

embedded assignment 6.

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1/1

C code to interface SDcard + ATmega328p.

```
#define F_CPU 800000
#include <avr/io.h>
#include <stdlib.h>
#include "atmega32.h"
#include "lcd.h"
#include "sdsc.h"
#include "fat32.h"
```

void initialize()

```
lcd=(lcd_interface*)malloc(sizeof(lcd_interface));
lcd->delay_ms = msdelay;
lcd->lcd_port_init = avr_lcd_port_init;
lcd->lcd_data = avr_lcd_data;
lcd->lcd_cmd = avr_lcdcmd;
lcd_init();
```

```
sdsc=(sdsc_interface*)malloc(sizeof(sdsc_interface));
sdsc->Spi_tx = spi_tx;
sdsc->Spi_rx = spi_rx;
sdsc->Spi_init = spi_init;
sdsc->sdsc_assert = sdsc_pinassert;
sdsc->sdsc_deassert = sdsc_pindeassert;
sdsc_init();
```

```
fat = (fat32_interface*)malloc(sizeof(fat32_interface));
fat->read_single_block = read_single_block;
fat->Send_data_byte = usart_putchar;
fat32_init();
usart_init();
}
```

```
int main() {
```

```
    char x;
    int i;
    char *p = " ";
    initialize();
```

```
    printf("SDSC card detached\n");
```

```
    MENU:
```

```
    printf("OPTIONS:\n");
```

```
    printf("1: LIST ALL FILES\n");
```

```
    printf("2: READ FILE\n");
```

```
    printf("Enter option:\n");
```

```
    switch (usart_getch()) {
```

```
        case '1':
```

```
            lcd_clear();
```

```
            lcd_string("LISTING FILES--");
```

```
            list_files();
```

```
            break;
```

'case '2':

```
printf("Enter file name: \n");
for(i=0, i<9; i++) {
    x = user_getch();
    user_putchar(x);
    if('r' == x) {
        break;
    } else {
        p[i] = x;
    }
}
p[i] = '\0';
lcd_clear();
lcd_string("READING FILE...\n");
read_file(p);
}
go to MENU;
while(1){}; }
```