A Guide to the Mazes of Menace

(Guidebook for NetHack)

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(Extensively edited and expanded for 3.4)

1. Introduction

Recently, you have begun to find yourself unfulfilled and distant

in your daily occupation. Strange dreams of prospecting, steal-

ing, crusading, and combat have haunted you in your sleep for

many months, but you aren't sure of the reason. You wonder

whether you have in fact been having those dreams all your life,

and somehow managed to forget about them until now. Some nights

you awaken suddenly and cry out, terrified at the vivid recollec-

tion of the strange and powerful creatures that seem to be lurk-

ing behind every corner of the dungeon in your dream. Could

these details haunting your dreams be real? As each night pass-

es, you feel the desire to enter the mysterious caverns near the

ruins grow stronger. Each morning, however, you quickly put the

idea out of your head as you recall the tales of those who en-

tered the caverns before you and did not return. Eventually you

can resist the yearning to seek out the fantastic place in your

dreams no longer. After all, when other adventurers came back

this way after spending time in the caverns, they usually seemed

better off than when they passed through the first time. And who

was to say that all of those who did not return had not just kept

going?

Asking around, you hear about a bauble, called the Amulet of

Yendor by some, which, if you can find it, will bring you great

wealth. One legend you were told even mentioned that the one who

finds the amulet will be granted immortality by the gods. The

amulet is rumored to be somewhere beyond the Valley of Gehennom,

deep within the Mazes of Menace. Upon hearing the legends, you

immediately realize that there is some profound and undiscovered

reason that you are to descend into the caverns and seek out that

amulet of which they spoke. Even if the rumors of the amulet's

powers are untrue, you decide that you should at least be able to

sell the tales of your adventures to the local minstrels for a

tidy sum, especially if you encounter any of the terrifying and

magical creatures of your dreams along the way. You spend one

last night fortifying yourself at the local inn, becoming more

and more depressed as you watch the odds of your success being

posted on the inn's walls getting lower and lower.

NetHack Guidebook 1

NetHack Guidebook 2

In the morning you awake, collect your belongings, and set

off for the dungeon. After several days of uneventful travel,

you see the ancient ruins that mark the entrance to the Mazes of

Menace. It is late at night, so you make camp at the entrance

and spend the night sleeping under the open skies. In the morn-

ing, you gather your gear, eat what may be your last meal out-

side, and enter the dungeon...

2. What is going on here?

You have just begun a game of NetHack. Your goal is to grab

as much treasure as you can, retrieve the Amulet of Yendor, and

escape the Mazes of Menace alive.

Your abilities and strengths for dealing with the hazards of

adventure will vary with your background and training:

Archeologists understand dungeons pretty well; this enables

them to move quickly and sneak up on the local nasties. They

start equipped with the tools for a proper scientific expedition.

Barbarians are warriors out of the hinterland, hardened to

battle. They begin their quests with naught but uncommon

strength, a trusty hauberk, and a great two-handed sword.

Cavemen and Cavewomen start with exceptional strength but,

unfortunately, with neolithic weapons.

Healers are wise in medicine and apothecary. They know the

herbs and simples that can restore vitality, ease pain, anes-

thetize, and neutralize poisons; and with their instruments, they

can divine a being's state of health or sickness. Their medical

practice earns them quite reasonable amounts of money, with which

they enter the dungeon.

Knights are distinguished from the common skirmisher by

their devotion to the ideals of chivalry and by the surpassing

excellence of their armor.

Monks are ascetics, who by rigorous practice of physical and

mental disciplines have become capable of fighting as effectively

without weapons as with. They wear no armor but make up for it

with increased mobility.

Priests and Priestesses are clerics militant, crusaders ad-

vancing the cause of righteousness with arms, armor, and arts

thaumaturgic. Their ability to commune with deities via prayer

occasionally extricates them from peril, but can also put them in

it.

Rangers are most at home in the woods, and some say slightly

out of place in a dungeon. They are, however, experts in archery

as well as tracking and stealthy movement.

NetHack 3.4 March 20, 2002

NetHack Guidebook 3

Rogues are agile and stealthy thieves, with knowledge of

locks, traps, and poisons. Their advantage lies in surprise,

which they employ to great advantage.

Samurai are the elite warriors of feudal Nippon. They are

lightly armored and quick, and wear the dai-sho, two swords of

the deadliest keenness.

Tourists start out with lots of gold (suitable for shopping

with), a credit card, lots of food, some maps, and an expensive

camera. Most monsters don't like being photographed.

Valkyries are hardy warrior women. Their upbringing in the

harsh Northlands makes them strong, inures them to extremes of

cold, and instills in them stealth and cunning.

Wizards start out with a knowledge of magic, a selection of

magical items, and a particular affinity for dweomercraft. Al-

though seemingly weak and easy to overcome at first sight, an ex-

perienced Wizard is a deadly foe.

You may also choose the race of your character:

Dwarves are smaller than humans or elves, but are stocky and

solid individuals. Dwarves' most notable trait is their great

expertise in mining and metalwork. Dwarvish armor is said to be

second in quality not even to the mithril armor of the Elves.

Elves are agile, quick, and perceptive; very little of what

goes on will escape an Elf. The quality of Elven craftsmanship

often gives them an advantage in arms and armor.

Gnomes are smaller than but generally similar to dwarves.

Gnomes are known to be expert miners, and it is known that a se-

cret underground mine complex built by this race exists within

the Mazes of Menace, filled with both riches and danger.

Humans are by far the most common race of the surface world,

and are thus the norm by which other races are often compared.

Although they have no special abilities, they can succeed in any

role.

Orcs are a cruel and barbaric race that hate every living

thing (including other orcs). Above all others, Orcs hate Elves

with a passion unequalled, and will go out of their way to kill

one at any opportunity. The armor and weapons fashioned by the

Orcs are typically of inferior quality.

3. What do all those things on the screen mean?

On the screen is kept a map of where you have been and what

you have seen on the current dungeon level; as you explore more

of the level, it appears on the screen in front of you.

NetHack 3.4 March 20, 2002

NetHack Guidebook 4

When NetHack's ancestor rogue first appeared, its screen

orientation was almost unique among computer fantasy games.

Since then, screen orientation has become the norm rather than

the exception; NetHack continues this fine tradition. Unlike

text adventure games that accept commands in pseudo-English sen-

tences and explain the results in words, NetHack commands are all

one or two keystrokes and the results are displayed graphically

on the screen. A minimum screen size of 24 lines by 80 columns

is recommended; if the screen is larger, only a 21x80 section

will be used for the map.

NetHack can even be played by blind players, with the assis-

tance of Braille readers or speech synthesisers. Instructions

for configuring NetHack for the blind are included later in this

document.

NetHack generates a new dungeon every time you play it; even

the authors still find it an entertaining and exciting game de-

spite having won several times.

NetHack offers a variety of display options. The options

available to you will vary from port to port, depending on the

capabilities of your hardware and software, and whether various

compile-time options were enabled when your executable was creat-

ed. The three possible display options are: a monochrome charac-

ter interface, a color character interface, and a graphical in-

terface using small pictures called tiles. The two character in-

terfaces allow fonts with other characters to be substituted, but

the default assignments use standard ASCII characters to repre-

sent everything. There is no difference between the various dis-

play options with respect to game play. Because we cannot repro-

duce the tiles or colors in the Guidebook, and because it is com-

mon to all ports, we will use the default ASCII characters from

the monochrome character display when referring to things you

might see on the screen during your game.

In order to understand what is going on in NetHack, first

you must understand what NetHack is doing with the screen. The

NetHack screen replaces the ``You see ...'' descriptions of text

adventure games. Figure 1 is a sample of what a NetHack screen

might look like. The way the screen looks for you depends on

your platform.

--------------------------------------------------------------------

The bat bites!

------

|....| ----------

|.<..|####...@...$.|

|....-# |...B....+

|....| |.d......|

------ -------|--

NetHack 3.4 March 20, 2002

NetHack Guidebook 5

Player the Rambler St:12 Dx:7 Co:18 In:11 Wi:9 Ch:15 Neutral

Dlvl:1 $:0 HP:9(12) Pw:3(3) AC:10 Exp:1/19 T:257 Weak

--------------------------------------------------------------------

Figure 1

3.1. The status lines (bottom)

The bottom two lines of the screen contain several cryptic

pieces of information describing your current status. If either

status line becomes longer than the width of the screen, you

might not see all of it. Here are explanations of what the vari-

ous status items mean (though your configuration may not have all

the status items listed below):

Rank

Your character's name and professional ranking (based on the

experience level, see below).

Strength

A measure of your character's strength; one of your six ba-

sic attributes. A human character's attributes can range

from 3 to 18 inclusive; non-humans may exceed these limits

(occasionally you may get super-strengths of the form 18/xx,

and magic can also cause attributes to exceed the normal

limits). The higher your strength, the stronger you are.

Strength affects how successfully you perform physical

tasks, how much damage you do in combat, and how much loot

you can carry.

Dexterity

Dexterity affects your chances to hit in combat, to avoid

traps, and do other tasks requiring agility or manipulation

of objects.

Constitution

Constitution affects your ability to recover from injuries

and other strains on your stamina.

Intelligence

Intelligence affects your ability to cast spells and read

spellbooks.

Wisdom

Wisdom comes from your practical experience (especially when

dealing with magic). It affects your magical energy.

Charisma

Charisma affects how certain creatures react toward you. In

particular, it can affect the prices shopkeepers offer you.

NetHack 3.4 March 20, 2002

NetHack Guidebook 6

Alignment

Lawful, Neutral, or Chaotic. Often, Lawful is taken as good

and Chaotic as evil, but legal and ethical do not always co-

incide. Your alignment influences how other monsters react

toward you. Monsters of a like alignment are more likely to

be non-aggressive, while those of an opposing alignment are

more likely to be seriously offended at your presence.

Dungeon Level

How deep you are in the dungeon. You start at level one and

the number increases as you go deeper into the dungeon.

Some levels are special, and are identified by a name and

not a number. The Amulet of Yendor is reputed to be some-

where beneath the twentieth level.

Gold

The number of gold pieces you are openly carrying. Gold

which you have concealed in containers is not counted.

