Taipan

Taipan was (and is) a classic role-playing game from the 1980s. While not as graphically oriented as some of the other popular games of the time (e.g., Choplifter, Karateka, and Lode Runner), Taipan still managed to capture the imagination of almost every player that laid hands upon it. The game was addictive—almost dangerously so.

Loosely based upon James Clavell's best-selling novel "Tai-Pan", the game lets you play the role of an ocean-going trader doing business in major Asian ports during the mid-1800s. Your objective is simple: make the most money possible by trading and pirating. Based out of Hong Kong, you'll sail from harbor to harbor buying commodities including opium, silk, arms, and "general" goods, and selling them again at a higher price elsewhere.

The original version of the game was programmed by Art Canfil using a TRS-80. However, the better-known commercial release ran on the Apple][. Trivia buffs will note that the Apple port was coded by Ronald J. Berg of Megamicro Computers, a hidden snippet that's revealed by reading the data value of memory location USR(34).

I've attempted to make this version of Taipan as close to the original as possible. As such, I deliberately left in one rather substantial bug from the Apple][ver-

```c
/* taipan.c linsting begins: */

/* ---------------------------------------------------------------------- *
 * Taipan version 0.9
 * A text/ncurses game for Linux.
 *
 * Created by:
 *    Art Canfil
 *
 * Programmed by:
 *    Jay Link <jlink@gmail.com>
 *
 * Apple ][ program coded by:
 *    Ronald J. Berg
 * ---------------------------------------------------------------------- */

#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <unistd.h>
#include <curses.h>

#define GENERIC 1
#define LI_YUEN 2

#ifdef PDCURSES
#define usleep(c) napms((c)/1000)
#endif

void splash_intro(void);
int get_one(void);
long get_num(int maxlen);
void name_firm(void);
void cash_or_guns(void);
void set_prices(void);
void port_stats(void);
int port_choices(void);
void new_ship(void);
void new_gun(void);
void li_yuen_extortion(void);
void elder_brother_wu(void);
void good_prices(void);
void buy(void);
void sell(void);
void visit_bank(void);
void transfer(void);
void quit(void);
void overload(void);
void fancy_numbers(float num, char *fancy);
int sea_battle(int id, int num_ships);
void draw_lorcha(int x, int y);
void clear_lorcha(int x, int y);
void draw_blast(int x, int y);
void sink_lorcha(int x, int y);
void fight_stats(int ships, int orders);
void mchenry(void);
void retire(void);
void final_stats(void);

char    firm[23],
        fancy_num[13];


char    *item[] = { "Opium", "Silk", "Arms", "General Cargo" };
```

```c
char    *location[] = { "At sea", "Hong Kong", "Shanghai", "Nagasaki",
                        "Saigon", "Manila", "Singapore", "Batavia" };

char    *months[] = { "Jan", "Feb", "Mar", "Apr", "May", "Jun",
                      "Jul", "Aug", "Sep", "Oct", "Nov", "Dec" };

char    *st[] = { "Critical", "  Poor", "  Fair",
                  "  Good", " Prime", "Perfect" };

float   cash        = 0,
        bank        = 0,
        debt        = 0,
        booty       = 0,
        ec          = 20,
        ed          = .5;

long    price[4];

int     base_price[4][8] = { {1000, 11, 16, 15, 14, 12, 10, 13},
                             {100,  11, 14, 15, 16, 10, 13, 12},
                             {10,   12, 16, 10, 11, 13, 14, 15},
                             {1,    10, 11, 12, 13, 14, 15, 16} };

int     hkw_[4],
        hold_[4];

int     hold        = 0,
        capacity    = 60,
        guns        = 0,
        bp          = 0,
        damage      = 0,
        month       = 1,
        year        = 1860,
        li          = 0,
        port        = 1,
        wu_warn     = 0,
        wu_bailout  = 0;

int main(void)
{
    int choice;

    srand(getpid());

    initscr();

    cbreak();
    noecho();
#ifdef PDCURSES
    PDC_set_title("Cymon's Games - Taipan");
#endif

    splash_intro();
    name_firm();
    cash_or_guns();
    set_prices();

    for (;;)
    {
        choice = 0;

        port_stats();
```

sion—if you've ever played Taipan before, you'll know instantly what I mean. If not, you'll just have to discover this one on your own!

Historical note: Batavia is the old Dutch name for present-day Jakarta.

Art Canfil co-authored a book (see below) which gives not only the TRS-80 code, but also some excellent background information. The illustrations were done by Chrisann Brennan, former girlfriend of Steve Jobs, and mother of Jobs' daughter Lisa -- the namesake of the forerunner of the Macintosh.

Art Canfil relates: "A few months after it [Avalanche's version of Taipan] came out, I was invited to the founding party for Electronic Arts. This was held in the Stanford Court Hotel in San Francisco. While there, I saw and shook hands with and introduced myself to Steve Wozniak, one of the main original investors in EA. He's long been one of my heroes. He didn't know who I was. But apparently someone told him, for a few minutes later he came running up and shook MY hand and said, 'Taipan's my favorite game!' One of the highpoints of my life."

Unfortunately, Art never made a cent from the Avalanche release.

This version was written by Jay Link.

Suggested Reading:

"Tai-Pan", James Clavell,

"Taipan: A Historical Adventure for the Apple Computer", Art Canfil, Jim McClenahan, & Karl Albrecht, 1986

```
/* Listing continued from previous page */

        if ((port == 1) && (li == 0) && (cash > 0))
        {
            li_yuen_extortion();
        }

        if ((port == 1) && (damage > 0))
        {
            mchenry();
        }

        if ((port == 1) && (debt >= 10000) && (wu_warn == 0))
        {
            int braves = rand()%100 + 50;

            move(16, 0);
            clrtobot();
            printw("Comprador's Report\n\n");
            printw("Elder Brother Wu has sent %d braves\n", braves);
            printw("to escort you to the Wu mansion, Taipan.\n");

            refresh();
            timeout(3000);
            getch();
            timeout(-1);

            move(18, 0);
            clrtobot();
            printw("Elder Brother Wu reminds you of the\n");
            printw("Confucian ideal of personal worthiness,\n");
            printw("and how this applies to paying one's\n");
            printw("debts.\n");

            refresh();
            timeout(3000);
            getch();
            timeout(-1);

            move(18, 0);
            clrtobot();
            printw("He is reminded of a fabled barbarian\n");
            printw("who came to a bad end, after not caring\n");
            printw("for his obligations.\n\n");
            printw("He hopes no such fate awaits you, his\n");
            printw("friend, Taipan.\n");

            refresh();
            timeout(5000);
            getch();
            timeout(-1);

            wu_warn = 1;
        }

        if (port == 1)
        {
            elder_brother_wu();
        }

        if (rand()%4 == 0)
        {
            if (rand()%2 == 0)
            {
```

/* Listing continued from previous page */

```
            new_ship();
        } else if (guns < 1000) {
            new_gun();
        }
    }

    if ((port != 1) && (rand()%18 == 0) && (hold_[0] > 0))
    {
        float fine = ((cash / 1.8) * ((float) rand() / RAND_MAX)) + 1;

        hold += hold_[0];
        hold_[0] = 0;
        cash -= fine;

        port_stats();

        fancy_numbers(fine, fancy_num);
        move(16, 0);
        clrtobot();
        printw("Comprador's Report\n\n");
        printw("Bad Joss!!\n");
        printw("The local authorities have seized your\n");
        printw("Opium cargo and have also fined you\n");
        printw("%s, Taipan!\n", fancy_num);

        refresh();
        timeout(5000);
        getch();
        timeout(-1);
    }

    if ((rand()%50 == 0) &&
        ((hkw_[0] + hkw_[1] + hkw_[2] + hkw_[3]) > 0))
    {
        int i;

        for (i = 0; i < 4; i++)
        {
            hkw_[i] = ((hkw_[i] / 1.8) * ((float) rand() / RAND_MAX));
        }

        port_stats();

        move(16, 0);
        clrtobot();
        printw("Comprador's Report\n\n");
        printw("Messenger reports large theft\n");
        printw("from warehouse, Taipan.\n");

        refresh();
        timeout(5000);
        getch();
        timeout(-1);
    }

    if (rand()%20 == 0)
    {
        if (li > 0) { li++; }
        if (li == 4) { li = 0; }
    }

    if ((port != 1) && (li == 0) && (rand()%4 != 0))
    {
```

