```
/******************
*          keyboard1.h
*
*          Keyboard Header file for comaidsystem.c:
*          Communication Aid System     (Designed to assist on-road communication with deaf driver)
*                         Hardware specs: Atmega168p microcontroller
*
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*
*           Under supervision from Betty O'Neil
*
*          Spring 2010 Real-Time Systems Independent Study, UMass Boston
*
**********************/
```

/* $Id: keyboard1.h, version 1.0 2010/31/04 09:26:08 */

```
#define END_CODE 0xF0

#define EXTENDED 0xE0

#define EXTENDED1 0xE1


#define A 0x1c

#define B 0x32

#define C 0x21

#define D 0x23

#define E 0x24

#define F 0x2B

#define G 0x34

#define H 0x33

#define I 0x43

#define J 0x3B

#define K 0x42

#define L 0x4B

#define M 0x3A

#define N 0x31

#define O 0x44

#define P 0x4D

#define Q 0x15

#define R 0x2D

#define S 0x1B

#define T 0x2C
```

```
#define U 0x3C

#define V 0x2A

#define W 0x1D

#define X 0x22

#define Y 0x35

#define Z 0x1A

#define D0 0x45

#define D1 0x16

#define D2 0x1e

#define D3 0x26

#define D4 0x25

#define D5 0x2e

#define D6 0x36

#define D7 0x3d

#define D8 0x3e

#define D9 0x46

#define ACCENT 0x0e

#define HYPHEN 0x4e

#define EQUALS 0x55

#define BACKSLASH 0x5d

#define BKSP 0x66

#define SPACE 0x29

#define TAB 0x0d

#define CAPS 0x58

#define L_SHIFT 0x12
```

```
#define L_CTRL 0x14

#define L_GUI 0x1f

#define L_ALT 0x11

#define R_SHIFT 0x59

#define R_CTRL 0x14

#define R_GUI 0x27

#define R_ALT 0x11

#define APPS 0x2f

#define ENTER 0x5a

#define ESC 0x76

#define F1 0x05

#define F2 0x06

#define F3 0x04

#define F4 0x0c

#define F5 0x03

#define F6 0x0b

#define F7 0x83

#define F8 0x0a

#define F9 0x01

#define F10 0x09

#define F11 0x78

#define F12 0x07

#define PRNT_SCRN 0x12

#define SCROLL 0x7e

#define PAUSE 0x14
```

```
#define LSQR_BRKT 0x54

#define INSERT  0x70

#define HOME  0x6c

#define PG_UP  0x7d

#define DELETE  0x71

#define END  0x69

#define PG_DN  0x7a

#define U_ARROW  0x75

#define L_ARROW  0x6b

#define D_ARROW  0x72

#define R_ARROW  0x74

#define NUM  0x77

#define KP_SLASH 0x4a

#define KP_STAR  0x7c

#define KP_MINUS  0x7b

#define KP_PLUS  0x79

#define KP_EN  0x5a

#define KP_DOT  0x71

#define KP_0  0x70

#define KP_1  0x69

#define KP_2  0x72

#define KP_3  0x7a

#define KP_4  0x6b

#define KP_5  0x73

#define KP_6 0x74
```

```
#define KP_7 0x6c

#define KP_8 0x75

#define KP_9 0x7d

#define RSQR_BRKT 0x5b

#define SEMI_COLON 0x4c

#define APOSTROPHE 0x52

#define COMMA 0x41

#define DOT 0x49

#define SLASH 0x4A


typedef struct scancode_struct{

  char ascii_char;

  void *(*scancode_function)(char/*void */);


}scode;


//int regular_keys[][2]={
{A,'A'},{B,'B'},{C,'C'},{D,'D'},{E,'E'},{F,'F'},{G,'G'},{H,'H'},{I,'I'},{J,’J’},{K,'K'},{L,'L'},{M,'M'},{N,'N'},{O,'O'},{P,'P'},
{Q,'Q'},{R,'R'},{S,'S'},{T,'T'},{U,'U'},{V,'V'},{W,'W'},{X,'X'},{Y,'Y'},{Z,'Z'},{D0,'0'},{D1,'1'},{D2,'2'},{D3,'3'},{D4,'4
'},{D5,'5'},{D6,'6'},{D7,'7'},{D8,'8'},{D9,'9'},{APOSTROPHE,'\''},{HYPHEN,'-
'},{EQUALS,'='},{BACKSLASH,'\\'},{SPACE,'
'},{TAB,'\t'},{LSQR_BRKT,'['},{ACCENT,'`'},{KP_SLASH,'?'},{KP_STAR,'*'},{KP_MINUS,'_'},{KP_PLUS,'+'},{KP_
DOT,'>'},{KP_0,'('},{KP_1,'!'},{KP_2,'@'},{KP_3,'#'},{KP_4,'$'},{KP_5,'\%'},{KP_6,'^'},{KP_7,'&'},{KP_8,'*'},{K
P_9,'('},{SLASH,'/'},{DOT,'.'},{COMMA,','},{SEMI_COLON,';'},{RSQR_BRKT,']'}};
```