Hit Points

Your current and maximum hit points. Hit points indicate

how much damage you can take before you die. The more you

get hit in a fight, the lower they get. You can regain hit

points by resting, or by using certain magical items or

spells. The number in parentheses is the maximum number

your hit points can reach.

Power

Spell points. This tells you how much mystic energy (mana)

you have available for spell casting. Again, resting will

regenerate the amount available.

Armor Class

A measure of how effectively your armor stops blows from un-

friendly creatures. The lower this number is, the more ef-

fective the armor; it is quite possible to have negative ar-

mor class.

Experience

Your current experience level and experience points. As you

adventure, you gain experience points. At certain experi-

ence point totals, you gain an experience level. The more

experienced you are, the better you fight and withstand mag-

ical attacks. Many dungeons show only your experience level

here.

Time

The number of turns elapsed so far, displayed if you have

the time option set.

Hunger status

Your current hunger status, ranging from Satiated down to

Fainting. If your hunger status is normal, it is not dis-

played.

NetHack 3.4 March 20, 2002

NetHack Guidebook 7

Additional status flags may appear after the hunger status:

Conf when you're confused, FoodPois or Ill when sick, Blind when

you can't see, Stun when stunned, and Hallu when hallucinating.

3.2. The message line (top)

The top line of the screen is reserved for messages that de-

scribe things that are impossible to represent visually. If you

see a ``--More--'' on the top line, this means that NetHack has

another message to display on the screen, but it wants to make

certain that you've read the one that is there first. To read

the next message, just press the space bar.

3.3. The map (rest of the screen)

The rest of the screen is the map of the level as you have

explored it so far. Each symbol on the screen represents some-

thing. You can set various graphics options to change some of

the symbols the game uses; otherwise, the game will use default

symbols. Here is a list of what the default symbols mean:

- and |

The walls of a room, or an open door. Or a grave (|).

. The floor of a room, ice, or a doorless doorway.

# A corridor, or iron bars, or a tree, or possibly a kitchen

sink (if your dungeon has sinks), or a drawbridge.

> Stairs down: a way to the next level.

< Stairs up: a way to the previous level.

+ A closed door, or a spellbook containing a spell you may be

able to learn.

@ Your character or a human.

$ A pile of gold.

^ A trap (once you have detected it).

) A weapon.

[ A suit or piece of armor.

% Something edible (not necessarily healthy).

? A scroll.

/ A wand.

= A ring.

NetHack 3.4 March 20, 2002

NetHack Guidebook 8

! A potion.

( A useful item (pick-axe, key, lamp...).

" An amulet or a spider web.

\* A gem or rock (possibly valuable, possibly worthless).

` A boulder or statue.

0 An iron ball.

\_ An altar, or an iron chain.

{ A fountain.

} A pool of water or moat or a pool of lava.

\ An opulent throne.

a-zA-Z and other symbols

Letters and certain other symbols represent the various in-

habitants of the Mazes of Menace. Watch out, they can be

nasty and vicious. Sometimes, however, they can be helpful.

I This marks the last known location of an invisible or other-

wise unseen monster. Note that the monster could have

moved. The 'F' and 'm' commands may be useful here.

You need not memorize all these symbols; you can ask the

game what any symbol represents with the `/' command (see the

next section for more info).

4. Commands

Commands are initiated by typing one or two characters.

Some commands, like ``search'', do not require that any more in-

formation be collected by NetHack. Other commands might require

additional information, for example a direction, or an object to

be used. For those commands that require additional information,

NetHack will present you with either a menu of choices or with a

command line prompt requesting information. Which you are pre-

sented with will depend chiefly on how you have set the menustyle

option.

For example, a common question, in the form ``What do you

want to use? [a-zA-Z ?\*]'', asks you to choose an object you are

carrying. Here, ``a-zA-Z'' are the inventory letters of your

possible choices. Typing `?' gives you an inventory list of

these items, so you can see what each letter refers to. In this

example, there is also a `\*' indicating that you may choose an

object not on the list, if you wanted to use something unexpect-

ed. Typing a `\*' lists your entire inventory, so you can see the

NetHack 3.4 March 20, 2002

NetHack Guidebook 9

inventory letters of every object you're carrying. Finally, if

you change your mind and decide you don't want to do this command

after all, you can press the ESC key to abort the command.

You can put a number before some commands to repeat them

that many times; for example, ``10s'' will search ten times. If

you have the number\_pad option set, you must type `n' to prefix a

count, so the example above would be typed ``n10s'' instead.

Commands for which counts make no sense ignore them. In addi-

tion, movement commands can be prefixed for greater control (see

below). To cancel a count or a prefix, press the ESC key.

The list of commands is rather long, but it can be read at

any time during the game through the `?' command, which accesses

a menu of helpful texts. Here are the commands for your refer-

ence:

? Help menu: display one of several help texts available.

/ Tell what a symbol represents. You may choose to specify a

location or type a symbol (or even a whole word) to explain.

Specifying a location is done by moving the cursor to a par-

ticular spot on the map and then pressing one of `.', `,',

`;', or `:'. `.' will explain the symbol at the chosen lo-

cation, conditionally check for ``More info?'' depending up-

on whether the help option is on, and then you will be asked

to pick another location; `,' will explain the symbol but

skip any additional information; `;' will skip additional

info and also not bother asking you to choose another loca-

tion to examine; `:' will show additional info, if any,

without asking for confirmation. When picking a location,

pressing the ESC key will terminate this command, or press-

ing `?' will give a brief reminder about how it works.

Specifying a name rather than a location always gives any

additional information available about that name.

& Tell what a command does.

< Go up to the previous level (if you are on a staircase or

ladder).

> Go down to the next level (if you are on a staircase or lad-

der).

[yuhjklbn]

Go one step in the direction indicated (see Figure 2). If

you sense or remember a monster there, you will fight the

monster instead. Only these one-step movement commands

cause you to fight monsters; the others (below) are

``safe.''

NetHack 3.4 March 20, 2002

NetHack Guidebook 10

y k u 7 8 9

\ | / \ | /

h- . -l 4- . -6

/ | \ / | \

b j n 1 2 3

(if number\_pad is set)

Figure 2

[YUHJKLBN]

Go in that direction until you hit a wall or run into some-

thing.

m[yuhjklbn]

Prefix: move without picking up objects or fighting (even

if you remember a monster there)

F[yuhjklbn]

Prefix: fight a monster (even if you only guess one is

there)

M[yuhjklbn]

Prefix: move far, no pickup.

g[yuhjklbn]

Prefix: move until something interesting is found.

G[yuhjklbn] or <CONTROL->[yuhjklbn]

Prefix: same as `g', but forking of corridors is not con-

sidered interesting.

\_ Travel to a map location via a shortest-path algorithm.

Stops on most of the same conditions as the `G' command

does. For ports with mouse support, the command is also in-

voked when a mouse-click takes place on a location further

than 1 cell away from the current position.

. Rest, do nothing for one turn.

a Apply (use) a tool (pick-axe, key, lamp...).

A Remove one or more worn items, such as armor. Use `T' (take

off) to take off only one piece of armor or `R' (remove) to

take off only one accessory.

^A Redo the previous command.

c Close a door.

C Call (name) an individual monster.

^C Panic button. Quit the game.

NetHack 3.4 March 20, 2002

NetHack Guidebook 11

d Drop something. Ex. ``d7a'' means drop seven items of ob-

ject a.

D Drop several things. In answer to the question ``What kinds

of things do you want to drop? [!%= aium]'' you should type

zero or more object symbols possibly followed by `a' and/or

`i' and/or `u' and/or `m'.

Da - drop all objects, without asking for confirmation.

Di - examine your inventory before dropping anything.

Du - drop only unpaid objects (when in a shop).

Dm - use a menu to pick which object(s) to drop.

D%u - drop only unpaid food.

^D Kick something (usually a door).

e Eat food.

E Engrave a message on the floor. Engraving the word ``El-

bereth'' will cause most monsters to not attack you hand-to-

hand (but if you attack, you will rub it out); this is often

useful to give yourself a breather. (This feature may be

compiled out of the game, so your version might not have

it.)

E- - write in the dust with your fingers.

f Fire one of the objects placed in your quiver. You may se-

lect ammunition with a previous `Q' command, or let the com-

puter pick something appropriate if autoquiver is true.

i List your inventory (everything you're carrying).

I List selected parts of your inventory.

I\* - list all gems in inventory;

Iu - list all unpaid items;

Ix - list all used up items that are on your shopping bill;

I$ - count your money.

o Open a door.

O Set options. A menu showing the current option values will

be displayed. You can change most values simply by select-

ing the menu entry for the given option (ie, by typing its

letter or clicking upon it, depending on your user inter-

face). For the non-boolean choices, a further menu or

prompt will appear once you've closed this menu. The avail-

able options are listed later in this Guidebook. Options

are usually set before the game rather than with the `O'

command; see the section on options below.

p Pay your shopping bill.

NetHack 3.4 March 20, 2002

NetHack Guidebook 12

P Put on a ring or other accessory (amulet, blindfold).

^P Repeat previous message (subsequent ^P's repeat earlier mes-

sages).

q Quaff (drink) a potion.

Q Select an object for your quiver. You can then throw this

using the `f' command. (In versions prior to 3.3 this was

the command to quit the game, which has now been moved to

`#quit'.)

r Read a scroll or spellbook.

R Remove an accessory (ring, amulet, etc).

^R Redraw the screen.

s Search for secret doors and traps around you. It usually

takes several tries to find something.

S Save (and suspend) the game. The game will be restored au-

tomatically the next time you play.

t Throw an object or shoot a projectile.

T Take off armor.

^T Teleport, if you have the ability.

v Display version number.

V Display the game history.

w Wield weapon.

w- - wield nothing, use your bare hands.

W Wear armor.

x Exchange your wielded weapon with the item in your secondary

weapon slot. The latter is used as your second weapon in

two-weapon combat. Note that if one of these slots is emp-

ty, the exchange still takes place.

X Enter explore (discovery) mode, explained in its own section

later.

^X Display your name, role, race, gender, and alignment as well

as the various deities in your game.

z Zap a wand. To aim at yourself, use `.' for the direction.

NetHack 3.4 March 20, 2002

NetHack Guidebook 13

Z Zap (cast) a spell. To cast at yourself, use `.' for the

direction.