/* Listing continued from previous page */

```
            move(16, 0);
            clrtobot();
            printw("Comprador's Report\n\n");
            printw("Li Yuen has sent a Lieutenant,\n");
            printw("Taipan.  He says his admiral wishes\n");
            printw("to see you in Hong Kong, posthaste!\n");

            refresh();
            timeout(3000);
            getch();
            timeout(-1);
        }

        if (rand()%9 == 0)
        {
            good_prices();
        }

        if ((cash > 25000) && (rand()%20 == 0))
        {
            float robbed = ((cash / 1.4) * ((float) rand() / RAND_MAX));

            cash -= robbed;
            port_stats();

            fancy_numbers(robbed, fancy_num);
            move(16, 0);
            clrtobot();
            printw("Comprador's Report\n\n");
            printw("Bad Joss!!\n");
            printw("You've been beaten up and\n");
            printw("robbed of %s in cash, Taipan!!\n", fancy_num);

            refresh();
            timeout(5000);
            getch();
            timeout(-1);
        }

        for (;;)
        {
            while ((choice != 'Q') && (choice != 'q'))
            {
                switch (choice = port_choices())
                {
                    case 'B':
                    case 'b':
                        buy();
                        break;

                    case 'S':
                    case 's':
                        sell();
                        break;

                    case 'V':
                    case 'v':
                        visit_bank();
                        break;

                    case 'T':
                    case 't':
                        transfer();
```

/* Listing continued from previous page */

```c
                break;

            case 'R':
            case 'r':
                retire();
        }

        port_stats();
    }

    choice = 0;
    if (hold >= 0)
    {
        quit();
        break;
    } else {
        overload();
    }
}
}

    clear();
    refresh();
    nocbreak();
    endwin();

    return EXIT_SUCCESS;
}

void splash_intro(void)
{
    flushinp();
    clear();
    printw("\n");
    printw("          _____  _    ___ ____   _    _   _             ==============\n");
    printw("         |_   _|/ \\  |_ _|  _ \\ / \\  | \\ | |             Created by:\n");
    printw("           | | / _ \\  | || |_) / _ \\ |  \\| |              Art Canfil\n");
    printw("           | |/ ___ \\ | ||  __/ ___ \\| |\\  |\n");
    printw("           |_/_/    \\\\_\\\\___|_| /_/    \\\\_\\\\_| \\\\_|            ==============\n");
    printw("                                                         Programmed by:\n");
    printw("     A game based on the China trade of the 1800's         Jay Link\n");
    printw("\n");
    printw("                          ~~|     ,                      jaylink1971\n");
    printw("                        ,|`-._/|                           @gmail.com\n");
    printw("                      .' |   /||\\\\                        ==============\n");
    printw("                    .'   | ./ ||`\\\\                       TRS80 version \n");
    printw("                   / `-. |/._ ||  \\\\                           by\n");
    printw("                  /     `||  `|;-._\\\\                       Art Canfil\n");
    printw("                  |      ||   ||   \\\\\\n");
    printw("~^\\~_-~^\\~=~^~~^= /       ||   ||__  \\\\~^=~^~-~^~_~^~=       ==============\n");
    printw(" ~=~^~ _~^~ =~ `--------|`---||  `\\\"-`___~~^~ =_~^=        Press ");
    attrset(A_REVERSE);
    printw("ANY");
    attrset(A_NORMAL);
    printw(" key\n");
    printw("~ ~^~=~^_~^~ =~ \\\\~~~~~~~'~~~~'~~~~/~~`` ~=~^~ ~^=          to start.\n");
    printw(" ~^=~^~_~-=~^~ ^ `--------------'~^\\~=~^~_~^=~^~=~\n");
    curs_set(0);
    refresh();

    getch();
    curs_set(1);
    return;
```

/* Listing continued on next page… */

```
/* Listing continued from previous page */
}

int get_one(void)
{
    int input,
        choice = 0,
        character = 0;

    while ((input = getch()) != '\n')
    {
        if (((input == 8) || (input == 127)) && (character == 0))
        {
            refresh();
        } else if ((input == 8) || (input == 127)) {
            printw("%c", 8);
            printw(" ");
            printw("%c", 8);
            character--;
            refresh();
        } else if (character >= 1) {
            refresh();
        } else if (input == '\33') {
            flushinp();
            refresh();
        } else {
            printw("%c", input);
            choice = input;
            character++;
            refresh();
        }
    }

    return choice;
}

long get_num(int maxlen)
{
    char number[maxlen + 1];

    int  input,
         character = 0;

    long amount;

    while ((input = getch()) != '\n')
    {
        if (((input == 8) || (input == 127)) && (character == 0))
        {
            refresh();
        } else if ((input == 8) || (input == 127)) {
            printw("%c", 8);
            printw(" ");
            printw("%c", 8);
            number[character] = '\0';
            character--;
            refresh();
        } else if (character >= maxlen) {
            refresh();
        } else if (input == '\33') {
            flushinp();
            refresh();
        } else if (((input == 'A') || (input == 'a')) &&
                    (character == 0) && (maxlen > 1)) {
```

/* Listing continued from previous page */

```c
            printw("%c", input);
            number[character] = input;
            character++;
            refresh();
        } else if ((input < 48) || (input > 57)) {
            refresh();
        } else {
            printw("%c", input);
            number[character] = input;
            character++;
            refresh();
        }
    }

    number[character] = '\0';
    if ((strcmp(number, "A") == 0) || (strcmp(number, "a") == 0))
    {
        amount = -1;
    } else {
        amount = strtol(number, (char **)NULL, 10);
    }

    return amount;
}

void name_firm(void)
{
    int  input,
         character = 0;

    clear();
    move (7, 0);
    printw(" _____\n");
    printw("|      Taipan,                      |\n");
    printw("|                                   |\n");
    printw("| What will you name your           |\n");
    printw("|                                   |\n");
    printw("|      Firm:                        |\n");
    printw("|             --------------------  |\n");
    printw("|_____|\n");

    move(12, 12);
    refresh();

    while (((input = getch()) != '\n') && (character < 22))
    {
        if (((input == 8) || (input == 127)) && (character == 0))
        {
            refresh();
        } else if ((input == 8) || (input == 127)) {
            printw("%c", 8);
            printw(" ");
            printw("%c", 8);
            firm[character] = '\0';
            character--;
            refresh();
        } else if (input == '\33') {
            flushinp();
            refresh();
        } else {
            printw("%c", input);
            firm[character] = input;
            character++;
```

/* Listing continued from previous page */

```c
         refresh();
      }
   }

   firm[character] = '\0';

   return;
}

void cash_or_guns(void)
{
   int choice = 0;

   clear();
   move (5, 0);
   printw("Do you want to start . . .\n\n");
   printw("  1) With cash (and a debt)\n\n");
   printw("                >> or <<\n\n");
   printw("  2) With five guns and no cash\n");
   printw("                (But no debt!)\n");

   while ((choice != '1') && (choice != '2'))
   {
      move (15, 0);
      clrtoeol();
      printw("          ?");
      refresh();
      choice = get_one();
   }

   if (choice == '1')
   {
      cash = 400;
      debt = 5000;
      hold = 60;
      guns = 0;
      li = 0;
      bp = 10;
   } else {
      cash = 0;
      debt = 0;
      hold = 10;
      guns = 5;
      li = 1;
      bp = 7;
   }

   return;
}

void set_prices(void)
{
   price[0] = base_price[0][port] / 2 * (rand()%3 + 1) * base_price[0][0];
   price[1] = base_price[1][port] / 2 * (rand()%3 + 1) * base_price[1][0];
   price[2] = base_price[2][port] / 2 * (rand()%3 + 1) * base_price[2][0];
   price[3] = base_price[3][port] / 2 * (rand()%3 + 1) * base_price[3][0];
   return;
}

void port_stats(void)
{
   int  in_use,
        status = 100 - (((float) damage / capacity) * 100),
```

