Luna

"Fire retro rockets, prepare for descent."

Luna simulates landing a lunar lander on the surface of the moon. You have a limited amount of fuel and are descending fast. Burn 5 units of fuel and your speed will remain constant. More than 5 units will slow you, less than 5 will cause your descent to accelerate. Burn too much fuel and you'll run out. Fall to fast and you'll crash.

A curious thing about Luna is that it could easily be rewritten to use the stdio.h header functions. Curses is just used to format the output, make it pretty. It's an interesting project to rewrite it with just stdio.h to see what it looks like.

Luna is by "whitespace" on the TIGSource forums, written for the TIGSource cockpit compo.

/* luna.c listing begins: */

```
#include <curses.h>
#include <string.h>

int main() {
  while (1) {
    int row,col; int y=0; int t=-1; int h=550; int v=45; int f=150; int e=48;

    char tit[] = "    "; char title[] = " LUNA ";
    char author[] = "by Whitespace";
    char cockpit[] ="Tigsource Cockpit Competition 2009";
    initscr(); curs_set(0); raw(); noecho(); clear();
    start_color();
    init_pair(1, COLOR_BLACK, COLOR_WHITE);
    attron(COLOR_PAIR(1));
    getmaxyx(stdscr,row,col);
    mvprintw(row/2-1,(col-strlen(tit))/2,"%s",tit);
    mvprintw(row/2,(col-strlen(title))/2,"%s",title);
    mvprintw(row/2+1,(col-strlen(tit))/2,"%s",tit);
    attroff(COLOR_PAIR(1));
    mvprintw(row/2+3,(col-strlen(author))/2,"%s",author);
    mvprintw(row/2+4,(col-strlen(cockpit))/2,"%s\n",cockpit);
    getch();
    clear();
    while (h>0) {
      clear(); y=e-48; t+=1; f-=y;
      if (f<0) { f=0; y=0; };
      v+=(5-y);
      h-=v;
      if (h<0) { h=0; };
      mvprintw(10,35,"Time:%d",t);
      mvprintw(11,35,"Height:%d",h);
      mvprintw(12,35,"Speed:%d",v);
      mvprintw(13,35,"Fuel:%d",f);
      attron(COLOR_PAIR(1));
      mvprintw(15,25," Burn fuel units:(press 0-9) ");
      attroff(COLOR_PAIR(1));

      if (h==0 && v>5) {
        clear();
        char fail1[] = "You are on the moon.";
        char fail2[] = "You landed too fast.";
        char fail3[] = "Now you're dead.";
        mvprintw(row/2-1,(col-strlen(fail1))/2,"%s",fail1);
        mvprintw(row/2,(col-strlen(fail2))/2,"%s",fail2);
        mvprintw(row/2+1,(col-strlen(fail3))/2,"%s",fail3);
        break;
      };
      if (h==0 && v<6) {
        clear();
        char succ1[] = "You succesfully landed on the moon.";
        char succ2[] = "I wonder what you want to do here.";
        mvprintw(row/2-1,(col-strlen(succ1))/2,"%s",succ1);
        mvprintw(row/2,(col-strlen(succ2))/2,"%s",succ2);
        break;
      };
      e = getch();
      while (e<48 || e>57) { e = getch(); }
    }
    getch();
  }
  endwin();
  return 0;
}
```