

The Genesis of Wumpus

Two years ago I happened by People's Computer Company (PCC) and saw some of their computer games — such as Hurtle, Snark, and Mugwump. My reaction was: "EECH!!" Each of these games was based on a 10 x 10 grid in Cartesian co-ordinates and three of them was too much for me. I started to think along the lines of: "There has to be a hide and seek computer game without that (exp. deleted) grid!!" In fact, why not a topological computer game — Imagine a set of points connected in some way and the player moves about the set via the interconnections.

That afternoon in meditation the phrase "Hunt the Wumpus" arrived, and Wumpus was born. He's still a bit vague in physical detail as most dedicated Wumpus hunters know, but appearances are part of the game. (If you like, send me a picture of your version of a Wumpus. Perhaps friendly Dave, our editor, will publish the best one in *Creative Computing*.) The grid I chose was the vertices of a dodecahedron — simply because it's my favorite Platonic solid and once, ages ago, I made a kite shaped like one. The edges became the connecting tunnels between the caves which were the set of points for the game.

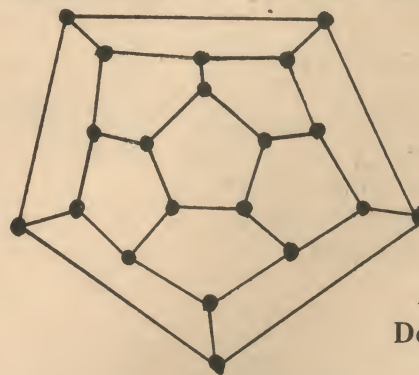
My basic idea at this time was for the player to approach the Wumpus, back off, and come up to him by going around the dodecahedron. To my knowledge, this has never happened... most players adopt other strategies rather than this cold-blooded approach.

Anyway... how to get the Wumpus! How about an arrow which could turn corners as it goes from room to room. Let the hunter tell the arrow where to go and let it fly. The shortest round trip without reversals is 5 caves — and thus the Crooked Arrow.

Hmmm... How does one sense the Wumpus? It's dark in yonder cave, and light would wake him up. If one got one cave away, the wumpus's distinct smell would serve as a warning. So far, so good... but Wumpus is still too easy, so let's find some appropriate hazards for the caves.

Bottomless pits were easy. Any imaginary cave would have a few of those around the place. Superbats were harder to come by. It took me a day or two to get that idea. The Superbats are a sort of rapid transit system gone a little batty (sorry about that one). They take you a random distance to a random cave and leave you there. If that's a pit or a Wumpus, well, you are in Fate's hands.

Around this time, I saw that Map-making would be a regular activity of Wumpus-hunters. I numbered the caves and made the scheme fixed in the hopes a practised player might notice this and make himself a permanent map of the caverns. (Another unrealised hope — as an exercise, make yourself such a map on a Squashed Dodecahedron).



A Squashed
Dodecahedron

To start the game fairly, Wumpus, Hazards, and Hunter are located on different points at the start of the game. Each game starts with random choices of location, but the hunter may restart with the same set-up if he chooses. This allows re-plays if the hunter, say, fell into a pit on the first move.

Wumpus was nearly done in my mind... (hint to a games-writer: Have a clear notion of your game before you

start coding it. This saves MUCH confusion.) yet I felt it was a bit dull. Once you found the Wumpus all you had to do was shoot it. To fix this, the Wumpus was given a little life. If you shot an arrow or moved into his cave, he woke up and chose to move to a neighboring room or to the same room (one of 4 choices). If you and the Wumpus were in the same room after he moved, he ATE YOU UP!!

Around here I noticed that the pits and the bats didn't affect the Wumpus. To explain this, I added some color by making him heavy and with the legendary sucker feet. After all, evolution works in strange ways!! If you are a Wumpus fiend, make a version of Wumpus in which he avoids pits and superbats can carry him only one room (with the possibility of being dumped into your cave). This can be done by making the wumpus moving procedure a subroutine.

I wrote Wumpus and dropped it off at PCC. Then I went home and dreamed up Wumpus II which will be covered in the next issue of *Creative Computing*.