^Z Suspend the game (UNIX(R) versions with job control only).

: Look at what is here.

; Show what type of thing a visible symbol corresponds to.

, Pick up some things.

@ Toggle the autopickup option on and off.

^ Ask for the type of a trap you found earlier.

) Tell what weapon you are wielding.

[ Tell what armor you are wearing.

= Tell what rings you are wearing.

" Tell what amulet you are wearing.

( Tell what tools you are using.

\* Tell what equipment you are using; combines the preceding

five type-specific commands into one.

$ Count your gold pieces.

+ List the spells you know. Using this command, you can also

rearrange the order in which your spells are listed. They

are shown via a menu, and if you select a spell in that

menu, you'll be re-prompted for another spell to swap places

with it, and then have opportunity to make further ex-

changes.

\ Show what types of objects have been discovered.

! Escape to a shell.

# Perform an extended command. As you can see, the authors of

NetHack used up all the letters, so this is a way to intro-

duce the less frequently used commands. What extended com-

mands are available depends on what features the game was

compiled with.

#adjust

Adjust inventory letters (most useful when the fixinv option

is ``on'').

\_\_\_\_\_\_\_\_\_\_

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NetHack 3.4 March 20, 2002

NetHack Guidebook 14

#chat

Talk to someone.

#conduct

List which challenges you have adhered to. See the section

below entitled ``Conduct'' for details.

#dip Dip an object into something.

#enhance

Advance or check weapons and spell skills.

#force

Force a lock.

#invoke

Invoke an object's special powers.

#jump

Jump to another location.

#loot

Loot a box or bag on the floor beneath you, or the saddle

from a horse standing next to you.

#monster

Use a monster's special ability (when polymorphed into mon-

ster form).

#name

Name an item or type of object.

#offer

Offer a sacrifice to the gods.

#pray

Pray to the gods for help.

#quit

Quit the program without saving your game.

#ride

Ride (or stop riding) a monster.

#rub Rub a lamp or a stone.

#sit Sit down.

#turn

Turn undead.

#twoweapon

Toggle two-weapon combat on or off. Note that you must use

suitable weapons for this type of combat, or it will be

NetHack 3.4 March 20, 2002

NetHack Guidebook 15

automatically turned off.

#untrap

Untrap something (trap, door, or chest).

#version

Print compile time options for this version of NetHack.

#wipe

Wipe off your face.

#? Help menu: get the list of available extended commands.

If your keyboard has a meta key (which, when pressed in com-

bination with another key, modifies it by setting the `meta'

[8th, or `high'] bit), you can invoke many extended commands by

meta-ing the first letter of the command. In NT, OS/2, and PC

NetHack, the `Alt' key can be used in this fashion.

M-? #? (not supported by all platforms)

M-2 #twoweapon (unless the number\_pad option is enabled)

M-a #adjust

M-c #chat

M-d #dip

M-e #enhance

M-f #force

M-i #invoke

M-j #jump

M-l #loot

M-m #monster

M-n #name

M-o #offer

M-p #pray

M-q #quit

M-r #rub

M-s #sit

NetHack 3.4 March 20, 2002

NetHack Guidebook 16

M-t #turn

M-u #untrap

M-v #version

M-w #wipe

If the number\_pad option is on, some additional letter com-

mands are available:

h Help menu: display one of several help texts available,

like ``?''.

j Jump to another location. Same as ``#jump'' or ``M-j''.

k Kick something (usually a door). Same as `^D'.

l Loot a box or bag on the floor beneath you, or the saddle

from a horse standing next to you. Same as ``#loot'' or

``M-l''.

N Name an item or type of object. Same as ``#name'' or ``M-

n''.

u Untrap a trap, door, or chest. Same as ``#untrap'' or ``M-

u''.

5. Rooms and corridors

Rooms and corridors in the dungeon are either lit or dark.

Any lit areas within your line of sight will be displayed; dark

areas are only displayed if they are within one space of you.

Walls and corridors remain on the map as you explore them.

Secret corridors are hidden. You can find them with the `s'

(search) command.

5.1. Doorways

Doorways connect rooms and corridors. Some doorways have no

doors; you can walk right through. Others have doors in them,

which may be open, closed, or locked. To open a closed door, use

the `o' (open) command; to close it again, use the `c' (close)

command.

You can get through a locked door by using a tool to pick

the lock with the `a' (apply) command, or by kicking it open with

the `^D' (kick) command.

Open doors cannot be entered diagonally; you must approach

them straight on, horizontally or vertically. Doorways without

doors are not restricted in this fashion.

NetHack 3.4 March 20, 2002

NetHack Guidebook 17

Doors can be useful for shutting out monsters. Most mon-

sters cannot open doors, although a few don't need to (ex. ghosts

can walk through doors).

Secret doors are hidden. You can find them with the `s'

(search) command. Once found they are in all ways equivalent to

normal doors.

5.2. Traps (`^')

There are traps throughout the dungeon to snare the unwary

delver. For example, you may suddenly fall into a pit and be

stuck for a few turns trying to climb out. Traps don't appear on

your map until you see one triggered by moving onto it, see some-

thing fall into it, or you discover it with the `s' (search) com-

mand. Monsters can fall prey to traps, too, which can be a very

useful defensive strategy.

There is a special pre-mapped branch of the dungeon based on

the classic computer game ``Sokoban.'' The goal is to push the

boulders into the pits or holes. With careful foresight, it is

possible to complete all of the levels according to the tradi-

tional rules of Sokoban. Some allowances are permitted in case

the player gets stuck; however, they will lower your luck.

5.3. Stairs (`<', `>')

In general, each level in the dungeon will have a staircase

going up (`<') to the previous level and another going down (`>')

to the next level. There are some exceptions though. For in-

stance, fairly early in the dungeon you will find a level with

two down staircases, one continuing into the dungeon and the oth-

er branching into an area known as the Gnomish Mines. Those

mines eventually hit a dead end, so after exploring them (if you

choose to do so), you'll need to climb back up to the main dun-

geon.

When you traverse a set of stairs, or trigger a trap which

sends you to another level, the level you're leaving will be de-

activated and stored in a file on disk. If you're moving to a

previously visited level, it will be loaded from its file on disk

and reactivated. If you're moving to a level which has not yet

been visited, it will be created (from scratch for most random

levels, from a template for some ``special'' levels, or loaded

from the remains of an earlier game for a ``bones'' level as

briefly described below). Monsters are only active on the cur-

rent level; those on other levels are essentially placed into

stasis.

Ordinarily when you climb a set of stairs, you will arrive

on the corresponding staircase at your destination. However,

pets (see below) and some other monsters will follow along if

they're close enough when you travel up or down stairs, and occa-

sionally one of these creatures will displace you during the

NetHack 3.4 March 20, 2002

NetHack Guidebook 18

climb. When that occurs, the pet or other monster will arrive on

the staircase and you will end up nearby.

5.4. Ladders (`<', `>')

Ladders serve the same purpose as staircases, and the two

types of inter-level connections are nearly indistinguishable

during game play.

6. Monsters

Monsters you cannot see are not displayed on the screen.

Beware! You may suddenly come upon one in a dark place. Some

magic items can help you locate them before they locate you

(which some monsters can do very well).

The commands `/' and `;' may be used to obtain information

about those monsters who are displayed on the screen. The com-

mand `C' allows you to assign a name to a monster, which may be

useful to help distinguish one from another when multiple mon-

sters are present. Assigning a name which is just a space will

remove any prior name.

The extended command ``#chat'' can be used to interact with

an adjacent monster. There is no actual dialog (in other words,

you don't get to choose what you'll say), but chatting with some

monsters such as a shopkeeper or the Oracle of Delphi can produce

useful results.

6.1. Fighting

If you see a monster and you wish to fight it, just attempt

to walk into it. Many monsters you find will mind their own

business unless you attack them. Some of them are very dangerous

when angered. Remember: discretion is the better part of valor.

If you can't see a monster (if it is invisible, or if you

are blinded), the symbol `I' will be shown when you learn of its

presence. If you attempt to walk into it, you will try to fight

it just like a monster that you can see; of course, if the mon-

ster has moved, you will attack empty air. If you guess that the

monster has moved and you don't wish to fight, you can use the

`m' command to move without fighting; likewise, if you don't re-

member a monster but want to try fighting anyway, you can use the

`F' command.

6.2. Your pet

You start the game with a little dog (`d'), cat (`f'), or

pony (`u'), which follows you about the dungeon and fights mon-

sters with you. Like you, your pet needs food to survive. It

usually feeds itself on fresh carrion and other meats. If you're

worried about it or want to train it, you can feed it, too, by

NetHack 3.4 March 20, 2002

NetHack Guidebook 19

throwing it food. A properly trained pet can be very useful un-

der certain circumstances.

Your pet also gains experience from killing monsters, and

can grow over time, gaining hit points and doing more damage.

Initially, your pet may even be better at killing things than

you, which makes pets useful for low-level characters.

Your pet will follow you up and down staircases if it is

next to you when you move. Otherwise your pet will be stranded

and may become wild. Similarly, when you trigger certain types

of traps which alter your location (for instance, a trap door

which drops you to a lower dungeon level), any adjacent pet will

accompany you and any non-adjacent pet will be left behind. Your

pet may trigger such traps itself; you will not be carried along

with it even if adjacent at the time.

6.3. Steeds

Some types of creatures in the dungeon can actually be rid-

den if you have the right equipment and skill. Convincing a wild

beast to let you saddle it up is difficult to say the least.

Many a dungeoneer has had to resort to magic and wizardry in or-

der to forge the alliance. Once you do have the beast under your

control however, you can easily climb in and out of the saddle

with the `#ride' command. Lead the beast around the dungeon when

riding, in the same manner as you would move yourself. It is the

beast that you will see displayed on the map.

Riding skill is managed by the `#enhance' command. See the

section on Weapon proficiency for more information about that.

6.4. Bones levels

You may encounter the shades and corpses of other adventur-

ers (or even former incarnations of yourself!) and their personal

effects. Ghosts are hard to kill, but easy to avoid, since

they're slow and do little damage. You can plunder the deceased

adventurer's possessions; however, they are likely to be cursed.