/* Listing continued on next page… */

/* Listing continued from previous page */
```c
        spacer,
        i;

    clear();
    spacer = 12 - (strlen(firm) / 2);
    for (i = 1; i <= spacer; i++)
    {
        printw(" ");
    }
    printw("Firm: %s, Hong Kong\n", firm);
    printw("  _____\n");
    printw("|Hong Kong Warehouse         |      Date\n");
    printw("|  Opium          In Use:    |\n");
    printw("|  Silk                      |\n");
    printw("|  Arms           Vacant:    |   Location\n");
    printw("|  General                   |\n");
    printw("|_____|\n");
    printw("|Hold             Guns       |      Debt\n");
    printw("|  Opium                     |\n");
    printw("|  Silk                      |\n");
    printw("|  Arms                      | Ship Status\n");
    printw("|  General                   |\n");
    printw("|_____|\n");
    printw("Cash:            Bank:\n");
    printw("_____\n");

    move(3, 12);
    printw("%d", hkw_[0]);
    move(4, 12);
    printw("%d", hkw_[1]);
    move(5, 12);
    printw("%d", hkw_[2]);
    move(6, 12);
    printw("%d", hkw_[3]);
    move(8, 6);
    if (hold >= 0)
    {
        printw("%d", hold);
    } else {
        attrset(A_REVERSE);
        printw("Overload");
        attrset(A_NORMAL);
    }
    move(9, 12);
    printw("%d", hold_[0]);
    move(10, 12);
    printw("%d", hold_[1]);
    move(11, 12);
    printw("%d", hold_[2]);
    move(12, 12);
    printw("%d", hold_[3]);

    move(14, 5);
    fancy_numbers(cash, fancy_num);
    printw("%s", fancy_num);

    in_use = hkw_[0] + hkw_[1] + hkw_[2] + hkw_[3];
    move(4, 21);
    printw("%d", in_use);
    move(6, 21);
    printw("%d", (10000 - in_use));

    move(8, 25);
```


A game based on the China trade of the 1800's

```c
/* Listing continued from previous page */
    printw("%d", guns);

    move(14, 25);
    fancy_numbers(bank, fancy_num);
    printw("%s", fancy_num);

    move(3, 42);
    printw("15 ");
    attrset(A_REVERSE);
    printw("%s", months[month - 1]);
    attrset(A_NORMAL);
    printw(" %d", year);

    move(6, 43);
    spacer = (9 - strlen(location[port])) / 2;
    for (i = 1; i <= spacer; i++)
    {
        printw(" ");
    }
    attrset(A_REVERSE);
    printw("%s", location[port]);
    attrset(A_NORMAL);

    move(9, 41);
    fancy_numbers(debt, fancy_num);
    spacer = (12 - strlen(fancy_num)) / 2;
    for (i = 1; i <= spacer; i++)
    {
        printw(" ");
    }
    attrset(A_REVERSE);
    printw("%s", fancy_num);
    attrset(A_NORMAL);

    i = status / 20;
    if (i < 2)
    {
        attrset(A_REVERSE);
        move(12, 51);
        printw("  ");
    }
    move(12, 42);
    printw("%s:%d", st[i], status);
    attrset(A_NORMAL);
}

int port_choices(void)
{
    int choice = 0;

    move(16, 0);
    clrtobot();
    printw("Comprador's Report\n\n");
    printw("Taipan, present prices per unit here are\n");
    printw("   Opium:          Silk:\n");
    printw("   Arms:           General:\n");
    move(19, 11);
    printw("%ld", price[0]);
    move(19, 29);
    printw("%ld", price[1]);
    move(20, 11);
    printw("%ld", price[2]);
    move(20, 29);
```

/* Listing continued on next page... */

/* Listing continued from previous page */
```c
    printw("%ld", price[3]);

    for (;;)
    {
        move (22, 0);
        clrtobot();

        if (port == 1)
        {
            if ((cash + bank) >= 1000000)
            {
                printw("Shall I Buy, Sell, Visit bank, Transfer\n");
                printw("cargo, Quit trading, or Retire? ");
                refresh();

                choice = get_one();
                if ((choice == 'B') || (choice == 'b') ||
                    (choice == 'S') || (choice == 's') ||
                    (choice == 'V') || (choice == 'v') ||
                    (choice == 'T') || (choice == 't') ||
                    (choice == 'Q') || (choice == 'q') ||
                    (choice == 'R') || (choice == 'r'))
                {
                    break;
                }
            } else {
                printw("Shall I Buy, Sell, Visit bank, Transfer\n");
                printw("cargo, or Quit trading? ");
                refresh();

                choice = get_one();
                if ((choice == 'B') || (choice == 'b') ||
                    (choice == 'S') || (choice == 's') ||
                    (choice == 'V') || (choice == 'v') ||
                    (choice == 'T') || (choice == 't') ||
                    (choice == 'Q') || (choice == 'q'))
                {
                    break;
                }
            }
        } else {
            printw("Shall I Buy, Sell, or Quit trading? ");
            refresh();

            choice = get_one();
            if ((choice == 'B') || (choice == 'b') ||
                (choice == 'S') || (choice == 's') ||
                (choice == 'Q') || (choice == 'q'))
            {
                break;
            }
        }
    }

    return choice;
}

void buy(void)
{
    char space[5];

    int  choice = 0;
```

```
/* Listing continued from previous page */
    long afford,
        amount;

    for (;;)
    {
        move(22, 0);
        clrtobot();

        printw("What do you wish me to buy, Taipan? ");
        refresh();

        choice = get_one();
        if ((choice == 'O') || (choice == 'o'))
        {
            choice = 0;
            break;
        } else if ((choice == 'S') || (choice == 's')) {
            choice = 1;
            break;
        } else if ((choice == 'A') || (choice == 'a')) {
            choice = 2;
            break;
        } else if ((choice == 'G') || (choice == 'g')) {
            choice = 3;
            break;
        }
    }

    for (;;)
    {
        move(21, 42);
        clrtobot();

        afford = cash / price[choice];
        attrset(A_REVERSE);
        printw(" You can ");
        attrset(A_NORMAL);
        move(22, 0);
        printw("How much %s shall", item[choice]);
        move(22, 42);
        attrset(A_REVERSE);
        printw("  afford ");
        move(23, 42);
        printw("          ");
        move(23, 42);
        if (afford < 100)
        {
            strcpy(space, "     ");
        } else if (afford < 10000) {
            strcpy(space, "    ");
        } else if (afford < 1000000) {
            strcpy(space, "  ");
        } else if (afford < 100000000) {
            strcpy(space, " ");
        } else {
            strcpy(space, "");
        }
        printw("%s%ld", space, afford);
        attrset(A_NORMAL);

        move(23, 0);
        printw("I buy, Taipan: ");
        refresh();
```

```
        amount = get_num(9);
        if (amount == -1)
        {
            amount = afford;
        }
        if (amount <= afford)
        {
            break;
        }
    }

    cash -= (amount * price[choice]);
    hold_[choice] += amount;
    hold -= amount;

    return;
}

void sell(void)
{
    int  choice = 0;

    long amount;

    for (;;)
    {
        move(22, 0);
        clrtobot();

        printw("What do you wish me to sell, Taipan? ");
        refresh();

        choice = get_one();
        if ((choice == 'O') || (choice == 'o'))
        {
            choice = 0;
            break;
        } else if ((choice == 'S') || (choice == 's')) {
            choice = 1;
            break;
        } else if ((choice == 'A') || (choice == 'a')) {
            choice = 2;
            break;
        } else if ((choice == 'G') || (choice == 'g')) {
            choice = 3;
            break;
        }
    }

    for (;;)
    {
        move(22, 0);
        clrtobot();

        printw("How much %s shall\n", item[choice]);
        printw("I sell, Taipan: ");
        refresh();

        amount = get_num(9);

        if (amount == -1)
        {
```

/* Listing continued from previous page */

```c
            amount = hold_[choice];
        }
        if (hold_[choice] >= amount)
        {
            hold_[choice] -= amount;
            break;
        }
    }

    cash += (amount * price[choice]);
    hold += amount;

    return;
}

void visit_bank(void)
{
    long amount = 0;

    for (;;)
    {
        move(16, 0);
        clrtobot();
        printw("Comprador's Report\n\n");
        printw("How much will you deposit? ");
        refresh();

        amount = get_num(9);
        if (amount == -1)
        {
            amount = cash;
        }
        if (amount <= cash)
        {
            cash -= amount;
            bank += amount;
            break;
        } else {
            move(18, 0);
            clrtobot();
            fancy_numbers(cash, fancy_num);
            printw("Taipan, you only have %s\n", fancy_num);
            printw("in cash.\n");

            refresh();
            timeout(5000);
            getch();
            timeout(-1);
        }
    }
    port_stats();

    for (;;)
    {
        move(16, 0);
        clrtobot();
        printw("Comprador's Report\n\n");
        printw("How much will you withdraw? ");
        refresh();

        amount = get_num(9);
        if (amount == -1)
        {
```