The Birth of Wumpus

Around a month later, I went to the Synergy conference at Stanford, where many of the far-out folk were gathered to share their visions of improving the world. PCC had a few terminals running in a conference room and I dropped by. To my vast surprise, all of the terminals were running Wumpus and scraps of paper on the floor with scrawled numbers and lines testified that much dedicated Wumpus-hunting was in progress. I had spawned a hit computer game!!!

Later, PCC published Wumpus in its newsletter (If you haven't seen it, write them for a subscription: P.O. Box 310, Menlo Park, Cal. 94025), and Wumpus appeared in all sorts of unlikely places. I have reports of Wumpus written in RPG, a listing of one in FORTRAN, a rumor of a system command of 'to Wumpus' on a large corporation's R&D computer system and have even seen an illustrated version for the Hazeltine CRT terminal!!

HUNT THE WUMPUS

EATS NEAREY!

YOU ARE IN ROOM 2
TUNNELS LEAD TO 1 3 10

SHOOT OR MOVE (S-M)?M
WHERE TO?1

ZAP--SUPER BAT SNATCH! ELSEWHEREVILLE FOR YOU!

YYYYIIIIFFFFE . . . FELL IN PIT

HA HA HA - YOU LOSE!

SAME SET-UP (Y-N)?Y

HUNT THE WUMPUS

EATS NEAREY!

YOU ARE IN ROOM 2
TUNNELS LEAD TO 1 3 10

SHOOT OR MOVE (S-M)?M
WHERE TO?3

YOU ARE IN ROOM 3
TUNNELS LEAD TO 2 4 12

WUMPUS TAPES, ETC.

I can be found at:

Gregory Yob
PO Box 354
Palo Alto, Calif. 94301

Paper tapes of Wumpus, Wumpus 2 and Wumpus 3 are available and cost \$5.00 each.

May your arrows remain straight. —Gregory Yob.

SAMPLE RUN

INSTRUCTIONS (Y-N)?Y

WELCOME TO 'HUNT THE WUMPUS'

THE WUMPUS LIVES IN A CAVE OF 20 ROOMS. EACH ROOM HAS 3 TUNNELS LEADING TO OTHER ROOMS. (LOOK AT A DODECAHEDRON TO SEE HOW THIS WORKS-IF YOU DON'T KNOW WHAT A DODECAHEDRON IS, ASK SOMEONE)

HAZARDS:

BOTTOMLESS PITS - TWO ROOMS HAVE BOTTOMLESS PITS IN THEM
IF YOU GO THERE, YOU FALL INTO THE PIT (& LOSE!)

SUPER BATS - TWO OTHER ROOMS HAVE SUPER EATS. IF YOU GO THERE, A BAT GRAES YOU AND TAKES YOU TO SOME OTHER ROOM AT RANDOM. (WHICH MIGHT BE TROUBLESOME)

WUMPUS:

THE WUMPUS IS NOT BOTHERED BY THE HAZARDS (HE HAS SUCKER FEET AND IS TOO BIG FOR A BAT TO LIFT). USUALLY HE IS ASLEEP. TWO THINGS WAKE HIM UP: YOUR ENTERING HIS ROOM OF YOUR SHOOTING AN ARROW.

IF THE WUMPUS WAKES, HE MOVES (P=.75) ONE ROOM OR STAYS STILL (P=.25). AFTER THAT, IF HE IS WHERE YOU ARE, HE EATS YOU UP (& YOU LOSE!)

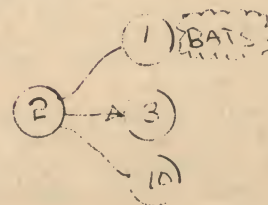
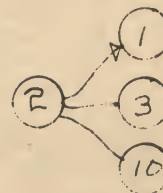
YOU:

EACH TURN YOU MAY MOVE OR SHOOT A CROOKED ARROW
MOVING: YOU CAN GO ONE ROOM (THRU ONE TUNNEL)
ARROWS: YOU HAVE 5 ARROWS. YOU LOSE WHEN YOU RUN OUT.
EACH ARROW CAN GO FROM 1 TO 5 ROOMS. YOU AIM BY TELLING THE COMPUTER THE ROOM#S YOU WANT THE ARROW TO GO TO.
IF THE ARROW CAN'T GO THAT WAY (IE NO TUNNEL) IT MOVES AT RANDOM TO THE NEXT ROOM.
IF THE ARROW HITS THE WUMPUS, YOU WIN.
IF THE ARROW HITS YOU, YOU LOSE.

