

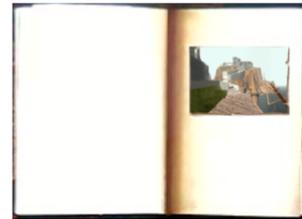
# Adventure!

## Adventure!

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CS 106J  
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## 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 CS 106A students was: Can I write Myst?

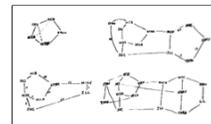


## The Origins of the Internet

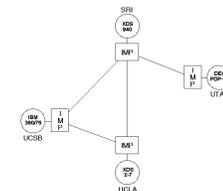
- The Internet that has become so much a part of today's world got its start as the ARPANET in the late 1960s.
- The contract to build the ARPANET was awarded to Bolt Beranek and Newman Inc. (BBN), a small, Cambridge-based research and development firm founded by MIT engineers. A prototype implementation of the ARPANET connecting four nodes (one at Stanford) 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

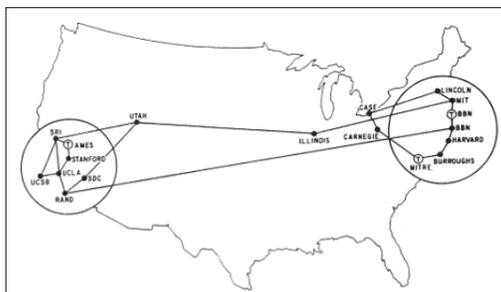
As Larry Roberts envisioned it in his notebooks:



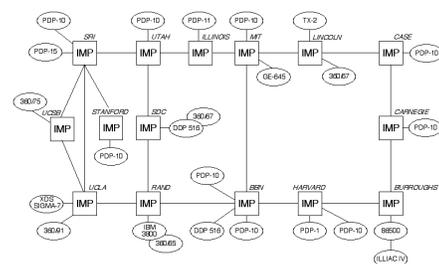
As deployed in 1969:



## The ARPANET in 1971

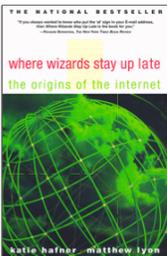


## The ARPANET in 1971



## Life among the Wizards

The history of the Internet has been told in several books. One tells the following interesting story:



A small circle 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



Dave Walden

Willie Crowther

## Willie Crowther's Adventure Game

```
Adventure
Welcome to ADVENTURE!! Would you like instructions?
YES
Somewhere nearby is Colossal 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 "?" for some general hints.) Good Luck!
- - - -
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 keys on the ground here. . . .
```

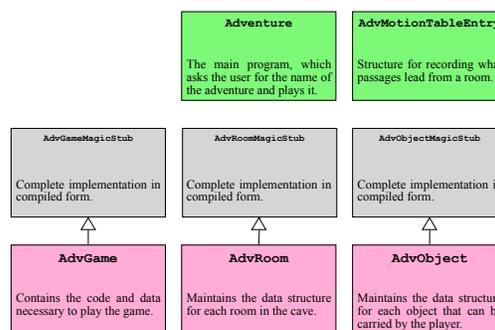
## Willie Crowther's Adventure Game

```
Adventure
You are in the Hall of the Mountain King, with passages off in most directions, some of which appear to be newly constructed. A huge green fierce snake bars the way!
RELEASE BIRD
The little bird attacks the green snake, and in an astounding flurry drives the snake away.
... some time later ...
You are in a secret canyon which exits to the north and east. A huge green fierce dragon bars the way! The dragon is sprawled out on a persian rug!!
RELEASE BIRD
The little bird attacks the green dragon, and in an astounding flurry...
```

## 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.

## Structures in the Adventure Game



### The SmallRooms.txt Data File

```

OutsideBuilding
Outside building
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
You are at the end of a road at the top of a small hill.
You can see a small building in the valley to the east.
-----
EAST      OutsideBuilding
DOWN     OutsideBuilding
    
```

### The SmallRooms.txt Data File

```

InsideBuilding
Inside building
You are inside a building, a well house for a large spring.
-----
SOUTH    OutsideBuilding
OUT      OutsideBuilding

Valley
Valley beside a stream
You are in a valley in the forest beside a stream tumbling
along a rocky bed. The stream is flowing to the south.
-----
NORTH    OutsideBuilding
UP       OutsideBuilding
SOUTH    SlitInRock
DOWN     SlitInRock

SlitInRock
Slit in rock
At your feet all the water of the stream splashes into a
two-inch slit in the rock. To the south, the streambed is
bare rock.
-----
NORTH    Valley
UP       Valley
SOUTH    OutsideGrate
DOWN     OutsideGrate
    
```

### The SmallRooms.txt Data File

```

OutsideGrate
Outside grate
You are in a 25-foot depression floored with bare dirt.
Set into the dirt is a strong steel grate mounted in
concrete. A dry streambed leads into the depression from
the north.
-----
NORTH    SlitInRock
UP       SlitInRock
DOWN     BeneathGrate/KEYS
DOWN     MissingKeys

MissingKeys
Above locked grate
The grate is locked and you don't have any keys.
-----
FORCED   OutsideGrate

BeneathGrate
Beneath grate
You are in a small chamber beneath a 3x3 steel grate to
the surface. A low crawl over cobbles leads inward to
the west.
-----
UP       OutsideGrate
OUT      OutsideGrate
IN       CobbleCrawl
WEST     CobbleCrawl
    
```

### Locked Passages and Forced Motions

- The segment of the rooms data file on the previous slide illustrates two features of the Adventure game that you need to implement: *locked passages* and *forced motions*.
- From `OutsideGrate`, you can only descend below the grate if you have the keys. This fact is represented by the lines
 

DOWN	BeneathGrate/KEYS
DOWN	MissingKeys

 in the data file. The `/KEYS` marker indicates that the `DOWN` passage to `BeneathGrate` is only open if the player has the keys. If not, the `DOWN` verb takes the player to `MissingKeys`.
- The motion table for `MissingKeys` is the single line
 

FORCED	OutsideGrate
--------	--------------

 which indicates that a player entering `MissingKeys` always goes directly to `outsideGrate` without reading a command.

### 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
    
```

### The SmallSynonyms.txt Data File

```

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