

Final Project - Interactive Fiction

Interactive Fiction reached the height of its popularity in the mid 1980's when a company called Infocom was selling games such as Zork, Enchanter, and Hitchhiker's Guide To The Galaxy. Today, only hobbyists produce interactive fiction titles, but there is still a well established community of authors on the web.

The idea behind interactive fiction is that by typing simple English sentences, the user can move around a game world and manipulate objects to solve puzzles. The best way to understand how IF works is to play one yourself - see the course web page for links.

Game Basics

In this assignment, you are to write a simple version of an interactive fiction game. Your game build a data structure containing descriptions of the game world (locations) and the objects in the game. The user can then move around the locations, picking up and dropping objects. Adding some puzzles would make for a more entertaining game, but is not required for this assignment.

Locations in the game have names and descriptions. The first time the user enters a location, its full description should be displayed. After that, only the location name is displayed unless the user requests the full description with the LOOK command.

Locations are connected via the possible directions NORTH, SOUTH, EAST, WEST, UP, DOWN, IN, OUT. Not all locations will have connections in all eight directions, but the possibility should be available. If you go East to get from Location A to Location B, that doesn't mean you must go West to get from Location B to Location A. It might be a different direction (as if the path bent) or not possible at all (one-way door...).

Objects in the game have names and descriptions. Normally, only the name of an object is displayed. The user can see the detailed description of an object with the EXAMINE command.

Objects are either in a location, or being carried by the user. When the user sees the description of a location, the names of objects in that location should also be displayed. The user can see what objects they are carrying with the INVENTORY command. The user can pick up and put down objects with the TAKE and DROP commands.

Summary of basic commands

Movement in any one of eight directions NORTH, SOUTH, EAST, WEST, UP, DOWN, IN, OUT. The first six have one-letter abbreviations N, S, E, W, U, D. Also legal is GO as in "GO OUT" or "GO E".

LOOK to view the description of the current location, abbreviated L.

TAKE and DROP to pick up and put down objects. GET is a synonym for TAKE.

EXAMINE to view the description of an object, abbreviated X. Also LOOK AT.

QUIT, or Q to quit the game.

Timetable

- 4/19: Get the locations working with descriptions and movement between locations. Implement the single word direction commands.
- 4/26 Add objects. The user can take and drop objects, room descriptions show objects in the room, objects stay where the user leaves them, the user has an inventory. Commands have a verb possibly followed by a noun (GO NORTH, TAKE BALL, EXAMINE BALL, INVENTORY).
- 5/6 Write a parser that understands more English, and implement some of the fancy features on the next page.

Fancy Features

Your IF should implement some of these fancy features (or make up your own). Two features is enough, but it would be nice to have a puzzle.

Moving from one location to another is sometimes accompanied by an appropriate descriptive message (“You push aside the curtain and enter the...”).

An object or location has many descriptions, and the game cycles through them. (“It’s a brass key, tarnished from years of disuse.”. “It’s a key, probably for an old lock.”. “The key has seen better days.”.)

Multiple objects with one command (“take book and candle”, “take all”)

The word “it” refers to the last object discussed. (“drop book”, ... “get it”).

Multiple sentences on one command line. (“go e. take book. n. drop book.”)

The user has a weight limit on what they can carry. Some big objects might weigh too much to carry at all.

Wearable objects (“wear hat”), which show up differently in your inventory. You should only be able to wear an object you’ve already picked up.

Container objects that can carry other objects (“put ball in backpack.”)

An object that provides light. Without light, the player cannot see descriptions.

Location connections that come and go depending on objects the user is carrying. (“You can’t climb the ladder while holding the alligator.”, “Using the key, you unlock the door and pass through”).

Other characters in the game. Maybe you talk to them (“troll, hello”), maybe you give them something (“give coin to troll”), maybe they give something to you (“the troll hands you a flower”).

Time of day. Maybe it gets dark, the player gets hungry, sleepy, something special happens at noon.... Generally, each command causes the clock to advance.

Any puzzle that the user can solve. Probably you’ll need some of the other fancy features to get a puzzle going. Solving the puzzle might cause the user to “win”.