WARNINGS:

WHEN YOU ARE ONE ROOM AWAY FROM WUMPUS OR HAZARD, THE COMPUTER SAYS:

WUMPUS- 'I SMELL A WUMPUS'
BAT - 'EATS NEAREY'
PIT - 'I FEEL A DRAFT'



SUPERBATS
PUT ME IN A
PIT SOMEWHERE

more

SHOOT OR MOVE (S-M)?M
WHERE TO?4

YOU ARE IN ROOM 4
TUNNELS LEAD TO 3 5 14

SHOOT OR MOVE (S-M)?M
WHERE TO?5

BATS NEARBY!

YOU ARE IN ROOM 5
TUNNELS LEAD TO 1 4 6

SHOOT OR MOVE (S-M)?M
WHERE TO?6

I FEEL A DRAFT

YOU ARE IN ROOM 6
TUNNELS LEAD TO 5 7 15

SHOOT OR MOVE (S-M)?M
WHERE TO?7

YYYYIIIIIEEE . . . FELL IN PIT
HA HA HA - YOU LOSE!
SAME SET-UP (Y-N)?Y
HUNT THE WUMPUS

BATS NEARBY!

YOU ARE IN ROOM 2
TUNNELS LEAD TO 1 3 10

SHOOT OR MOVE (S-M)?M
WHERE TO?10

BATS NEARBY!

YOU ARE IN ROOM 10
TUNNELS LEAD TO 2 9 11

SHOOT OR MOVE (S-M)?M
WHERE TO?11

ZAP--SUPER BAT SNATCH! ELSEWHEREVILLE FOR YOU!

YOU ARE IN ROOM 14
TUNNELS LEAD TO 4 13 15

SHOOT OR MOVE (S-M)?M
WHERE TO?15

I SMELL A WUMPUS!

YOU ARE IN ROOM 15
TUNNELS LEAD TO 6 14 16

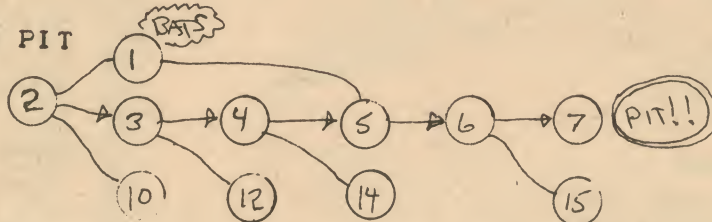
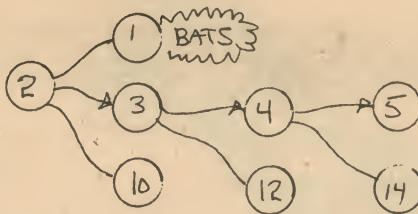
SHOOT OR MOVE (S-M)?S
NO. OF ROOMS(1-5)?1

ROOM #?16

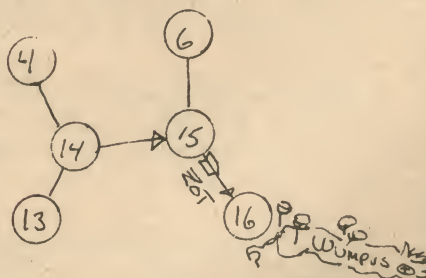
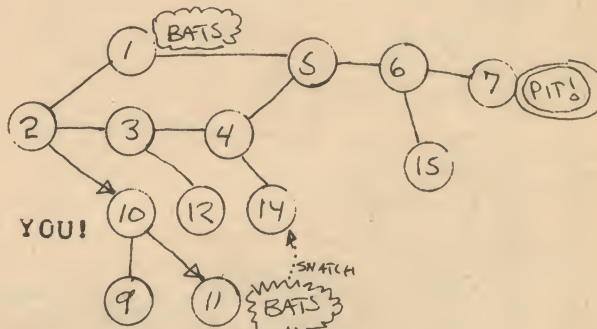
AHA! YOU GOT THE WUMPUS!