Beware of whatever killed the former player; it is probably still

lurking around, gloating over its last victory.

7. Objects

When you find something in the dungeon, it is common to want

to pick it up. In NetHack, this is accomplished automatically by

walking over the object (unless you turn off the autopickup op-

tion (see below), or move with the `m' prefix (see above)), or

manually by using the `,' command.

If you're carrying too many items, NetHack will tell you so

and you won't be able to pick up anything more. Otherwise, it

will add the object(s) to your pack and tell you what you just

NetHack 3.4 March 20, 2002

NetHack Guidebook 20

picked up.

As you add items to your inventory, you also add the weight

of that object to your load. The amount that you can carry de-

pends on your strength and your constitution. The stronger you

are, the less the additional load will affect you. There comes a

point, though, when the weight of all of that stuff you are car-

rying around with you through the dungeon will encumber you.

Your reactions will get slower and you'll burn calories faster,

requiring food more frequently to cope with it. Eventually,

you'll be so overloaded that you'll either have to discard some

of what you're carrying or collapse under its weight.

NetHack will tell you how badly you have loaded yourself.

The symbols `Burdened', `Stressed', `Strained', `Overtaxed' and

`Overloaded' are displayed on the bottom line display to indicate

your condition.

When you pick up an object, it is assigned an inventory let-

ter. Many commands that operate on objects must ask you to find

out which object you want to use. When NetHack asks you to

choose a particular object you are carrying, you are usually pre-

sented with a list of inventory letters to choose from (see Com-

mands, above).

Some objects, such as weapons, are easily differentiated.

Others, like scrolls and potions, are given descriptions which

vary according to type. During a game, any two objects with the

same description are the same type. However, the descriptions

will vary from game to game.

When you use one of these objects, if its effect is obvious,

NetHack will remember what it is for you. If its effect isn't

extremely obvious, you will be asked what you want to call this

type of object so you will recognize it later. You can also use

the ``#name'' command for the same purpose at any time, to name

all objects of a particular type or just an individual object.

When you use ``#name'' on an object which has already been named,

specifying a space as the value will remove the prior name in-

stead of assigning a new one.

7.1. Curses and Blessings

Any object that you find may be cursed, even if the object

is otherwise helpful. The most common effect of a curse is being

stuck with (and to) the item. Cursed weapons weld themselves to

your hand when wielded, so you cannot unwield them. Any cursed

item you wear is not removable by ordinary means. In addition,

cursed arms and armor usually, but not always, bear negative en-

chantments that make them less effective in combat. Other cursed

objects may act poorly or detrimentally in other ways.

Objects can also be blessed. Blessed items usually work

better or more beneficially than normal uncursed items. For

NetHack 3.4 March 20, 2002

NetHack Guidebook 21

example, a blessed weapon will do more damage against demons.

There are magical means of bestowing or removing curses upon

objects, so even if you are stuck with one, you can still have

the curse lifted and the item removed. Priests and Priestesses

have an innate sensitivity to this property in any object, so

they can more easily avoid cursed objects than other character

roles.

An item with unknown status will be reported in your inven-

tory with no prefix. An item which you know the state of will be

distinguished in your inventory by the presence of the word

``cursed'', ``uncursed'' or ``blessed'' in the description of the

item.

7.2. Weapons (`)')

Given a chance, most monsters in the Mazes of Menace will

gratuitously try to kill you. You need weapons for self-defense

(killing them first). Without a weapon, you do only 1-2 hit

points of damage (plus bonuses, if any). Monk characters are an

exception; they normally do much more damage with bare hands than

they do with weapons.

There are wielded weapons, like maces and swords, and thrown

weapons, like arrows and spears. To hit monsters with a weapon,

you must wield it and attack them, or throw it at them. You can

simply elect to throw a spear. To shoot an arrow, you should

first wield a bow, then throw the arrow. Crossbows shoot cross-

bow bolts. Slings hurl rocks and (other) stones (like gems).

Enchanted weapons have a ``plus'' (or ``to hit enhancement''

which can be either positive or negative) that adds to your

chance to hit and the damage you do to a monster. The only way

to determine a weapon's enchantment is to have it magically iden-

tified somehow. Most weapons are subject to some type of damage

like rust. Such ``erosion'' damage can be repaired.

The chance that an attack will successfully hit a monster,

and the amount of damage such a hit will do, depends upon many

factors. Among them are: type of weapon, quality of weapon (en-

chantment and/or erosion), experience level, strength, dexterity,

encumbrance, and proficiency (see below). The monster's armor

class - a general defense rating, not necessarily due to wearing

of armor - is a factor too; also, some monsters are particularly

vulnerable to certain types of weapons.

Many weapons can be wielded in one hand; some require both

hands. When wielding a two-handed weapon, you can not wear a

shield, and vice versa. When wielding a one-handed weapon, you

can have another weapon ready to use by setting things up with

the `x' command, which exchanges your primary (the one being

wielded) and secondary weapons. And if you have proficiency in

the ``two weapon combat'' skill, you may wield both primary and

NetHack 3.4 March 20, 2002

NetHack Guidebook 22

secondary weapons simultaneously; use the `#twoweapon' extended

command to engage or disengage that. Only some types of charac-

ters (barbarians, for instance) have the necessary skill avail-

able. Even with that skill, using two weapons at once incurs a

penalty in the chance to hit your target compared to using just

one weapon at a time.

There might be times when you'd rather not wield any weapon

at all. To accomplish that, wield `-', or else use the `A' com-

mand which allows you to unwield the current weapon in addition

to taking off other worn items.

Those of you in the audience who are AD&D players, be aware

that each weapon which existed in AD&D does roughly the same dam-

age to monsters in NetHack. Some of the more obscure weapons

(such as the aklys, lucern hammer, and bec-de-corbin) are defined

in an appendix to Unearthed Arcana, an AD&D supplement.

The commands to use weapons are `w' (wield), `t' (throw),

`f' (fire, an alternative way of throwing), `Q' (quiver), `x'

(exchange), `#twoweapon', and `#enhance' (see below).

7.2.1. Throwing and shooting

You can throw just about anything via the `t' command. It

will prompt for the item to throw; picking `?' will list things

in your inventory which are considered likely to be thrown, or

picking `\*' will list your entire inventory. After you've chosen

what to throw, you will be prompted for a direction rather than

for a specific target. The distance something can be thrown de-

pends mainly on the type of object and your strength. Arrows can

be thrown by hand, but can be thrown much farther and will be

more likely to hit when thrown while you are wielding a bow.

You can simplify the throwing operation by using the `Q'

command to select your preferred ``missile'', then using the `f'

command to throw it. You'll be prompted for a direction as

above, but you don't have to specify which item to throw each

time you use `f'. There is also an option, autoquiver, which has

NetHack choose another item to automatically fill your quiver

when the inventory slot used for `Q' runs out.

Some characters have the ability to fire a volley of multi-

ple items in a single turn. Knowing how to load several rounds

of ammunition at once -- or hold several missiles in your hand --

and still hit a target is not an easy task. Rangers are among

those who are adept at this task, as are those with a high level

of proficiency in the relevant weapon skill (in bow skill if

you're wielding one to shoot arrows, in crossbow skill if you're

wielding one to shoot bolts, or in sling skill if you're wielding

one to shoot stones). The number of items that the character has

a chance to fire varies from turn to turn. You can explicitly

limit the number of shots by using a numeric prefix before the

`t' or `f' command. For example, ``2f'' (or ``n2f'' if using

NetHack 3.4 March 20, 2002

NetHack Guidebook 23

number\_pad mode) would ensure that at most 2 arrows are shot even

if you could have fired 3. If you specify a larger number than

would have been shot (``4f'' in this example), you'll just end up

shooting the same number (3, here) as if no limit had been speci-

fied. Once the volley is in motion, all of the items will travel

in the same direction; if the first ones kill a monster, the oth-

ers can still continue beyond that spot.

7.2.2. Weapon proficiency

You will have varying degrees of skill in the weapons avail-

able. Weapon proficiency, or weapon skills, affect how well you

can use particular types of weapons, and you'll be able to im-

prove your skills as you progress through a game, depending on

your role, your experience level, and use of the weapons.

For the purposes of proficiency, weapons have been divided

up into various groups such as daggers, broadswords, and

polearms. Each role has a limit on what level of proficiency a

character can achieve for each group. For instance, wizards can

become highly skilled in daggers or staves but not in swords or

bows.

The `#enhance' extended command is used to review current

weapons proficiency (also spell proficiency) and to choose which

skill(s) to improve when you've used one or more skills enough to

become eligible to do so. The skill rankings are ``none'' (some-

times also referred to as ``restricted'', because you won't be

able to advance), ``unskilled'', ``basic'', ``skilled'', and

``expert''. Restricted skills simply will not appear in the list

shown by `#enhance'. (Divine intervention might unrestrict a

particular skill, in which case it will start at unskilled and be

limited to basic.) Some characters can enhance their barehanded

combat or martial arts skill beyond expert to ``master'' or

``grand master''.

Use of a weapon in which you're restricted or unskilled will

incur a modest penalty in the chance to hit a monster and also in

the amount of damage done when you do hit; at basic level, there

is no penalty or bonus; at skilled level, you receive a modest

bonus in the chance to hit and amount of damage done; at expert

level, the bonus is higher. A successful hit has a chance to

boost your training towards the next skill level (unless you've

already reached the limit for this skill). Once such training

reaches the threshold for that next level, you'll be told that

you feel more confident in your skills. At that point you can

use `#enhance' to increase one or more skills. Such skills are

not increased automatically because there is a limit to your to-

tal overall skills, so you need to actively choose which skills

to enhance and which to ignore.

NetHack 3.4 March 20, 2002

NetHack Guidebook 24

7.3. Armor (`[')

Lots of unfriendly things lurk about; you need armor to pro-

tect yourself from their blows. Some types of armor offer better

protection than others. Your armor class is a measure of this

protection. Armor class (AC) is measured as in AD&D, with 10 be-

ing the equivalent of no armor, and lower numbers meaning better

armor. Each suit of armor which exists in AD&D gives the same

protection in NetHack. Here is an (incomplete) list of the armor

classes provided by various suits of armor:

dragon scale mail 1

plate mail 3

crystal plate mail 3

bronze plate mail 4

splint mail 4

banded mail 4

dwarvish mithril-coat 4

elven mithril-coat 5

chain mail 5

orcish chain mail 6

scale mail 6

studded leather armor 7

ring mail 7

orcish ring mail 8

leather armor 8

leather jacket 9

no armor 10

You can also wear other pieces of armor (ex. helmets, boots,

shields, cloaks) to lower your armor class even further, but you

can only wear one item of each category (one suit of armor, one

cloak, one helmet, one shield, and so on) at a time.