/* Listing continued from previous page */

```c
            amount = bank;
        }
        if (amount <= bank)
        {
            cash += amount;
            bank -= amount;
            break;
        } else {
            fancy_numbers(cash, fancy_num);
            printw("Taipan, you only have %s\n", fancy_num);
            printw("in the bank.");

            refresh();
            timeout(5000);
            getch();
            timeout(-1);
        }
    }
    port_stats();

    return;
}

void transfer(void)
{
    int i, in_use;

    long amount = 0;

    if ((hkw_[0] == 0) && (hold_[0] == 0) &&
        (hkw_[1] == 0) && (hold_[1] == 0) &&
        (hkw_[2] == 0) && (hold_[2] == 0) &&
        (hkw_[3] == 0) && (hold_[3] == 0))
    {
        move(22, 0);
        clrtobot();
        printw("You have no cargo, Taipan.\n");

        refresh();
        timeout(5000);
        getch();
        timeout(-1);
        return;
    }

    for (i = 0; i < 4; i++)
    {
        if (hold_[i] > 0)
        {
            for (;;)
            {
                move(16, 0);
                clrtobot();
                printw("Comprador's Report\n\n");
                printw("How much %s shall I move\n", item[i]);
                printw("to the warehouse, Taipan? ");
                refresh();

                amount = get_num(9);
                if (amount == -1)
                {
                    amount = hold_[i];
                }
```

/* Listing continued from previous page */

```c
                    if (amount <= hold_[i])
                    {
                        in_use = hkw_[0] + hkw_[1] + hkw_[2] + hkw_[3];
                        if ((in_use + amount) <= 10000)
                        {
                            hold_[i] -= amount;
                            hkw_[i] += amount;
                            hold += amount;
                            break;
                        } else if (in_use == 10000) {
                            move (21, 0);
                            printw("Your warehouse is full, Taipan!");
                        } else {
                            move (21, 0);
                            printw("Your warehouse will only hold an\n");
                            printw("additional %d, Taipan!", (10000 - in_use));

                            refresh();
                            timeout(5000);
                            getch();
                            timeout(-1);
                        }
                    } else {
                        move(18, 0);
                        clrtobot();
                        printw("You have only %d, Taipan.\n", hold_[i]);

                        refresh();
                        timeout(5000);
                        getch();
                        timeout(-1);
                    }
                }
                port_stats();
            }

            if (hkw_[i] > 0)
            {
                for (;;)
                {
                    move(16, 0);
                    clrtobot();
                    printw("Comprador's Report\n\n");
                    printw("How much %s shall I move\n", item[i]);
                    printw("aboard ship, Taipan? ");
                    refresh();

                    amount = get_num(9);
                    if (amount == -1)
                    {
                        amount = hkw_[i];
                    }
                    if (amount <= hkw_[i])
                    {
                        hold_[i] += amount;
                        hkw_[i] -= amount;
                        hold -= amount;
                        break;
                    } else {
                        move(18, 0);
                        clrtobot();
                        printw("You have only %d, Taipan.\n", hkw_[i]);
```

/* Listing continued from previous page */

```
                    refresh();
                    timeout(5000);
                    getch();
                    timeout(-1);
                }
            }
            port_stats();
        }
    }

    return;
}

void quit(void)
{
    int choice = 0,
        result = 0;

    move(16, 0);
    clrtobot();
    printw("Comprador's Report\n\n");
    printw("Taipan, do you wish me to go to:\n");
    printw("1) Hong Kong, 2) Shanghai, 3) Nagasaki,\n");
    printw("4) Saigon, 5) Manila, 6) Singapore, or\n");
    printw("7) Batavia ? ");
    refresh();

    for (;;)
    {
        move(21, 13);
        clrtobot();

        choice = get_num(1);

        if (choice == port)
        {
            printw("\n\nYou're already here, Taipan.");
            refresh();
            timeout(5000);
            getch();
            timeout(-1);
        } else if ((choice >= 1) && (choice <= 7)) {
            port = choice;
            break;
        }
    }

    move(6, 43);
    printw(" ");
    attrset(A_REVERSE);
    printw("%s", location[0]);
    attrset(A_NORMAL);
    printw("   ");

    move(16, 0);
    clrtobot();
    printw("   Captain's Report\n\n");

    if (rand()%bp == 0)
    {
        int num_ships = rand()%((capacity / 10) + guns) + 1;

        if (num_ships > 9999)
```

/* Listing continued from previous page */

```c
        {
            num_ships = 9999;
        }
        printw("%d hostile ships approaching, Taipan!\n", num_ships);
        refresh();

        timeout(3000);
        getch();
        timeout(-1);

        result = sea_battle(GENERIC, num_ships);
    }

    if (result == 2)
    {
        port_stats();
        move(6, 43);
        printw(" ");
        attrset(A_REVERSE);
        printw("%s", location[0]);
        attrset(A_NORMAL);
        printw("  ");

        move(16, 0);
        clrtobot();
        printw("  Captain's Report\n\n");
        printw("Li Yuen's fleet drove them off!");
        refresh();

        timeout(3000);
        getch();
        timeout(-1);
    }

    if (((result == 0) && (rand()%(4 + (8 * li))) == 0) || (result == 2))
    {
        move(18, 0);
        clrtobot();
        printw("Li Yuen's pirates, Taipan!!\n\n");
        refresh();

        timeout(3000);
        getch();
        timeout(-1);

        if (li > 0)
        {
            printw("Good joss!! They let us be!!\n");
            refresh();

            timeout(3000);
            getch();
            timeout(-1);

            return;
        } else {
            int num_ships = rand()%((capacity / 5) + guns) + 5;

            printw("%d ships of Li Yuen's pirate\n", num_ships);
            printw("fleet, Taipan!!\n");
            refresh();

            timeout(3000);
```

/* Listing continued on next page… */

/* Listing continued from previous page */

```c
            getch();
            timeout(-1);

            sea_battle(LI_YUEN, num_ships);
        }
    }

    if (result > 0)
    {
        port_stats();
        move(6, 43);
        printw(" ");
        attrset(A_REVERSE);
        printw("%s", location[0]);
        attrset(A_NORMAL);
        printw("  ");

        move(16, 0);
        clrtobot();
        printw("  Captain's Report\n\n");
        if (result == 1)
        {
            fancy_numbers(booty, fancy_num);
            printw("We captured some booty.\n");
            printw("It's worth %s!", fancy_num);
            cash += booty;
        } else if (result == 3) {
            printw("We made it!");
        } else {
            printw("The buggers got us, Taipan!!!\n");
            printw("It's all over, now!!!");
            refresh();

            timeout(5000);
            getch();
            timeout(-1);

            final_stats();
            return;
        }

        refresh();
        timeout(3000);
        getch();
        timeout(-1);
    }

    if (rand()%10 == 0)
    {
        move(18, 0);
        clrtobot();
        printw("Storm, Taipan!!\n\n");
        refresh();
        timeout(3000);
        getch();
        timeout(-1);

        if (rand()%30 == 0)
        {
            printw("   I think we're going down!!\n\n");
            refresh();
            timeout(3000);
            getch();
```

/* Listing continued from previous page */

```c
            timeout(-1);

            if ((((damage / capacity * 3) * ((float) rand() / RAND_MAX)) >= 1)
            {
                printw("We're going down, Taipan!!\n");
                refresh();
                timeout(5000);
                getch();
                timeout(-1);

                final_stats();
            }
        }

        printw("    We made it!!\n\n");
        refresh();
        timeout(3000);
        getch();
        timeout(-1);

        if (rand()%3 == 0)
        {
            int orig = port;

            while (port == orig)
            {
                port = rand()%7 + 1;
            }

            move(18, 0);
            clrtobot();
            printw("We've been blown off course\n");
            printw("to %s", location[port]);
            refresh();
            timeout(3000);
            getch();
            timeout(-1);
        }
    }

    month++;
    if (month == 13)
    {
        month = 1;
        year++;
        ec += 10;
        ed += .5;
    }

    debt = debt + (debt * .1);
    bank = bank + (bank * .005);
    set_prices();

    move(18, 0);
    clrtobot();
    printw("Arriving at %s...", location[port]);
    refresh();
    timeout(3000);
    getch();
    timeout(-1);

    return;
}
```