HEE HEE HEE - THE WUMPUS'LL GETCHA NEXT TIME!!

JUST KEEP ON TRICKIN'!



BLEW IT AGAIN!!



CAN YOU FIT THIS
MAP INTO THE OTHER
ONE ABOVE? FIGURE OUT
HOW I KNEW THE WUMPUS
WAS IN 16.

PROGRAM LISTING

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0010 REM- HUNT THE WUMPUS
0015 REM- BY GREGORY YOB
0020 PRINT "INSTRUCTIONS (Y-N)";
0030 INPUT IS
0040 IF IS="N" THEN 52
0050 GOSUE 1000
0052 REM- ANNOUNCE WUMPUS!! FOR ALL AFICIONADOS ... ADDED BY DAVE
0054 PRINT
0056 PRINT "      ATTENTION ALL WUMPUS LOVERS!!!"
0058 PRINT "      THERE ARE NOW TWO ADDITIONS TO THE WUMPUS FAMILY";
0060 PRINT "      OF PROGRAMS-";
0062 PRINT
0064 PRINT "      WUMP2:  SOME DIFFERENT CAVE ARRANGEMENTS"
0066 PRINT "      WUMP3:  DIFFERENT HAZARDS"
0067 PRINT
0068 REM- SET UP CAVE (DODECAHEDRAL NODE LIST)
0070 DIM S(20,3)
0080 FOR J=1 TO 20
0090 FOR K=1 TO 3
0100 READ S(J,K)
0110 NEXT K
0120 NEXT J
0130 DATA 2,5,8,1,3,10,2,4,12,3,5,14,1,4,6
0140 DATA 5,7,15,6,8,17,1,7,9,8,10,18,2,9,11
0150 DATA 10,12,19,3,11,13,12,14,20,4,13,15,6,14,16
0160 DATA 15,17,20,7,16,18,9,17,19,11,18,20,13,16,19
0170 DEF FNA(X)=INT(20*FND(X))+1
0180 DEF FNB(X)=INT(3*FND(X))+1
0190 DEF FNC(X)=INT(4*FND(X))+1
0200 REM-LOCATE L ARRAY ITEMS
0210 REM-1-YOU,2-WUMPUS,3&4-PITS,5&6-FATS
0220 DIM L(6)
0230 DIM M(6)
0240 FOR J=1 TO 6
0250 L(J)=FNA(0)
0260 M(J)=L(J)
0270 NEXT J
0280 REM-CHECK FOR CROSSOVERS (IE L(1)=L(2),ETC)
0290 FOR J=1 TO 6
0300 FOR K=J TO 6
0310 IF J=K THEN 330
0320 IF L(J)=L(K) THEN 240
0330 NEXT K
0340 NEXT J
0350 REM-SET# ARROWS
0360 A=5
0365 L=L(1)
0370 REM-FUN THE GAME
0375 PRINT "HUNT THE WUMPUS"
0380 REM-HAZARD WARNINGS & LOCATION
0390 GOSUE 2000
0400 REM-MOVE OR SHOOT
0410 GOSUE 2500
0420 GOTO 0 OF 440,480
0430 REM-SHOOT
0440 GOSUE 3000
0450 IF F=0 THEN 390
0460 GOTO 500
0470 REM-MOVE
0480 GOSUE 4000
0490 IF F=0 THEN 390
0500 IF F>0 THEN 550
0510 REM-LOSE
0520 PRINT "HA HA HA - YOU LOSE!"
0530 GOTO 560
0540 REM-WIN
0550 PRINT "HEE HEE HEE - THE WUMPUS'LL GETCHA NEXT TIME!!"
0560 FOR J=1 TO 6
0570 L(J)=M(J)
0580 NEXT J
0590 PRINT "SAME SET-UP (Y-N)";
0600 INPUT IS
0610 IF IS="Y" THEN 240
0620 GOTO 360
1000 REM-INSTRUCTIONS
1010 PRINT "WELCOME TO 'HUNT THE WUMPUS'"
1020 PRINT "      THE WUMPUS LIVES IN A CAVE OF 20 ROOMS. EACH ROOM"