If a piece of armor is enchanted, its armor protection will

be better (or worse) than normal, and its ``plus'' (or minus)

will subtract from your armor class. For example, a +1 chain

mail would give you better protection than normal chain mail,

lowering your armor class one unit further to 4. When you put on

a piece of armor, you immediately find out the armor class and

any ``plusses'' it provides. Cursed pieces of armor usually have

negative enchantments (minuses) in addition to being unremovable.

Many types of armor are subject to some kind of damage like

rust. Such damage can be repaired. Some types of armor may in-

hibit spell casting.

The commands to use armor are `W' (wear) and `T' (take off).

The `A' command can also be used to take off armor as well as

other worn items.

NetHack 3.4 March 20, 2002

NetHack Guidebook 25

7.4. Food (`%')

Food is necessary to survive. If you go too long without

eating you will faint, and eventually die of starvation. Some

types of food will spoil, and become unhealthy to eat, if not

protected. Food stored in ice boxes or tins (``cans'') will usu-

ally stay fresh, but ice boxes are heavy, and tins take a while

to open.

When you kill monsters, they usually leave corpses which are

also ``food.'' Many, but not all, of these are edible; some also

give you special powers when you eat them. A good rule of thumb

is ``you are what you eat.''

Some character roles and some monsters are vegetarian. Veg-

etarian monsters will typically never eat animal corpses, while

vegetarian players can, but with some rather unpleasant side-ef-

fects.

You can name one food item after something you like to eat

with the fruit option.

The command to eat food is `e'.

7.5. Scrolls (`?')

Scrolls are labeled with various titles, probably chosen by

ancient wizards for their amusement value (ex. ``READ ME,'' or

``THANX MAUD'' backwards). Scrolls disappear after you read them

(except for blank ones, without magic spells on them).

One of the most useful of these is the scroll of identify,

which can be used to determine what another object is, whether it

is cursed or blessed, and how many uses it has left. Some ob-

jects of subtle enchantment are difficult to identify without

these.

A mail daemon may run up and deliver mail to you as a scroll

of mail (on versions compiled with this feature). To use this

feature on versions where NetHack mail delivery is triggered by

electronic mail appearing in your system mailbox, you must let

NetHack know where to look for new mail by setting the ``MAIL''

environment variable to the file name of your mailbox. You may

also want to set the ``MAILREADER'' environment variable to the

file name of your favorite reader, so NetHack can shell to it

when you read the scroll. On versions of NetHack where mail is

randomly generated internal to the game, these environment vari-

ables are ignored. You can disable the mail daemon by turning

off the mail option.

The command to read a scroll is `r'.

NetHack 3.4 March 20, 2002

NetHack Guidebook 26

7.6. Potions (`!')

Potions are distinguished by the color of the liquid inside

the flask. They disappear after you quaff them.

Clear potions are potions of water. Sometimes these are

blessed or cursed, resulting in holy or unholy water. Holy water

is the bane of the undead, so potions of holy water are good

things to throw (`t') at them. It is also sometimes very useful

to dip (``#dip'') an object into a potion.

The command to drink a potion is `q' (quaff).

7.7. Wands (`/')

Magic wands usually have multiple magical charges. Some

wands are directional--you must give a direction in which to zap

them. You can also zap them at yourself (just give a `.' or `s'

for the direction). Be warned, however, for this is often unwise.

Other wands are nondirectional--they don't require a direction.

The number of charges in a wand is random and decreases by one

whenever you use it.

When the number of charges left in a wand becomes zero, at-

tempts to use the wand will usually result in nothing happening.

Occasionally, however, it may be possible to squeeze the last few

mana points from an otherwise spent wand, destroying it in the

process. A wand may be recharged by using suitable magic, but

doing so runs the risk of causing it to explode. The chance for

such an explosion starts out very small and increases each time

the wand is recharged.

In a truly desperate situation, when your back is up against

the wall, you might decide to go for broke and break your wand.

This is not for the faint of heart. Doing so will almost cer-

tainly cause a catastrophic release of magical energies.

When you have fully identified a particular wand, inventory

display will include additional information in parentheses: the

number of times it has been recharged followed by a colon and

then by its current number of charges. A current charge count of

-1 is a special case indicating that the wand has been cancelled.

The command to use a wand is `z' (zap). To break one, use

the `a' (apply) command.

7.8. Rings (`=')

Rings are very useful items, since they are relatively per-

manent magic, unlike the usually fleeting effects of potions,

scrolls, and wands.

Putting on a ring activates its magic. You can wear only

two rings, one on each ring finger.

NetHack 3.4 March 20, 2002

NetHack Guidebook 27

Most rings also cause you to grow hungry more rapidly, the

rate varying with the type of ring.

The commands to use rings are `P' (put on) and `R' (remove).

7.9. Spellbooks (`+')

Spellbooks are tomes of mighty magic. When studied with the

`r' (read) command, they transfer to the reader the knowledge of

a spell (and therefore eventually become unreadable) -- unless

the attempt backfires. Reading a cursed spellbook or one with

mystic runes beyond your ken can be harmful to your health!

A spell (even when learned) can also backfire when you cast

it. If you attempt to cast a spell well above your experience

level, or if you have little skill with the appropriate spell

type, or cast it at a time when your luck is particularly bad,

you can end up wasting both the energy and the time required in

casting.

Casting a spell calls forth magical energies and focuses

them with your naked mind. Some of the magical energy released

comes from within you, and casting several spells in a row may

tire you. Casting of spells also requires practice. With prac-

tice, your skill in each category of spell casting will improve.

Over time, however, your memory of each spell will dim, and you

will need to relearn it.

Some spells are directional--you must give a direction in

which to cast them. You can also cast them at yourself (just

give a `.' or `s' for the direction). Be warned, however, for

this is often unwise. Other spells are nondirectional--they

don't require a direction.

Just as weapons are divided into groups in which a character

can become proficient (to varying degrees), spells are similarly

grouped. Successfully casting a spell exercises the skill group;

sufficient skill may increase the potency of the spell and reduce

the risk of spell failure. Skill slots are shared with weapons

skills. (See also the section on ``Weapon proficiency''.)

Casting a spell also requires flexible movement, and wearing

various types of armor may interfere with that.

The command to read a spellbook is the same as for scrolls,

`r' (read). The `+' command lists your current spells, their

levels, categories, and chances for failure. The `Z' (cast) com-

mand casts a spell.

7.10. Tools (`(')

Tools are miscellaneous objects with various purposes. Some

tools have a limited number of uses, akin to wand charges. For

example, lamps burn out after a while. Other tools are

NetHack 3.4 March 20, 2002

NetHack Guidebook 28

containers, which objects can be placed into or taken out of.

The command to use tools is `a' (apply).

7.10.1. Containers

You may encounter bags, boxes, and chests in your travels.

A tool of this sort can be opened with the ``#loot'' extended

command when you are standing on top of it (that is, on the same

floor spot), or with the `a' (apply) command when you are carry-

ing it. However, chests are often locked, and are in any case

unwieldy objects. You must set one down before unlocking it by

using a key or lock-picking tool with the `a' (apply) command, by

kicking it with the `^D' command, or by using a weapon to force

the lock with the ``#force'' extended command.

Some chests are trapped, causing nasty things to happen when

you unlock or open them. You can check for and try to deactivate

traps with the ``#untrap'' extended command.

7.11. Amulets (`"')

Amulets are very similar to rings, and often more powerful.

Like rings, amulets have various magical properties, some benefi-

cial, some harmful, which are activated by putting them on.

Only one amulet may be worn at a time, around your neck.

The commands to use amulets are the same as for rings, `P'

(put on) and `R' (remove).

7.12. Gems (`\*')

Some gems are valuable, and can be sold for a lot of gold.

They are also a far more efficient way of carrying your riches.

Valuable gems increase your score if you bring them with you when

you exit.

Other small rocks are also categorized as gems, but they are

much less valuable. All rocks, however, can be used as projec-

tile weapons (if you have a sling). In the most desperate of

cases, you can still throw them by hand.

7.13. Large rocks (``')

Statues and boulders are not particularly useful, and are

generally heavy. It is rumored that some statues are not what

they seem.

Very large humanoids (giants and their ilk) have been known

to use boulders as weapons.

NetHack 3.4 March 20, 2002

NetHack Guidebook 29

7.14. Gold (`$')

Gold adds to your score, and you can buy things in shops

with it. There are a number of monsters in the dungeon that may

be influenced by the amount of gold you are carrying (shopkeepers

aside).

8. Conduct

As if winning NetHack were not difficult enough, certain

players seek to challenge themselves by imposing restrictions on

the way they play the game. The game automatically tracks some

of these challenges, which can be checked at any time with the

#conduct command or at the end of the game. When you perform an

action which breaks a challenge, it will no longer be listed.

This gives players extra ``bragging rights'' for winning the game

with these challenges. Note that it is perfectly acceptable to

win the game without resorting to these restrictions and that it

is unusual for players to adhere to challenges the first time

they win the game.

Several of the challenges are related to eating behavior.

The most difficult of these is the foodless challenge. Although

creatures can survive long periods of time without food, there is

a physiological need for water; thus there is no restriction on

drinking beverages, even if they provide some minor food bene-

fits. Calling upon your god for help with starvation does not

violate any food challenges either.

A strict vegan diet is one which avoids any food derived

from animals. The primary source of nutrition is fruits and veg-

etables. The corpses and tins of blobs (`b'), jellies (`j'), and

fungi (`F') are also considered to be vegetable matter. Certain

human food is prepared without animal products; namely, lembas

wafers, cram rations, food rations (gunyoki), K-rations, and C-

rations. Metal or another normally indigestible material eaten

while polymorphed into a creature that can digest it is also con-

sidered vegan food. Note however that eating such items still

counts against foodless conduct.