/* Listing continued from previous page */

```c
void li_yuen_extortion(void)
{
    int time = ((year - 1860) * 12) + month,
        choice = 0;

    float i = 1.8,
          j = 0,
          amount = 0;

    if (time > 12)
    {
        j = rand()%(1000 * time) + (1000 * time);
        i = 1;
    }

    amount = ((cash / i) * ((float) rand() / RAND_MAX)) + j;

    fancy_numbers(amount, fancy_num);

    move(16, 0);
    clrtobot();
    printw("Comprador's Report\n\n");
    printw("Li Yuen asks %s in donation\n", fancy_num);
    printw("to the temple of Tin Hau, the Sea\n");

    while ((choice != 'Y') && (choice != 'y') &&
           (choice != 'N') && (choice != 'n'))
    {
        move (20, 0);
        clrtoeol();
        printw("Goddess.  Will you pay? ");
        refresh();
        choice = get_one();
    }

    if ((choice == 'Y') || (choice == 'y'))
    {
        if (amount <= cash)
        {
            cash -= amount;
            li = 1;
        } else {
            move (18, 0);
            clrtobot();
            printw("Taipan, you do not have enough cash!!\n\n");
            refresh();

            timeout(3000);
            getch();
            timeout(-1);

            printw("Do you want Elder Brother Wu to make up\n");
            printw("the difference for you? ");
            choice = 0;
            while ((choice != 'Y') && (choice != 'y') &&
                   (choice != 'N') && (choice != 'n'))
            {
                choice = get_one();
            }

            if ((choice == 'Y') || (choice == 'y'))
            {
```

/* Listing continued from previous page */

```c
                amount -= cash;
                debt += amount;
                cash = 0;
                li = 1;

                move (18, 0);
                clrtobot();
                printw("Elder Brother has given Li Yuen the\n");
                printw("difference between what he wanted and\n");
                printw("your cash on hand and added the same\n");
                printw("amount to your debt.\n");

                refresh();
                timeout(5000);
                getch();
                timeout(-1);
            } else {
                cash = 0;

                printw("Very well. Elder Brother Wu will not pay\n");
                printw("Li Yuen the difference.  I would be very\n");
                printw("wary of pirates if I were you, Taipan.\n");

                refresh();
                timeout(5000);
                getch();
                timeout(-1);
            }
        }
    }

    port_stats();

    return;
}

void elder_brother_wu(void)
{
    int  choice = 0;

    long wu = 0;

    move(16, 0);
    clrtobot();
    printw("Comprador's Report\n\n");
    printw("Do you have business with Elder Brother\n");
    printw("Wu, the moneylender? ");

    for (;;)
    {
        move (19, 21);
        clrtoeol();
        refresh();

        choice = get_one();
        if ((choice == 'N') || (choice == 'n'))
        {
            break;
        } else if ((choice == 'Y') || (choice == 'y')) {
            if (((int)cash == 0) && ((int)bank == 0) && (guns == 0) &&
                (hold_[0] == 0) && (hkw_[0] == 0) &&
                (hold_[1] == 0) && (hkw_[1] == 0) &&
                (hold_[2] == 0) && (hkw_[2] == 0) &&
```

/* Listing continued from previous page */

```
           (hold_[3] == 0) && (hkw_[3] == 0))
    {
       int i = rand()%1500 + 500,
           j;

       wu_bailout++;
       j = rand()%2000 * wu_bailout + 1500;

       for (;;)
       {
          move(16, 0);
          clrtobot();
          printw("Comprador's Report\n\n");
          printw("Elder Brother is aware of your plight,\n");
          printw("Taipan.  He is willing to loan you an\n");
          printw("additional %d if you will pay back\n", i);
          printw("%d. Are you willing, Taipan? ", j);
          refresh();

          choice = get_one();
          if ((choice == 'N') || (choice == 'n'))
          {
             move(16, 0);
             clrtobot();
             printw("Comprador's Report\n\n");
             printw("Very well, Taipan, the game is over!\n");

             refresh();
             timeout(5000);
             getch();
             timeout(-1);

             final_stats();
          } else if ((choice == 'Y') || (choice == 'y')) {
             cash += i;
             debt += j;
             port_stats();

             move(16, 0);
             clrtobot();
             printw("Comprador's Report\n\n");
             printw("Very well, Taipan.  Good joss!!\n");

             refresh();
             timeout(5000);
             getch();
             timeout(-1);

             return;
          }
       }
    } else if ((cash > 0) && (debt != 0)) {
       for (;;)
       {
          move(16, 0);
          clrtobot();
          printw("Comprador's Report\n\n");
          printw("How much do you wish to repay\n");
          printw("him? ");
          refresh();

          wu = get_num(9);
          if (wu == -1)
```

```
                {
                   wu = cash;
                }
                if (wu <= cash)
                {
                   cash -= wu;
                   if ((wu > debt) && (debt > 0))
                   {
                      debt -= (wu + 1);
                   } else {
                      debt -= wu;
                   }
                   break;
                } else {
                   move(18, 0);
                   clrtobot();
                   fancy_numbers(cash, fancy_num);
                   printw("Taipan, you only have %s\n", fancy_num);
                   printw("in cash.\n");

                   refresh();
                   timeout(5000);
                   getch();
                   timeout(-1);
                }
             }
          }
          port_stats();

          for (;;)
          {
             move(16, 0);
             clrtobot();
             printw("Comprador's Report\n\n");
             printw("How much do you wish to\n");
             printw("borrow? ");
             refresh();

             wu = get_num(9);
             if (wu == -1)
             {
                wu = (cash * 2);
             }
             if (wu <= (cash * 2))
             {
                cash += wu;
                debt += wu;
                break;
             } else {
                printw("\n\nHe won't loan you so much, Taipan!");

                refresh();
                timeout(5000);
                getch();
                timeout(-1);
             }
          }
          port_stats();

          break;
       }
    }
```

/* Listing continued from previous page */

```c
    if ((debt > 20000) && (cash > 0) && (rand()%5 == 0))
    {
        int num = rand()%3 + 1;

        cash = 0;
        port_stats();

        move(16, 0);
        clrtobot();
        printw("Comprador's Report\n\n");
        printw("Bad joss!!\n");
        printw("%d of your bodyguards have been killed\n", num);
        printw("by cutthroats and you have been robbed\n");
        printw("of all of your cash, Taipan!!\n");

        refresh();
        timeout(5000);
        getch();
        timeout(-1);
    }

    return;
}

void good_prices(void)
{
    char item[14];

    int i = rand()%4,
        j = rand()%2;

    if (i == 0)
    {
        strcpy(item, "Opium");
    } else if (i == 1) {
        strcpy(item, "Silk");
    } else if (i == 2) {
        strcpy(item, "Arms");
    } else {
        strcpy(item, "General Cargo");
    }

    move(16, 0);
    clrtobot();
    printw("Comprador's Report\n\n");
    printw("Taipan!!  The price of %s\n", item);
    if (j == 0)
    {
        price[i] = price[i] / 5;
        printw("has dropped to %ld!!\n", price[i]);
    } else {
        price[i] = price[i] * (rand()%5 + 5);
        printw("has risen to %ld!!\n", price[i]);
    }

    refresh();
    timeout(3000);
    getch();
    timeout(-1);
}

void overload(void)
{
```

```
/* Listing continued from previous page */
    move(16, 0);
    clrtobot();
    printw("Comprador's Report\n\n");
    printw("Your ship is overloaded, Taipan!!");
    refresh();
    timeout(5000);
    getch();
    timeout(-1);
    return;
}

void new_ship(void)
{
    int  choice = 0,
         time;

    float amount;

    time = ((year - 1860) * 12) + month;
    amount = rand()%(1000 * (time + 5) / 6) * (capacity / 50) + 1000;

    if (cash < amount)
    {
        return;
    }

    fancy_numbers(amount, fancy_num);

    move(16, 0);
    clrtobot();
    printw("Comprador's Report\n\n");
    printw("Do you wish to trade in your ");
    if (damage > 0)
    {
        attrset(A_REVERSE);
        printw("damaged");
        attrset(A_NORMAL);
    } else {
        printw("fine");
    }
    printw("\nship for one with 50 more capacity by\n");
    printw("paying an additional %s, Taipan? ", fancy_num);
    refresh();

    while ((choice != 'Y') && (choice != 'y') &&
           (choice != 'N') && (choice != 'n'))
    {
        choice = get_one();
    }

    if ((choice == 'Y') || (choice == 'y'))
    {
        cash -= amount;
        hold += 50;
        capacity += 50;
        damage = 0;
    }

    if ((rand()%2 == 0) && (guns < 1000))
    {
        port_stats();
        new_gun();
    }
```

```
    port_stats();

    return;
}

void new_gun(void)
{
    int choice = 0,
        time;

    float amount;

    time = ((year - 1860) * 12) + month;
    amount = rand()%(1000 * (time + 5) / 6) + 500;

    if ((cash < amount) || (hold < 10))
    {
        return;
    }

    fancy_numbers(amount, fancy_num);

    move(16, 0);
    clrtobot();
    printw("Comprador's Report\n\n");
    printw("Do you wish to buy a ship's gun\n");
    printw("for %s, Taipan? ", fancy_num);
    refresh();

    while ((choice != 'Y') && (choice != 'y') &&
           (choice != 'N') && (choice != 'n'))
    {
        choice = get_one();
    }

    if ((choice == 'Y') || (choice == 'y'))
    {
        cash -= amount;
        hold -= 10;
        guns += 1;
    }

    port_stats();

    return;
}

void fancy_numbers(float num, char *fancy)
{
    char number[18];

    if (num >= 100000000)
    {
        int num1 = (num / 1000000);
        sprintf(number, "%d", num1);
        strcpy(fancy, number);
        strcat(fancy, " Million");
    } else if (num >= 10000000) {
        int num1 = (num / 1000000);
        int num2 = (((int) num % 1000000) / 100000);
        sprintf(number, "%d", num1);
        strcpy(fancy, number);
```

```
                  Firm: Cymon, Hong Kong
┌─────────────────────────────────────────────┐        Date
│Hong Kong Warehouse                          │    15 Aug 1861
│   Opium    0          In Use:               │
│   Silk     0             0                  │
│   Arms     0          Vacant:               │    Location
│   General  0            10000               │    Hong Kong
│                                             │
│Hold 40                Guns 7                │        Debt
│   Opium    0                                │         0
│   Silk     0                                │
│   Arms     0                                │    Ship Status
│   General  0                                │    Perfect:100
│                                             │
Cash:27094                  Bank:0

Comprador's Report

Taipan, present prices per unit here are
   Opium:  15000    Silk:     1000
   Arms:    120     General:  5

Shall I Buy, Sell, Visit bank, Transfer
cargo, or Quit trading? _
```

