

Create a menu-driven user interface for the maya command-line renderer. Use the framework below (*written using the ncurses library*) as a starting point and add any necessary options. This program should allow a user to enter the options necessary for rendering a Maya scene, to save/reload those options and to start the renderer (*as a separate process*).

Notes:

a) you can find out the necessary command-line options using this command-line:

> **Render -help**

b) compile the framework program by using the command-line:

gcc prog.c -lncurses -o prog

c) to be able to save and reload the renderer flags it may be useful to store them within a **struct** structure

d) use **fork** and **execvp** to execute the renderer – redirect its output into a log file

```
#include <unistd.h>
#include <stdlib.h>
#include <ncurses.h> /* the ncurses library header */

/* renderer flags */
int renderer=0;
int rendering=0;
char filename[256];

/* menu drawing function */
void draw_menu(void)
{
    clear(); /* clear screen */
    move(5,15); /* goto terminal line 5, column 15 */
    attrset(COLOR_PAIR(1)); /* select colour pair 1 */
    attron(A_BOLD); /* bold printing on */
    printw("%s","Maya Batch Render");
    attroff(A_BOLD);
    move(6,15);
    if(rendering==0)
        printw("%s","press ENTER to start rendering");
    else
        printw("%s","rendering...");
    move(9,15);
    attrset(COLOR_PAIR(2));
    printw("%s","Renderer (r):  ");
    attrset(COLOR_PAIR(3));
    if(!renderer)
        printw("%s","Maya (Default)");
    else
        printw("%s","Mentalray  ");
    move(11,15);
    attrset(COLOR_PAIR(2));
    printw("%s","Source File (i): ");
    attrset(COLOR_PAIR(1));
    if(filename[0]!=0)
        printw("%s",filename);
    refresh(); /* refresh terminal window */
}
```

```

int main(int argc, char *argv[])
{
    int key=0;
    filename[0]=0;

    initscr(); /* initialize curses */
    crmode(); /* text mode */
    keypad(stdscr, TRUE); /* enable keypad */

    if(start_color()!=OK) /* check if terminal supports colours */
    {
        endwin();
        exit(EXIT_FAILURE);
    }
    /* define color pairs */
    init_pair(1, COLOR_WHITE, COLOR_BLACK);
    init_pair(2, COLOR_GREEN, COLOR_BLACK);
    init_pair(3, COLOR_BLACK, COLOR_WHITE);
    init_pair(4, COLOR_CYAN, COLOR_BLACK);

    curs_set(FALSE); /* switch off cursor */
    noecho(); /* switch off printing */

    do
    {
        switch(key)
        {
            case 'r':
            case 'R': renderer=!renderer;
                    draw_menu();
                    break;

            case 'i':
            case 'I': filename[0]=0;
                    draw_menu();
                    curs_set(TRUE);
                    echo();
                    /* get Maya scene file name */
                    attrset(COLOR_PAIR(4));
                    getstr(filename);
                    curs_set(FALSE);
                    attrset(COLOR_PAIR(1));
                    noecho();
                    draw_menu();
                    break;

            case KEY_ENTER: rendering=1;
                    /* fork off to render */
                    draw_menu();
                    break;

            default: draw_menu();
        }
        key=getch();

    } while (key!=ERR && key!='q' && key!='Q' && key!=27);

    endwin(); /* uninitialized curses */
    exit(EXIT_SUCCESS);
}

```