Vegetarians do not eat animals; however, they are less se-

lective about eating animal byproducts than vegans. In addition

to the vegan items listed above, they may eat any kind of pudding

(`P') other than the black puddings, eggs and food made from eggs

(fortune cookies and pancakes), food made with milk (cream pies

and candy bars), and lumps of royal jelly. Monks are expected to

observe a vegetarian diet.

Eating any kind of meat violates the vegetarian, vegan, and

foodless conducts. This includes tripe rations, the corpses or

tins of any monsters not mentioned above, and the various other

chunks of meat found in the dungeon. Swallowing and digesting a

monster while polymorphed is treated as if you ate the creature's

NetHack 3.4 March 20, 2002

NetHack Guidebook 30

corpse. Eating leather, dragon hide, or bone items while poly-

morphed into a creature that can digest it, or eating monster

brains while polymorphed into a (master) mind flayer, is consid-

ered eating an animal, although wax is only an animal byproduct.

Regardless of conduct, there will be some items which are

indigestible, and others which are hazardous to eat. Using a

swallow-and-digest attack against a monster is equivalent to eat-

ing the monster's corpse. Please note that the term ``vegan'' is

used here only in the context of diet. You are still free to

choose not to use or wear items derived from animals (e.g.

leather, dragon hide, bone, horns, coral), but the game will not

keep track of this for you. Also note that ``milky'' potions may

be a translucent white, but they do not contain milk, so they are

compatible with a vegan diet. Slime molds or player-defined

``fruits'', although they could be anything from ``cherries'' to

``pork chops'', are also assumed to be vegan.

An atheist is one who rejects religion. This means that you

cannot #pray, #offer sacrifices to any god, #turn undead, or

#chat with a priest. Particularly selective readers may argue

that playing Monk or Priest characters should violate this con-

duct; that is a choice left to the player. Offering the Amulet

of Yendor to your god is necessary to win the game and is not

counted against this conduct. You are also not penalized for be-

ing spoken to by an angry god, priest(ess), or other religious

figure; a true atheist would hear the words but attach no special

meaning to them.

Most players fight with a wielded weapon (or tool intended

to be wielded as a weapon). Another challenge is to win the game

without using such a wielded weapon. You are still permitted to

throw, fire, and kick weapons; use a wand, spell, or other type

of item; or fight with your hands and feet.

In NetHack, a pacifist refuses to cause the death of any

other monster (i.e. if you would get experience for the death).

This is a particularly difficult challenge, although it is still

possible to gain experience by other means.

An illiterate character cannot read or write. This includes

reading a scroll, spellbook, fortune cookie message, or t-shirt;

writing a scroll; or making an engraving of anything other than a

single ``x'' (the traditional signature of an illiterate person).

Reading an engraving, or any item that is absolutely necessary to

win the game, is not counted against this conduct. The identity

of scrolls and spellbooks (and knowledge of spells) in your

starting inventory is assumed to be learned from your teachers

prior to the start of the game and isn't counted.

There are several other minor challenges. It is possible to

eliminate a species of monsters by genocide; playing without this

feature is considered a challenge. You can change the form of

any object into another object of the same type (``polypiling'')

NetHack 3.4 March 20, 2002

NetHack Guidebook 31

or the form of your own body into another creature (``polyself'')

by wand, spell, or potion of polymorph; avoiding these effects

are each considered challenges. Finally, you may sometimes re-

ceive wishes; a game without an attempt to wish for an object is

a challenge, as is a game without wishing for an artifact (even

if the artifact immediately disappears).

9. Options

Due to variations in personal tastes and conceptions of how

NetHack should do things, there are options you can set to change

how NetHack behaves.

9.1. Setting the options

Options may be set in a number of ways. Within the game,

the `O' command allows you to view all options and change most of

them. You can also set options automatically by placing them in

the NETHACKOPTIONS environment variable or in a configuration

file. Some versions of NetHack also have front-end programs that

allow you to set options before starting the game.

9.2. Using the NETHACKOPTIONS environment variable

The NETHACKOPTIONS variable is a comma-separated list of

initial values for the various options. Some can only be turned

on or off. You turn one of these on by adding the name of the

option to the list, and turn it off by typing a `!' or ``no'' be-

fore the name. Others take a character string as a value. You

can set string options by typing the option name, a colon or

equals sign, and then the value of the string. The value is ter-

minated by the next comma or the end of string.

For example, to set up an environment variable so that ``au-

toquiver'' is on, ``autopickup'' is off, the name is set to

``Blue Meanie'', and the fruit is set to ``papaya'', you would

enter the command

% setenv NETHACKOPTIONS "autoquiver,\!autopickup,name:Blue Meanie,fruit:papaya"

in csh (note the need to escape the ! since it's special to the

shell), or

$ NETHACKOPTIONS="autoquiver,!autopickup,name:Blue Meanie,fruit:papaya"

$ export NETHACKOPTIONS

in sh or ksh.

9.3. Using a configuration file

Any line in the configuration file starting with ``OP-

TIONS='' may be filled out with options in the same syntax as in

NETHACKOPTIONS. Any line starting with ``DUNGEON='',

NetHack 3.4 March 20, 2002

NetHack Guidebook 32

``EFFECTS='', ``MONSTERS='', ``OBJECTS='', ``TRAPS='', or ``BOUL-

DER='' is taken as defining the corresponding dungeon, effects,

monsters, objects traps or boulder option in a different syntax,

a sequence of decimal numbers giving the character position in

the current font to be used in displaying each entry. Such a se-

quence can be continued to multiple lines by putting a `\' at the

end of each line to be continued. Any line starting with `#' is

treated as a comment.

The default name of the configuration file varies on differ-

ent operating systems, but NETHACKOPTIONS can also be set to the

full name of a file you want to use (possibly preceded by an

`@').

9.4. Customization options

Here are explanations of what the various options do. Char-

acter strings that are too long may be truncated. Some of the

options listed may be inactive in your dungeon.

align

Your starting alignment (align:lawful, align:neutral, or

align:chaotic). You may specify just the first letter. The

default is to randomly pick an appropriate alignment. Can-

not be set with the `O' command.

autodig

Automatically dig if you are wielding a digging tool and

moving into a place that can be dug (default false).

autopickup

Automatically pick up things onto which you move (default

on).

autoquiver

This option controls what happens when you attempt the `f'

(fire) command with an empty quiver. When true, the comput-

er will fill your quiver with some suitable weapon. Note

that it will not take into account the blessed/cursed sta-

tus, enchantment, damage, or quality of the weapon; you are

free to manually fill your quiver with the `Q' command in-

stead. If no weapon is found or the option is false, the

`t' (throw) command is executed instead. (default false)

BIOS

Use BIOS calls to update the screen display quickly and to

read the keyboard (allowing the use of arrow keys to move)

on machines with an IBM PC compatible BIOS ROM (default off,

OS/2, PC, and ST NetHack only).

boulder

Set the character used to display boulders (default is rock

class symbol).

NetHack 3.4 March 20, 2002

NetHack Guidebook 33

catname

Name your starting cat (ex. ``catname:Morris''). Cannot be

set with the `O' command.

character

Pick your type of character (ex. ``character:Monk''); syn-

onym for ``role''. See ``name'' for an alternate method of

specifying your role. Normally only the first letter of the

value is examined; the string ``random'' is an exception.

checkpoint

Save game state after each level change, for possible recov-

ery after program crash (default on).

checkspace

Check free disk space before writing files to disk (default

on). You may have to turn this off if you have more than 2

GB free space on the partition used for your save and level

files. Only applies when MFLOPPY was defined during compi-

lation.

confirm

Have user confirm attacks on pets, shopkeepers, and other

peaceable creatures (default on).

DECgraphics

Use a predefined selection of characters from the DEC VT-

xxx/DEC Rainbow/ANSI line-drawing character set to display

the dungeon/effects/traps instead of having to define a full

graphics set yourself (default off). This option also sets

up proper handling of graphics characters for such termi-

nals, so you should specify it when appropriate even if you

override the selections with your own graphics strings.

disclose

Controls options for disclosing various information when the

game ends (defaults to all possibilities being disclosed).

The possibilities are:

i - disclose your inventory.

a - disclose your attributes.

v - summarize monsters that have been vanquished.

g - list monster species that have been genocided.

c - display your conduct.

Each disclosure possibility can optionally be preceded by a

prefix which let you refine how it behaves. Here are the

valid prefixes:

y - prompt you and default to yes on the prompt.

n - prompt you and default to no on the prompt.

+ - disclose it without prompting.

- - do not disclose it and do not prompt.

NetHack 3.4 March 20, 2002

NetHack Guidebook 34

(ex. ``disclose:yi na +v -g -c'') The example sets inventory

to prompt and default to yes, attributes to prompt and de-

fault to no, vanquished to disclose without prompting, geno-

cided to not disclose and not to prompt, conduct to not dis-

close and not to prompt. Note that the vanquished monsters

list includes all monsters killed by traps and each other as

well as by you.

dogname

Name your starting dog (ex. ``dogname:Fang''). Cannot be

set with the `O' command.

dungeon

Set the graphics symbols for displaying the dungeon (default

`` |--------||.-|++##.##<><>\_|\\#{}.}..## #}''). The dun-

geon option should be followed by a string of 1-41 charac-

ters to be used instead of the default map-drawing charac-

ters. The dungeon map will use the characters you specify

instead of the default symbols, and default symbols for any

you do not specify. Remember that you may need to escape

some of these characters on a command line if they are spe-

cial to your shell.

Note that NetHack escape-processes this option string in

conventional C fashion. This means that `\' is a prefix to

take the following character literally. Thus `\' needs to

be represented as `\\'. The special escape form `\m'

switches on the meta bit in the following character, and the

`^' prefix causes the following character to be treated as a

control character.

The order of the symbols is: solid rock, vertical wall,

horizontal wall, upper left corner, upper right corner, low-

er left corner, lower right corner, cross wall, upward T

wall, downward T wall, leftward T wall, rightward T wall, no

door, vertical open door, horizontal open door, vertical

closed door, horizontal closed door, iron bars, tree, floor

of a room, dark corridor, lit corridor, stairs up, stairs

down, ladder up, ladder down, altar, grave, throne, kitchen

sink, fountain, pool or moat, ice, lava, vertical lowered

drawbridge, horizontal lowered drawbridge, vertical raised

drawbridge, horizontal raised drawbridge, air, cloud, under

water.