/* Listing continued from previous page */

```c
            if (num2 > 0)
            {
                strcat(fancy, ".");
                sprintf(number, "%d", num2);
                strcat(fancy, number);
            }
            strcat(fancy, " Million");
    } else if (num >= 1000000) {
        int num1 = (num / 1000000);
        int num2 = (((int) num % 1000000) / 10000);
        sprintf(number, "%d", num1);
        strcpy(fancy, number);
        if (num2 > 0)
        {
            strcat(fancy, ".");
            sprintf(number, "%d", num2);
            strcat(fancy, number);
        }
        strcat(fancy, " Million");
    } else {
        sprintf(number, "%d", (int) num);
        strcpy(fancy, number);
    }
}

int sea_battle(int id, int num_ships)
{
    int orders = 0,
        num_on_screen = 0,
        ships_on_screen[10],
        time = ((year - 1860) * 12) + month,
        s0 = num_ships,
        ok = 0,
        ik = 1,
        x, y, i,
        input,
        status;

    booty = (time / 4 * 1000 * num_ships) + rand()%1000 + 250;

    for (i = 0; i <= 9; i++)
    {
        ships_on_screen[i] = 0;
    }

    clear();
    flushinp();
    fight_stats(num_ships, orders);

    while (num_ships > 0)
    {
        status = 100 - (((float) damage / capacity) * 100);
        if (status <= 0)
        {
            return 4;
        }
        flushinp();
        move(3, 0);
        clrtoeol();
        printw("Current seaworthiness: %s (%d%%)", st[(status / 20)], status);
        refresh();

        x = 10;
```

/* Listing continued from previous page */

```c
        y = 6;
        for (i = 0; i <= 9; i++)
        {
            if (i == 5)
            {
                x = 10;
                y = 12;
            }

            if (num_ships > num_on_screen)
            {
                if (ships_on_screen[i] == 0)
                {
                    usleep(100000);
                    ships_on_screen[i] =
                     (int)((ec * ((float) rand() / RAND_MAX)) + 20);
                    draw_lorcha(x, y);
                    num_on_screen++;
                    refresh();
                }

                x += 10;
            }
        }

        if (num_ships > num_on_screen)
        {
            move(11, 62);
            printw("+");
        } else {
            move(11, 62);
            printw(" ");
        }

        move(16, 0);
        printw("\n");
        refresh();
        timeout(3000);
        input = getch();
        timeout(-1);

        if ((input == 'F') || (input == 'f'))
        {
            orders = 1;
        } else if ((input == 'R') || (input == 'r')) {
            orders = 2;
        } else if ((input == 'T') || (input == 't')) {
            orders = 3;
        }

        if (orders == 0)
        {
            timeout(3000);
            input = getch();
            timeout(-1);

            if ((input == 'F') || (input == 'f'))
            {
                orders = 1;
            } else if ((input == 'R') || (input == 'r')) {
                orders = 2;
            } else if ((input == 'T') || (input == 't')) {
                orders = 3;
```

/* Listing continued from previous page */

```
            } else {
                move(3, 0);
                clrtoeol();
                printw("Taipan, what shall we do??     (f=fight, r=run, t=throw
cargo)");
                refresh();
                timeout(-1);
                while ((input != 'F') && (input != 'f') &&
                        (input != 'R') && (input != 'r') &&
                        (input != 'T') && (input != 't'))
                {
                    input = getch();
                }
                if ((input == 'F') || (input == 'f'))
                {
                    orders = 1;
                } else if ((input == 'R') || (input == 'r')) {
                    orders = 2;
                } else {
                    orders = 3;
                }
            }
        }

        fight_stats(num_ships, orders);
        if ((orders == 1) && (guns > 0))
        {
            int targeted,
                sk = 0;

            ok = 3;
            ik = 1;
            move(3, 0);
            clrtoeol();
            printw("Aye, we'll fight 'em, Taipan.");
            refresh();
            timeout(3000);
            input = getch();
            timeout(-1);

            move(3, 0);
            clrtoeol();
            printw("We're firing on 'em, Taipan!");
            timeout(1000);
            input = getch();
            timeout(-1);
            refresh();

            for (i = 1; i <= guns; i++)
            {
                if ((ships_on_screen[0] == 0) && (ships_on_screen[1] == 0) &&
                    (ships_on_screen[2] == 0) && (ships_on_screen[3] == 0) &&
                    (ships_on_screen[4] == 0) && (ships_on_screen[5] == 0) &&
                    (ships_on_screen[6] == 0) && (ships_on_screen[7] == 0) &&
                    (ships_on_screen[8] == 0) && (ships_on_screen[9] == 0))
                {
                    int j;

                    x = 10;
                    y = 6;
                    for (j = 0; j <= 9; j++)
                    {
                        if (j == 5)
```

/* Listing continued from previous page */

```
                {
                   x = 10;
                   y = 12;
                }

                if (num_ships > num_on_screen)
                {
                   if (ships_on_screen[j] == 0)
                   {
                      usleep(100000);
                      ships_on_screen[j] =
                       (int)((ec * ((float) rand() / RAND_MAX)) + 20);
                      draw_lorcha(x, y);
                      num_on_screen++;
                   }

                   x += 10;
                }
            }
        }
    }

    move(11, 62);
    if (num_ships > num_on_screen)
    {
       printw("+");
    } else {
       printw(" ");
    }

    move(16, 0);
    printw("\n");
    refresh();

    targeted = rand()%10;
    while (ships_on_screen[targeted] == 0)
    {
       targeted = rand()%10;
    }

    x = (targeted < 5) ? ((targeted + 1) * 10) : ((targeted - 4) * 10);
    y = (targeted < 5) ? 6 : 12;

    draw_blast(x, y);
    refresh();
    usleep(100000);

    draw_lorcha(x, y);
    refresh();
    usleep(100000);

    draw_blast(x, y);
    refresh();
    usleep(100000);

    draw_lorcha(x, y);
    refresh();
    usleep(100000);

    ships_on_screen[targeted] -= rand()%30 + 10;

    if (ships_on_screen[targeted] <= 0)
    {
       num_on_screen--;
```