1030 PRINT "      HAS 3 TUNNELS LEADING TO OTHER ROOMS. (LOOK AT A"
1040 PRINT "      DODECAHEDRON TO SEE HOW THIS WORKS-IF YOU DON'T KNOW"
1050 PRINT "      WHAT A DODECAHEDRON IS, ASK SOMEONE)"
1060 PRINT
1070 PRINT "      HAZARDS:"
1080 PRINT "      BOTTOMLESS PITS - TWO ROOMS HAVE BOTTOMLESS PITS IN THEM"
1090 PRINT "      IF YOU GO THERE, YOU FALL INTO THE PIT (& LOSE!)"
1100 PRINT "      SUPER BATS - TWO OTHER ROOMS HAVE SUPER EATS. IF YOU"
1110 PRINT "      GO THERE, A BAT GRABS YOU AND TAKES YOU TO SOME OTHER"
1120 PRINT "      ROOM AT RANDOM. (WHICH MIGHT BE TROUBESOME)"
1130 PRINT
1140 PRINT "      WUMPUS:"
1150 PRINT "      THE WUMPUS IS NOT BOTHERED BY THE HAZARDS (HE HAS SUCKER"
1160 PRINT "      FEET AND IS TOO BIG FOR A BAT TO LIFT). USUALLY"
1170 PRINT "      HE IS ASLEEP. TWO THINGS WAKE HIM UP: YOUR ENTERING"
1180 PRINT "      HIS ROOM OR YOUR SHOOTING AN ARROW."
1190 PRINT "      IF THE WUMPUS WAKES, HE MOVES (P=.75) ONE ROOM"
1200 PRINT "      OR STAYS STILL (P=.25). AFTER THAT, IF HE IS WHERE YOU"
1210 PRINT "      ARE, HE EATS YOU UP (& YOU LOSE!)"
1220 PRINT
1230 PRINT "      YOU:"
1240 PRINT "      EACH TURN YOU MAY MOVE OR SHOOT A CROOKED ARROW"
1250 PRINT "      MOVING! YOU CAN GO ONE ROOM (THRU ONE TUNNEL)"
1260 PRINT "      ARROWS! YOU HAVE 5 ARROWS. YOU LOSE WHEN YOU RUN OUT."
1270 PRINT "      EACH ARROW CAN GO FROM 1 TO 5 ROOMS. YOU AIM BY TELLING"
1280 PRINT "      THE COMPUTER THE ROOM#S YOU WANT THE ARROW TO GO TO."
1290 PRINT "      IF THE ARROW CAN'T GO THAT WAY(IE NO TUNNEL) IT MOVES"
1300 PRINT "      AT RANDOM TO THE NEXT ROOM."
1310 PRINT "      IF THE ARROW HITS THE WUMPUS, YOU WIN."
1320 PRINT "      IF THE ARROW HITS YOU, YOU LOSE."
1330 PRINT
1340 PRINT "      WARNINGS:"
1350 PRINT "      WHEN YOU ARE ONE ROOM AWAY FROM WUMPUS OR HAZARD,"
1360 PRINT "      THE COMPUTER SAYS:"
1370 PRINT "      WUMPUS- 'I SMELL A WUMPUS'"
1380 PRINT "      BAT - 'BATS NEAREY'"
1390 PRINT "      PIT - 'I FEEL A DRAFT'"
1400 PRINT ""
1410 RETURN
2000 REM-PRINT LOCATION & HAZARD WARNINGS
2010 PRINT
2020 FOR J=2 TO 6
2030 FOR K=1 TO 3
2040 IF S(L(1),K)#L(J) THEN 2110
2050 GOTO J-1 OF 2060,2080,2080,2100,2100
2060 PRINT "I SMELL A WUMPUS!"