You might want to use `+' for the corners and T walls for a

more aesthetic, boxier display. Note that in the next re-

lease, new symbols may be added, or the present ones rear-

ranged.

Cannot be set with the `O' command.

effects

Set the graphics symbols for displaying special effects (de-

fault ``|-\\/\*!)(0#@\*/-\\||\\-//-\\| |\\-/''). The effects

NetHack 3.4 March 20, 2002

NetHack Guidebook 35

option should be followed by a string of 1-29 characters to

be used instead of the default special-effects characters.

This string is subjected to the same processing as the dun-

geon option.

The order of the symbols is: vertical beam, horizontal

beam, left slant, right slant, digging beam, camera flash

beam, left boomerang, right boomerang, four glyphs giving

the sequence for magic resistance displays, the eight sur-

rounding glyphs for swallowed display, nine glyphs for ex-

plosions. An explosion consists of three rows (top, middle,

and bottom) of three characters. The explosion is centered

in the center of this 3 by 3 array.

Note that in the next release, new symbols may be added, or

the present ones rearranged.

Cannot be set with the `O' command.

extmenu

Changes the extended commands interface to pop-up a menu of

available commands. It is keystroke compatible with the

traditional interface except that it does not require that

you hit Enter. It is implemented only by the tty port (de-

fault off), when the game has been compiled to support tty

graphics.

female

An obsolete synonym for ``gender:female''. Cannot be set

with the `O' command.

fixinv

An object's inventory letter sticks to it when it's dropped

(default on). If this is off, dropping an object shifts all

the remaining inventory letters.

fruit

Name a fruit after something you enjoy eating (ex.

``fruit:mango'') (default ``slime mold''). Basically a nos-

talgic whimsy that NetHack uses from time to time. You

should set this to something you find more appetizing than

slime mold. Apples, oranges, pears, bananas, and melons al-

ready exist in NetHack, so don't use those.

gender

Your starting gender (gender:male or gender:female). You

may specify just the first letter. Although you can still

denote your gender using the ``male'' and ``female'' op-

tions, the ``gender'' option will take precedence. The de-

fault is to randomly pick an appropriate gender. Cannot be

set with the `O' command.

help If more information is available for an object looked at

with the `/' command, ask if you want to see it (default

NetHack 3.4 March 20, 2002

NetHack Guidebook 36

on). Turning help off makes just looking at things faster,

since you aren't interrupted with the ``More info?'' prompt,

but it also means that you might miss some interesting

and/or important information.

horsename

Name your starting horse (ex. ``horsename:Trigger''). Can-

not be set with the `O' command.

IBMgraphics

Use a predefined selection of IBM extended ASCII characters

to display the dungeon/effects/traps instead of having to

define a full graphics set yourself (default off). This op-

tion also sets up proper handling of graphics characters for

such terminals, so you should specify it when appropriate

even if you override the selections with your own graphics

strings.

ignintr

Ignore interrupt signals, including breaks (default off).

legacy

Display an introductory message when starting the game (de-

fault on).

lit\_corridor

Show corridor squares seen by night vision or a light source

held by your character as lit (default off).

mail

Enable mail delivery during the game (default on).

male

An obsolete synonym for ``gender:male''. Cannot be set with

the `O' command.

menustyle

Controls the interface used when you need to choose various

objects (in response to the Drop command, for instance).

The value specified should be the first letter of one of the

following: traditional, combination, partial, or full.

Traditional was the only interface available for earlier

versions; it consists of a prompt for object class charac-

ters, followed by an object-by-object prompt for all items

matching the selected object class(es). Combination starts

with a prompt for object class(es) of interest, but then

displays a menu of matching objects rather than prompting

one-by-one. Partial skips the object class filtering and

immediately displays a menu of all objects. Full displays a

menu of object classes rather than a character prompt, and

then a menu of matching objects for selection.

menu\_deselect\_all

Menu character accelerator to deselect all items in a menu.

NetHack 3.4 March 20, 2002

NetHack Guidebook 37

Implemented by the Amiga, Gem, X11 and tty ports. Default

'-'.

menu\_deselect\_page

Menu character accelerator deselect all items on this page

of a menu. Implemented by the Amiga, Gem and tty ports.

Default '\'.

menu\_first\_page

Menu character accelerator to jump to the first page in a

menu. Implemented by the Amiga, Gem and tty ports. Default

'^'.

menu\_invert\_all

Menu character accelerator to invert all items in a menu.

Implemented by the Amiga, Gem, X11 and tty ports. Default

'@'.

menu\_invert\_page

Menu character accelerator to invert all items on this page

of a menu. Implemented by the Amiga, Gem and tty ports.

Default '~'.

menu\_last\_page

Menu character accelerator to jump to the last page in a

menu. Implemented by the Amiga, Gem and tty ports. Default

'|'.

menu\_next\_page

Menu character accelerator to goto the next menu page. Im-

plemented by the Amiga, Gem and tty ports. Default '>'.

menu\_previous\_page

Menu character accelerator to goto the previous menu page.

Implemented by the Amiga, Gem and tty ports. Default '<'.

menu\_search

Menu character accelerator to search for a menu item. Im-

plemented by the Amiga, Gem and X11 ports. Default ':'.

menu\_select\_all

Menu character accelerator to select all items in a menu.

Implemented by the Amiga, Gem, X11 and tty ports. Default

'.'.

menu\_select\_page

Menu character accelerator to select all items on this page

of a menu. Implemented by the Amiga, Gem and tty ports.

Default ','.

monsters

Set the characters used to display monster classes (default

``abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTU-

VWXYZ@ '&;:~]''). This string is subjected to the same

NetHack 3.4 March 20, 2002

NetHack Guidebook 38

processing as the dungeon option. The order of the symbols

is ant or other insect, blob, cockatrice, dog or other ca-

nine, eye or sphere, feline, gremlin, humanoid, imp or minor

demon, jelly, kobold, leprechaun, mimic, nymph, orc,

piercer, quadruped, rodent, spider, trapper or lurker above,

horse or unicorn, vortex, worm, xan or other mythical/fan-

tastic insect, light, zruty, angelic being, bat or bird,

centaur, dragon, elemental, fungus or mold, gnome, giant hu-

manoid, invisible monster, jabberwock, Keystone Kop, lich,

mummy, naga, ogre, pudding or ooze, quantum mechanic, rust

monster, snake, troll, umber hulk, vampire, wraith, xorn,

yeti or ape or other large beast, zombie, human, ghost,

golem, demon, sea monster, lizard, long worm tail, and mim-

ic. Cannot be set with the `O' command.

msghistory

The number of top line messages to save (and recall with ^P)

(default 20). Cannot be set with the `O' command.

msg\_window

Use a screen-size window to show the previous messages with

^P instead of showing them one at a time. (Currently imple-

mented for tty only.)

name

Set your character's name (defaults to your user name). You

can also set your character's role by appending a dash and

one or more letters of the role (that is, by suffixing one

of -A -B -C -H -K -M -P -Ra -Ro -S -T -V -W). If -@ is used

for the role, then a random one will be automatically cho-

sen. Cannot be set with the `O' command.

news

Read the NetHack news file, if present (default on). Since

the news is shown at the beginning of the game, there's no

point in setting this with the `O' command.

null

Send padding nulls to the terminal (default off).

number\_pad

Use the number keys to move instead of [yuhjklbn] (default

off).

objects

Set the characters used to display object classes (default

``])[="(%!?+/$\*`0\_.''). This string is subjected to the

same processing as the dungeon option. The order of the

symbols is illegal-object (should never be seen), weapon,

armor, ring, amulet, tool, food, potion, scroll, spellbook,

wand, gold, gem or rock, boulder or statue, iron ball,

chain, and venom. Cannot be set with the `O' command.

NetHack 3.4 March 20, 2002

NetHack Guidebook 39

packorder

Specify the order to list object types in (default

``")[%?+!=/(\*`0\_''). The value of this option should be a

string containing the symbols for the various object types.

Any omitted types are filled in at the end from the previous

order.

perm\_invent

If true, always display your current inventory in a window.

This only makes sense for windowing system interfaces that

implement this feature.

pettype

Specify the type of your initial pet, if you are playing a

character class that uses multiple types of pets; or choose

to have no initial pet at all. Possible values are ``cat'',

``dog'' and ``none''. Cannot be set with the `O' command.

pickup\_burden

When you pick up an item that would exceed this encumbrance

level (Unburdened, Burdened, streSsed, straiNed, overTaxed,

or overLoaded), you will be asked if you want to continue.

(Default `S').

pickup\_types

Specify the object types to be picked up when autopickup is

on. Default is all types.

prayconfirm

Prompt for confirmation before praying (default on).

pushweapon

Using the `w' (wield) command when already wielding some-

thing pushes the old item into your secondary weapon slot

(default off).

race Selects your race (for example, ``race:human''). Default is

random. Cannot be set with the `O' command.

rawio

Force raw (non-cbreak) mode for faster output and more bul-

letproof input (MS-DOS sometimes treats `^P' as a printer

toggle without it) (default off). Note: DEC Rainbows hang

if this is turned on. Cannot be set with the `O' command.

rest\_on\_space

Make the space bar a synonym for the `.' (rest) command (de-

fault off).

role

Pick your type of character (ex. ``role:Samurai''); synonym

for ``character''. See ``name'' for an alternate method of

specifying your role. Normally only the first letter of the

value is examined; `r' is an exception with ``Rogue'',

NetHack 3.4 March 20, 2002

NetHack Guidebook 40

``Ranger'', and ``random'' values.

safe\_pet

Prevent you from (knowingly) attacking your pets (default

on).

scores

Control what parts of the score list you are shown at the

end (ex. ``scores:5 top scores/4 around my score/own

scores''). Only the first letter of each category (`t',

`a', or `o') is necessary.

showexp

Show your accumulated experience points on bottom line (de-

fault off).

showscore

Show your approximate accumulated score on bottom line (de-

fault off).

silent

Suppress terminal beeps (default on).

sortpack

Sort the pack contents by type when displaying inventory

(default on).

sparkle

Display a sparkly effect when a monster (including yourself)

is hit by an attack to which it is resistant (default on).

standout

Boldface monsters and ``--More--'' (default off).

suppress\_alert

This option may be set to a NetHack version level to sup-

press alert notification messages about feature changes for

that and prior versions (ex. ``suppress\_alert:3.3.1'').

time

Show the elapsed game time in turns on bottom line (default

off).

timed\_delay

When pausing momentarily for display effect, such as with

explosions and moving objects, use a timer rather than send-

ing extra characters to the screen. (Applies to ``tty'' in-

terface only; ``X11'' interface always uses a timer based

delay. The default is on if configured into the program.)

tombstone

Draw a tombstone graphic upon your death (default on).