/* Listing continued from previous page */

```c
                num_ships--;
                sk++;
                ships_on_screen[targeted] = 0;

                usleep(100000);

                sink_lorcha(x, y);

                if (num_ships == num_on_screen)
                {
                   move(11, 62);
                   printw(" ");
                }

                fight_stats(num_ships, orders);
                refresh();
            }

            if (num_ships == 0)
            {
               i += guns;
            } else {
               usleep(500000);
            }
        }
        move(3, 0);
        clrtoeol();
        if (sk > 0)
        {
           printw("Sunk %d of the buggers, Taipan!", sk);
        } else {
           printw("Hit 'em, but didn't sink 'em, Taipan!");
        }
        refresh();
        timeout(3000);
        input = getch();
        timeout(-1);

        if ((rand()%s0 > (num_ships * .6 / id)) && (num_ships > 2))
        {
           int ran = rand()%(num_ships / 3 / id) + 1;

           num_ships -= ran;
           fight_stats(num_ships, orders);
           move(3, 0);
           clrtoeol();
           printw("%d ran away, Taipan!", ran);

           if (num_ships <= 10)
           {
              for (i = 9; i >= 0; i--)
              {
                 if ((num_on_screen > num_ships) && (ships_on_screen[i] > 0))
                 {
                    ships_on_screen[i] = 0;
                    num_on_screen--;

                    x = (i < 5) ? ((i + 1) * 10) : ((i - 4) * 10);
                    y = (i < 5) ? 6 : 12;
                    clear_lorcha(x, y);
                    refresh();
                    usleep(100000);
                 }
```

/* Listing continued from previous page */

```
            }
            if (num_ships == num_on_screen)
            {
               move(11, 62);
               printw(" ");
               refresh();
            }

         }

         move(16, 0);

         refresh();
         timeout(3000);
         input = getch();
         timeout(-1);

         if ((input == 'F') || (input == 'f'))
         {
            orders = 1;
         } else if ((input == 'R') || (input == 'r')) {
            orders = 2;
         } else if ((input == 'T') || (input == 't')) {
            orders = 3;
         }
      }
   } else if ((orders == 1) && (guns == 0)) {
      move(3, 0);
      clrtoeol();
      printw("We have no guns, Taipan!!");
      refresh();
      timeout(3000);
      input = getch();
      timeout(-1);
   } else if (orders == 3) {
      int  choice = 0;

      long amount = 0,
           total = 0;

      move(18, 0);
      printw("You have the following on board, Taipan:");
      move(19, 4);
      printw("Opium: %d", hold_[0]);
      move(19, 24);
      printw("Silk: %d", hold_[1]);
      move(20, 5);
      printw("Arms: %d", hold_[2]);
      move(20, 21);
      printw("General: %d", hold_[3]);

      move(3, 0);
      clrtoeol();
      printw("What shall I throw overboard, Taipan? ");
      refresh();

      while ((choice != 'O') && (choice != 'o') &&
             (choice != 'S') && (choice != 's') &&
             (choice != 'A') && (choice != 'a') &&
             (choice != 'G') && (choice != 'g') &&
             (choice != '*'))
      {
         choice = get_one();
```

/* Listing continued from previous page */

```c
        }

        if ((choice == 'O') || (choice == 'o'))
        {
           choice = 0;
        } else if ((choice == 'S') || (choice == 's')) {
           choice = 1;
        } else if ((choice == 'A') || (choice == 'a')) {
           choice = 2;
        } else if ((choice == 'G') || (choice == 'g')) {
           choice = 3;
        } else {
           choice = 4;
        }

        if (choice < 4)
        {
           move(3, 0);
           clrtoeol();
           printw("How much, Taipan? ");
           refresh();

           amount = get_num(9);
           if ((hold_[choice] > 0) && ((amount == -1) || (amount > hold_
[choice])))
           {
              amount = hold_[choice];
           }
           total = hold_[choice];
        } else {
           total = hold_[0] + hold_[1] + hold_[2] + hold_[3];
        }

        if (total > 0)
        {
           move(3, 0);
           clrtoeol();
           printw("Let's hope we lose 'em, Taipan!");
           if (choice < 4)
           {
              hold_[choice] -= amount;
              hold += amount;
              ok += (amount / 10);
           } else {
              hold_[0] = 0;
              hold_[1] = 0;
              hold_[2] = 0;
              hold_[3] = 0;
              hold += total;
              ok += (total / 10);
           }
           move(18, 0);
           clrtobot();
           refresh();

           timeout(3000);
           input = getch();
           timeout(-1);
        } else {
           move(3, 0);
           clrtoeol();
           printw("There's nothing there, Taipan!");
           move(18, 0);
```

/* Listing continued from previous page */

```
            clrtobot();
            refresh();

            timeout(3000);
            input = getch();
            timeout(-1);
        }
    }

    if ((orders == 2) || (orders == 3))
    {
        if (orders == 2)
        {
            move(3, 0);
            clrtoeol();
            printw("Aye, we'll run, Taipan.");
            refresh();
            timeout(3000);
            input = getch();
            timeout(-1);
        }

        ok += ik++;
        if (rand()%ok > rand()%num_ships)
        {
            flushinp();
            move(3, 0);
            clrtoeol();
            printw("We got away from 'em, Taipan!");
            refresh();
            timeout(3000);
            input = getch();
            timeout(-1);
            num_ships = 0;
        } else {
            move(3, 0);
            clrtoeol();
            printw("Couldn't lose 'em.");
            refresh();
            timeout(3000);
            input = getch();
            timeout(-1);

            if ((num_ships > 2) && (rand()%5 == 0))
            {
                int lost = (rand()%num_ships / 2) + 1;

                num_ships -= lost;
                fight_stats(num_ships, orders);
                move(3, 0);
                clrtoeol();
                printw("But we escaped from %d of 'em!", lost);

                if (num_ships <= 10)
                {
                    for (i = 9; i >= 0; i--)
                    {
                        if ((num_on_screen > num_ships) && (ships_on_screen[i] > 0))
                        {
                            ships_on_screen[i] = 0;
                            num_on_screen--;

                            x = (i < 5) ? ((i + 1) * 10) : ((i - 4) * 10);
```

```
/* Listing continued from previous page */
                              y = (i < 5) ? 6 : 12;
                              clear_lorcha(x, y);
                              refresh();
                              usleep(100000);
                          }
                      }
                      if (num_ships == num_on_screen)
                      {
                          move(11, 62);
                          printw(" ");
                          refresh();
                      }
                  }

                  move(16, 0);

                  refresh();
                  timeout(3000);
                  input = getch();
                  timeout(-1);

                  if ((input == 'F') || (input == 'f'))
                  {
                      orders = 1;
                  } else if ((input == 'R') || (input == 'r')) {
                      orders = 2;
                  } else if ((input == 'T') || (input == 't')) {
                      orders = 3;
                  }
              }
          }
      }

      if (num_ships > 0)
      {
          move(3, 0);
          clrtoeol();
          printw("They're firing on us, Taipan!");

          refresh();
          timeout(3000);
          input = getch();
          timeout(-1);
          flushinp();
          for (i = 0; i < 3; i++)
          {
              for (y = 0; y < 24; y++)
              {
                  for (x = 0; x < 79; x++)
                  {
                      move(y, x);
                      printw("*");
                  }
              }
              refresh();
              usleep(200000);
              clear();
              refresh();
              usleep(200000);
          }

          fight_stats(num_ships, orders);
          x = 10;
```

```
        y = 6;
        for (i = 0; i <= 9; i++)
        {
            if (i == 5)
            {
                x = 10;
                y = 12;
            }

            if (ships_on_screen[i] > 0)
            {
                draw_lorcha(x, y);
            }

            x += 10;
        }

        move(11, 62);
        if (num_ships > num_on_screen)
        {
            printw("+");
        } else {
            printw(" ");
        }

        move(3, 0);
        clrtoeol();
        printw("We've been hit, Taipan!!");

        refresh();
        timeout(3000);
        input = getch();
        timeout(-1);

        i = (num_ships > 15) ? 15 : num_ships;
        if ((guns > 0) && ((rand()%100 < (((float) damage / capacity) * 100)) ||
            (((((float) damage / capacity) * 100) > 80)))
        {
            i = 1;
            guns--;
            hold += 10;
            fight_stats(num_ships, orders);
            move(3, 0);
            clrtoeol();
            printw("The buggers hit a gun, Taipan!!");
            fight_stats(num_ships, orders);

            refresh();
            timeout(3000);
            input = getch();
            timeout(-1);
        }
        damage = damage + ((ed * i * id) * ((float) rand() / RAND_MAX)) + (i /
2);
        if ((id == GENERIC) && (rand()%20 == 0))
        {
            return 2;
        }
    }
}

if (orders == 1)
{
```