2070 GOTO 2110
2080 PRINT "I FEEL A DRAFT"
2090 GOTO 2110
2100 PRINT "EATS NEAREY!"
2110 NEXT K
2120 NEXT J
2130 PRINT "YOU ARE IN ROOM "L(1)
2140 PRINT "TUNNELS LEAD TO "S(L,1);S(L,2);S(L,3)
2150 PRINT
2160 RETURN
2500 REM-CHOOSE OPTION
2510 PRINT "SHOOT OR MOVE (S-M)";
2520 INPUT IS
2530 IF IS="S" THEN 2560
2540 O=1
2550 RETURN
2560 IF IS="M" THEN 2510
2570 O=2
2580 RETURN
3000 REM-ARROW ROUTINE
3010 F=0
3020 REM-PATH OF ARROW
3030 DIM P(5)
3040 PRINT "NO. OF ROOMS(1-5)";
3050 INPUT J9
3060 IF J9<1 OR J9>5 THEN 3040
3070 FOR K=1 TO J9
3080 PRINT "ROOM #";
3090 INPUT P(K)
3095 IF K <= 2 THEN 3115
3100 IF P(K) <> P(K-2) THEN 3115
3105 PRINT "ARROWS AREN'T THAT CROOKED - TRY ANOTHER ROOM"
3110 GOTO 3080
3115 NEXT K
3120 REM-SHOOT AFROW
3130 L=L(1)
3140 FOR K=1 TO J9
3150 FOR K1=1 TO 3
3160 IF S(L,K1)=P(K) THEN 3295
3170 NEXT K1
3180 REM-NO TUNNEL FOR ARROW
3190 L=S(L,FNB(1))
3200 GOTO 3300
3210 NEXT K
3220 PRINT "MISSED"
3225 L=L(1)
3230 REM-MOVE WUMPUS
3240 GOSUE 3370
3250 REM-ARROW CHECK
3255 A=A-1
3260 IF A>0 THEN 3280
3270 F=-1
3280 RETURN
3290 REM-SEE IF ARROW IS AT L(1) OR L(2)
3295 L=P(K)
3300 IF L#L(2) THEN 3340
3310 PRINT "AHA! YOU GOT THE WUMPUS!"
3320 F=1
3330 RETURN
3340 IF L#L(1) THEN 3210
3350 PRINT "OUCH! ARROW GOT YOU!"
3360 GOTO 3270
3370 REM-MOVE WUMPUS ROUTINE
3380 K=FNC(0)
3390 IF K=4 THEN 3410
3400 L(2)=S(L(2),K)
3410 IF L(2)#L THEN 3440
3420 PRINT "TSK TSK TSK- WUMPUS GOT YOU!"
3430 F=-1
3440 RETURN
4000 REM- MOVE ROUTINE
4010 F=0
4020 PRINT "WHERE TO";
4030 INPUT L
4040 IF L<1 OR L>20 THEN 4020
4050 FOR K=1 TO 3
4060 REM- CHECK IF LEGAL MOVE
4070 IF S(L(1),K)=L THEN 4130
4080 NEXT K
4090 IF L=L(1) THEN 4130
4100 PRINT "NOT POSSIBLE -";
4110 GOTO 4020
4120 REM-CHECK FOR HAZARDS
4130 L(1)=L
4140 REM-WUMPUS
4150 IF L#L(2) THEN 4220
4160 PRINT "... OOPS! BUMPED A WUMPUS!"
4170 REM-MOVE WUMPUS
4180 GOSUE 3380
4190 IF F=0 THEN 4220
4200 RETURN
4210 REM-PIT
4220 IF L#L(3) AND L#L(4) THEN 4270
4230 PRINT "YYYYIIIIIEEE . . . FELL IN PIT"
4240 F=-1
4250 RETURN
4260 REM-BATS
4270 IF L#L(5) AND L#L(6) THEN 4310
4280 PRINT "ZAP--SUPER BAT SNATCH! ELSEWHEREVILLE FOR YOU!"
4290 L=FNA(1)
4300 GOTO 4130
4310 RETURN
5000 END

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