Adventure

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CSCI 121
November 25, 2019

Myst

- When Myst appeared in 1993 (back when computers were too slow to animate more than a small part of the screen), the most common question I got from my students was: Can I write Myst?

The Origins of the Internet

- The Internet that has become so much a part of today’s world got its start as the ARPANET in the late 1960s.
- The contract to build the ARPANET was awarded to Bolt Beranek and Newman Inc. (BBN), a small, Cambridge-based research and development firm founded by MIT engineers. A prototype implementation of the ARPANET connecting four nodes came on line in December 1969.
- The initial design for the ARPANET allowed for a maximum of 127 connected computers. Larger networks were possible only after the TCP/IP protocols were adopted in the 1980s.

Early Designs for the ARPANET

As Larry Roberts envisioned it in his notebooks:

As deployed in 1969:

The ARPANET in 1971

The ARPANET in 1971
Life among the Wizards

A small cove of friends at BBN had gotten hooked on Dungeons and Dragons, an elaborate fantasy role-playing game in which one player invents a setting and populates it with monsters and puzzles, and the other players then make their way through that setting. The game exists only in the minds of the players.

Dave Walden got his introduction to the game one night when Eric Roberts, a student from a class he was teaching at Harvard, took him to a D&D session. Walden immediately rounded up a group of friends from the ARPANET team for continued sessions. Roberts created the Mirkwood Tales.

One of the regulars was Will Crowther.

The BBN ARPANET Team

Willie Crowther
Dave Walden
Ben Barker

Willie Crowther’s Adventure Game

Welcome to ADVENTURE! Would you like instructions?

> YES
Somewhere nearby is a colored cave, where others have found fortunes in treasure and gold, though it is rumored that some who enter are never seen again. Magic is said to work in the cave. I will be your eyes and hands. Direct me with natural English commands: I don’t understand all of the English language, but I do a pretty good job. (Should you get stuck, type "HELP" or "HINT" for some general hints.)

You are standing at the end of a road before a small brick building. Around you is a forest. A small stream flows out of the building and down a gully to the south. The road runs up a small hill to the west.

> GO INSIDE
You are inside a building, a well house for a large spring. There are some steps on the ground here. . . .

In the Age of the Slow Machine

Adventure

You are in the Hall of the Mountain Ring, with passages off in most directions, none of which appear to be newly constructed. A huge green fierce snake bars the way.

> RELEASE RING

The little bird attacks the green snake, and in an astounding flurry drives the snake away.

. . . some time later . . .

You are in a secret cavern which exits to the north and west. A huge green fierce dragon bars the way.

> RELEASE RING

The little bird attacks the green dragon, and in an astounding flurry goes bust to a shadow. The snake blows away.

A Brief History of Adventure

- Eric Roberts begins the Mirkwood Tales in early 1975.
- Will Crowther creates Adventure later that year.
- Will moves to Xerox/PARC in 1976.
- Stanford graduate student Don Woods releases an expanded version of Adventure in early 1977.
- Dave Lebling and others from MIT release the first version of Zork in 1977. That game later becomes the foundation of the computer game company Infocom.
- Adventure is ported to a wide variety of platforms by 1980.
- Eric Roberts creates an expanded version in 1984 and uses it as the basis for his first Adventure Contest at Wellesley.
Classes in the Adventure Game

- **Adventure**: The main program, which gets the program started.
- **AdvGame**: Contains the code and data necessary to play the game.
- **AdvRoom**: Maintains the data structure for each room in the cave.
- **AdvObject**: Maintains the data structure for each object that can be carried by the player.

Milestone #1

- Adapt the code from the Teaching Machine application so that it uses the class and method names for Adventure.
- Once you finish this milestone, you should be able to wander around the surface geography of the game.

The SmallRooms.txt Data File

```
OutsideBuilding
You are standing at the end of a road before a small brick building. A small stream flows out of the building and down a gully to the south. A road runs up a small hill to the west.
WEST: EndOfRoad
UP: EndOfRoad
NORTH: InsideBuilding
IN: InsideBuilding
SOUTH: Valley
DOWN: Valley

EndOfRoad
End of road

EndOfRoad
End of road

InsideBuilding
You are inside a building, a well house for a large spring.

SOUTH: OutsideBuilding
OUT: OutsideBuilding

Valley
Valley beside a stream

SOUTH: OutsideGrate
DOWN: OutsideGrate

OutsideBuilding
You are at the end of a road before a small brick building. A small stream flows out of the building and down a gully to the south. A road runs up a small hill to the west.

OutsideBuilding
```

Milestone #2

- Implement the `setVisited` and `hasBeenVisited` methods in `AdvRoom`.
- Check this flag in the code that describes a room.
- Once you finish this milestone, the program should use the short descriptions when you enter a previously visited room.

Milestone #3

- Implement the `QUIT`, `HELP`, and `LOOK` commands.
- Once you finish this milestone, the player can end the game, see the help text, and redisplay the room’s long description.

```
You are standing at the end of a road before a small brick building. A small stream flows out of the building and down a gully to the south. A road runs up a small hill to the west.

QUIT
```
Milestone #4
- Implement the `AdvObject` class.
- Implement the methods in the `AdvRoom` class that make it possible to keep track of the objects in a room.
- In the `AdvGame` class, write the code to put each object in its initial room (ignore the room name “PLAYER” for now).
- Change the code to display a room so that it lists the objects.
- This milestone allows you to see (but not yet take) objects.

The `SmallObjects.txt` Data File

```
KEYS
a set of keys

InsideBuilding

LAMP
a brightly shining brass lamp

BeneathGrate

ROD
a black rod with a rusty star

DebrisRoom

WATER
a bottle of water

PLAYER
```

Milestone #5
- Implement the `TAKE`, `DROP`, and `INVENTORY` commands and any code you need to remember what the player is carrying.

The `SmallSynonyms.txt` Data File

```
Q=QUIT
L=LOOK
I=INVENTORY
N=NORTH
S=SOUTH
E=EAST
W=WEST
U=UP
D=DOWN
```

Milestone #6
- Implement synonym processing so that the player can use abbreviated forms of the direction verbs and alternative names for the objects.

Milestone #7
- Implement locked passages, which are passages that require a particular object to use, as illustrated on the next slide.
- Making this change requires moving the `getNextRoom` code from `AdvRoom` to `AdvGame` so that it can see the objects.
The SmallRooms.txt Data File

Milestone #8

- Implement *forced motion*, in which the player is forced to move from a room even before reading a command. Forced motion is indicated by the verb **FORCED**.

- It is important to ensure that your implementation of forced motion allows those passages to be locked. This combination of features is used to implement the shimmering curtain.

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**Adventures Contest Entries of the Past**

Welcome to Harry's Adventure by Jim Van Deventer and Cheng Wang

You are in the Gryffindor Common Room. The carpet is cozy and the fire is warm. Doors lead to the hallway (through the portrait of the Fat Lady), to your room and to the library.