/* Listing continued from previous page */

```
        clear();
        fight_stats(num_ships, orders);
        move(3, 0);
        clrtoeol();
        printw("We got 'em all, Taipan!");
        refresh();
        timeout(3000);
        getch();
        timeout(-1);

        return 1;
    } else {
        return 3;
    }
}

void draw_lorcha(int x, int y)
{
    move (y, x);
    printw("-|-_|_   ");
    move ((y + 1), x);
    printw("-|-_|_   ");
    move ((y + 2), x);
    printw("_|__|__/");
    move ((y + 3), x);
    printw("\\_____/ ");
}

void clear_lorcha(int x, int y)
{
    move (y, x);
    printw("         ");
    move ((y + 1), x);
    printw("         ");
    move ((y + 2), x);
    printw("         ");
    move ((y + 3), x);
    printw("         ");
}

void draw_blast(int x, int y)
{
    move (y, x);
    printw("********");
    move ((y + 1), x);
    printw("********");
    move ((y + 2), x);
    printw("********");
    move ((y + 3), x);
    printw("********");
}

void sink_lorcha(int x, int y)
{
    int delay = rand()%20;

    move (y, x);
    printw("         ");
    move ((y + 1), x);
    printw("-|-_|_   ");
    move ((y + 2), x);
    printw("-|-_|_   ");
    move ((y + 3), x);
```

/* Listing continued from previous page */

```c
        printw("_|__|__/");
        refresh();
        usleep(500000);
        if (delay == 0)
        {
            usleep(500000);
        }

        move ((y + 1), x);
        printw("          ");
        move ((y + 2), x);
        printw("-|-_|_  ");
        move ((y + 3), x);
        printw("-|-_|_  ");
        refresh();
        usleep(500000);
        if (delay == 0)
        {
            usleep(500000);
        }

        move ((y + 2), x);
        printw("          ");
        move ((y + 3), x);
        printw("-|-_|_  ");
        refresh();
        usleep(500000);
        if (delay == 0)
        {
            usleep(500000);
        }

        move ((y + 3), x);
        printw("          ");
        refresh();
        usleep(500000);
        if (delay == 0)
        {
            usleep(500000);
        }
}

void fight_stats(int ships, int orders)
{
    char ch_orders[12];

    if (orders == 0)
    {
        strcpy(ch_orders, "\0");
    } else if (orders == 1) {
        strcpy(ch_orders, "Fight      ");
    } else if (orders == 2) {
        strcpy(ch_orders, "Run        ");
    } else {
        strcpy(ch_orders, "Throw Cargo");
    }

    move(0, 0);
    if (ships >= 1000)
    {
        printw("%d", ships);
    } else if (ships >= 100) {
        printw(" %d", ships);
```

/* Listing continued from previous page */

```c
    } else if (ships >= 10) {
        printw("  %d", ships);
    } else {
        printw("   %d", ships);
    }
    move(0, 5);
    if (ships == 1)
    {
        printw("ship attacking, Taipan! \n");
    } else {
        printw("ships attacking, Taipan!\n");
    }
    printw("Your orders are to: %s", ch_orders);
    move(0, 50);
    printw("|  We have");
    move(1, 50);
    printw("|  %d guns", guns);
    move(2, 50);
    printw("----------");
    move(16, 0);

    return;
}

void mchenry(void)
{
    int choice = 0;

    move(16, 0);
    clrtobot();
    printw("Comprador's Report\n\n");
    printw("Taipan, Mc Henry from the Hong Kong\n");
    printw("Shipyards has arrived!!  He says, \"I see\n");
    printw("ye've a wee bit of damage to yer ship.\n");
    printw("Will ye be wanting repairs? ");
    refresh();

    while ((choice != 'Y') && (choice != 'y') &&
           (choice != 'N') && (choice != 'n'))
    {
        choice = get_one();
    }

    if ((choice == 'Y') || (choice == 'y'))
    {
        int  percent = ((float) damage / capacity) * 100,
            time = ((year - 1860) * 12) + month;

        long br = (((((60 * (time + 3) / 4) * (float) rand() / RAND_MAX) +
                25 * (time + 3) / 4) * capacity / 50),
            repair_price = (br * damage) + 1,
            amount;

        move(18, 0);
        clrtobot();
        printw("Och, 'tis a pity to be %d%% damaged.\n", percent);
        printw("We can fix yer whole ship for %ld,\n", repair_price);
        printw("or make partial repairs if you wish.\n");
        printw("How much will ye spend? ");
        refresh();

        for (;;)
        {
```

```
            move(21, 24);
            amount = get_num(9);
            if (amount == -1)
            {
                amount = cash;
            }
            if (amount <= cash)
            {
                cash -= amount;
                damage -= (int)((amount / br) + .5);
                damage = (damage < 0) ? 0 : damage;
                port_stats();
                refresh();
                break;
            }
        }
    }

    return;
}

void retire(void)
{
    move(16, 0);
    clrtobot();
    printw("Comprador's Report\n\n");
    attrset(A_REVERSE);
    printw("                       \n");
    printw(" Y o u ' r e    a       \n");
    printw("                       \n");
    printw(" M I L L I O N A I R E ! \n");
    printw("                       \n");
    attrset(A_NORMAL);
    refresh();
    timeout(5000);
    getch();
    timeout(-1);

    final_stats();
}

void final_stats(void)
{
    int years = year - 1860,
        time = ((year - 1860) * 12) + month,
        choice = 0;

    clear();
    printw("Your final status:\n\n");
    cash = cash + bank - debt;
    fancy_numbers(cash, fancy_num);
    printw("Net cash:  %s\n\n", fancy_num);
    printw("Ship size: %d units with %d guns\n\n", capacity, guns);
    printw("You traded for %d year", years);
    if (years != 1)
    {
        printw("s");
    }
    printw(" and %d month", month);
    if (month > 1)
    {
        printw("s");
    }
```

/* Listing continued from previous page */
```c
    printw("\n\n");
    cash = cash / 100 / time;
    attrset(A_REVERSE);
    printw("Your score is %.0f.\n", cash);
    attrset(A_NORMAL);
    printw("\n");
    if ((cash < 100) && (cash >= 0))
    {
        printw("Have you considered a land based job?\n\n\n");
    } else if (cash < 0) {
        printw("The crew has requested that you stay on\n");
        printw("shore for their safety!!\n\n");
    } else {
        printw("\n\n\n");
    }
    printw("Your Rating:\n");
    printw(" _____\n");
    printw("|");
    if (cash > 49999)
    {
        attrset(A_REVERSE);
    }
    printw("Ma Tsu");
    attrset(A_NORMAL);
    printw("          50,000 and over |\n");
    printw("|");
    if ((cash < 50000) && (cash > 7999))
    {
        attrset(A_REVERSE);
    }
    printw("Master Taipan");
    attrset(A_NORMAL);
    printw("   8,000 to 49,999|\n");
    printw("|");
    if ((cash < 8000) && (cash > 999))
    {
        attrset(A_REVERSE);
    }
    printw("Taipan");
    attrset(A_NORMAL);
    printw("          1,000 to  7,999|\n");
    printw("|");
    if ((cash < 1000) && (cash > 499))
    {
        attrset(A_REVERSE);
    }
    printw("Compradore");
    attrset(A_NORMAL);
    printw("       500 to    999|\n");
    printw("|");
    if (cash < 500)
    {
        attrset(A_REVERSE);
    }
    printw("Galley Hand");
    attrset(A_NORMAL);
    printw("       less than 500|\n");
    printw("|_____|\n\n");

    while ((choice != 'Y') && (choice != 'y') &&
           (choice != 'N') && (choice != 'n'))
    {
        move (22, 0);
```

/* Listing continued from previous page */

```c
        clrtoeol();
        printw("Play again? ");
        refresh();
        choice = get_one();
    }

    if ((choice == 'Y') || (choice == 'y'))
    {
        bank          = 0;
        hkw_[0]       = 0;
        hkw_[1]       = 0;
        hkw_[3]       = 0;
        hkw_[4]       = 0;
        hold_[0]      = 0;
        hold_[1]      = 0;
        hold_[2]      = 0;
        hold_[3]      = 0;
        hold          = 0;
        capacity      = 60;
        damage        = 0;
        month         = 1;
        year          = 1860;
        port          = 1;

        splash_intro();
        name_firm();
        cash_or_guns();
        set_prices();

        return;
    }

    clear();
    refresh();
    nocbreak();
    endwin();

    exit(0);
}
```