
#define T 0x54
#define U 0x55
#define V 0x56
#define W 0x57
#define X 0x58
#define Y 0x59
#define Z 0x5A
#define lt 0x5B                 //[
#define os 0x5C                 // \
#define rt 0x5D                 //]
#define to 0x5E                 //^
#define us 0x5F                 //_
#define oq 0x60                 //`
#define a 0x61
#define b 0x62
#define c 0x63
#define d 0x64
#define e 0x65
```

```
#define f 0x66
#define g 0x67
#define h 0x68
#define i 0x69
#define j 0x6A
#define k 0x6B
#define l 0x6C
#define m 0x6D
#define n 0x6E
#define o 0x6F
#define p 0x70
#define q 0x71
#define r 0x72
#define s 0x73
#define t 0x74
#define u 0x75
#define v 0x76
#define w 0x77
#define x 0x78
#define y 0x79
#define z 0x7A
#define sr 0x7B                 //{
#define ba 0x7C                 //|
#define er 0x7D                 //}
#define ut 0x7E                 //up ~
*/
```