NetHack 3.4 March 20, 2002

NetHack Guidebook 41

toptenwin

Put the ending display in a NetHack window instead of on

stdout (default off). Setting this option makes the score

list visible when a windowing version of NetHack is started

without a parent window, but it no longer leaves the score

list around after game end on a terminal or emulating win-

dow.

traps

Set the graphics symbols for displaying traps (default

``^^^^^^^^^^^^^^^^^"^^^^''). The traps option should be

followed by a string of 1-22 characters to be used instead

of the default traps characters. This string is subjected

to the same processing as the dungeon option.

The order of the symbols is: arrow trap, dart trap, falling

rock trap, squeaky board, bear trap, land mine, rolling

boulder trap, sleeping gas trap, rust trap, fire trap, pit,

spiked pit, hole, trap door, teleportation trap, level tele-

porter, magic portal, web, statue trap, magic trap, anti-

magic field, polymorph trap.

Cannot be set with the `O' command.

verbose

Provide more commentary during the game (default on).

videocolors

Set the color palette for PC systems using NO\_TERMS (default

4-2-6-1-5-3-15-12-10-14-9-13-11). The order of colors is

red, green, brown, blue, magenta, cyan, bright.white,

bright.red, bright.green, yellow, bright.blue, bright.magen-

ta, and bright.cyan. Cannot be set with the `O' command.

videoshades

Set the intensity level of the three gray scales available

(default dark normal light, PC NetHack only). If the game

display is difficult to read, try adjusting these scales; if

this does not correct the problem, try !color. Cannot be

set with the `O' command.

windowtype

Select which windowing system to use, such as ``tty'' or

``X11'' (default depends on version). Cannot be set with

the `O' command.

9.5. Window Port Customization options

Here are explanations of the various options that are used

to customize and change the characteristics of the windowtype

that you have chosen. Character strings that are too long may be

truncated. Not all window ports will adjust for all settings

listed here. You can safely add any of these options to your

config file, and if the window port is capable of adjusting to

NetHack 3.4 March 20, 2002

NetHack Guidebook 42

suit your preferences, it will attempt to do so. If it can't it

will silently ignore it. You can find out if an option is sup-

ported by the window port that you are currently using by check-

ing to see if it shows up in the Options list. Some options are

dynamic and can be specified during the game with the `O' com-

mand.

align\_message

Where to align or place the message window (top, bottom,

left, or right)

align\_status

Where to align or place the status window (top, bottom,

left, or right).

ascii\_map

NetHack should display an ascii character map if it can.

color

NetHack should display color if it can for different mon-

sters, objects, and dungeon features

eight\_bit\_tty

NetHack should pass eight-bit character values (for example,

specified with the traps option) straight through to your

terminal (default off).

font\_map

NetHack should use a font by the chosen name for the map

window.

font\_menu

NetHack should use a font by the chosen name for menu win-

dows.

font\_message

NetHack should use a font by the chosen name for the message

window.

font\_status

NetHack should use a font by the chosen name for the status

window.

font\_text

NetHack should use a font by the chosen name for text win-

dows.

font\_size\_map

NetHack should use this size font for the map window.

font\_size\_menu

NetHack should use this size font for menu windows.

NetHack 3.4 March 20, 2002

NetHack Guidebook 43

font\_size\_message

NetHack should use this size font for the message window.

font\_size\_status

NetHack should use this size font for the status window.

font\_size\_text

NetHack should use this size font for text windows.

hilite\_pet

Visually distinguish pets from similar animals (default

off). The behavior of this option depends on the type of

windowing you use. In text windowing, text highlighting or

inverse video is often used; with tiles, generally displays

a heart symbol near pets.

large\_font

NetHack should use a large font.

map\_mode

NetHack should display the map in the manner specified.

player\_selection

NetHack should pop up dialog boxes, or use prompts for char-

acter selection.

popup\_dialog

NetHack should pop up dialog boxes for input.

preload\_tiles

NetHack should preload tiles into memory. For example, in

the protected mode MSDOS version, control whether tiles get

pre-loaded into RAM at the start of the game. Doing so en-

hances performance of the tile graphics, but uses more memo-

ry. (default on). Cannot be set with the `O' command.

scroll\_margin

NetHack should scroll the display when the hero or cursor is

this number of cells away from the edge of the window.

splash\_screen

NetHack should display an opening splash screen when it

starts up (default yes).

tiled\_map

NetHack should display a tiled map if it can.

tile\_file

Specify the name of an alternative tile file to override the

default.

tile\_height

Specify the preferred height of each tile in a tile capable

port.

NetHack 3.4 March 20, 2002

NetHack Guidebook 44

tile\_width

Specify the preferred width of each tile in a tile capable

port

use\_inverse

NetHack should display inverse when the game specifies it.

vary\_msgcount

NetHack should display this number of messages at a time in

the message window.

windowcolors

NetHack should display windows with the specified fore-

ground/background colors if it can.

9.6. Configuring NetHack for Play by the Blind

NetHack can be set up to use only standard ASCII characters

for making maps of the dungeons. This makes the MS-DOS versions

of NetHack completely accessible to the blind who use speech

and/or Braille access technologies. Players will require a good

working knowledge of their screen-reader's review features, and

will have to know how to navigate horizontally and vertically

character by character. They will also find the search capabili-

ties of their screen-readers to be quite valuable. Be certain to

examine this Guidebook before playing so you have an idea what

the screen layout is like. You'll also need to be able to locate

the PC cursor. It is always where your character is located.

Merely searching for an @-sign will not always find your charac-

ter since there are other humanoids represented by the same sign.

Your screen-reader should also have a function which gives you

the row and column of your review cursor and the PC cursor.

These co-ordinates are often useful in giving players a better

sense of the overall location of items on the screen.

While it is not difficult for experienced users to edit the

defaults.nh file to accomplish this, novices may find this task

somewhat daunting. Included in all official distributions of

NetHack is a file called NHAccess.nh. Replacing defaults.nh with

this file will cause the game to run in a manner accessible to

the blind. After you have gained some experience with the game

and with editing files, you may want to alter settings to better

suit your preferences. Instructions on how to do this are includ-

ed in the NHAccess.nh file itself. The most crucial settings to

make the game accessible are:

IBMgraphics

Disable IBMgraphics by commenting out this option.

menustyle:traditional

This will assist in the interface to speech synthesizers.

number\_pad

A lot of speech access programs use the number-pad to review

NetHack 3.4 March 20, 2002

NetHack Guidebook 45

the screen. If this is the case, disable the number\_pad op-

tion and use the traditional Rogue-like commands.

Character graphics

Comment out all character graphics sets found near the bot-

tom of the defaults.nh file. Most of these replace

NetHack's default representation of the dungeon using stan-

dard ASCII characters with fancier characters from extended

character sets, and these fancier characters can annoy

screen-readers.

10. Scoring

NetHack maintains a list of the top scores or scorers on

your machine, depending on how it is set up. In the latter case,

each account on the machine can post only one non-winning score

on this list. If you score higher than someone else on this

list, or better your previous score, you will be inserted in the

proper place under your current name. How many scores are kept

can also be set up when NetHack is compiled.

Your score is chiefly based upon how much experience you

gained, how much loot you accumulated, how deep you explored, and

how the game ended. If you quit the game, you escape with all of

your gold intact. If, however, you get killed in the Mazes of

Menace, the guild will only hear about 90% of your gold when your

corpse is discovered (adventurers have been known to collect

finder's fees). So, consider whether you want to take one last

hit at that monster and possibly live, or quit and stop with

whatever you have. If you quit, you keep all your gold, but if

you swing and live, you might find more.

If you just want to see what the current top players/games

list is, you can type nethack -s all on most versions.

11. Explore mode

NetHack is an intricate and difficult game. Novices might

falter in fear, aware of their ignorance of the means to survive.

Well, fear not. Your dungeon may come equipped with an ``ex-

plore'' or ``discovery'' mode that enables you to keep old save

files and cheat death, at the paltry cost of not getting on the

high score list.

There are two ways of enabling explore mode. One is to

start the game with the -X switch. The other is to issue the `X'

command while already playing the game. The other benefits of

explore mode are left for the trepid reader to discover.

NetHack 3.4 March 20, 2002

NetHack Guidebook 46

12. Credits

The original hack game was modeled on the Berkeley UNIX

rogue game. Large portions of this paper were shamelessly

cribbed from A Guide to the Dungeons of Doom, by Michael C. Toy

and Kenneth C. R. C. Arnold. Small portions were adapted from

Further Exploration of the Dungeons of Doom, by Ken Arromdee.

NetHack is the product of literally dozens of people's work.

Main events in the course of the game development are described

below:

Jay Fenlason wrote the original Hack, with help from Kenny

Woodland, Mike Thome and Jon Payne.

Andries Brouwer did a major re-write, transforming Hack into

a very different game, and published (at least) three versions

(1.0.1, 1.0.2, and 1.0.3) for UNIX machines to the Usenet.

Don G. Kneller ported Hack 1.0.3 to Microsoft C and MS-DOS,

producing PC HACK 1.01e, added support for DEC Rainbow graphics

in version 1.03g, and went on to produce at least four more ver-

sions (3.0, 3.2, 3.51, and 3.6).

R. Black ported PC HACK 3.51 to Lattice C and the Atari

520/1040ST, producing ST Hack 1.03.

Mike Stephenson merged these various versions back together,

incorporating many of the added features, and produced NetHack

1.4. He then coordinated a cast of thousands in enhancing and

debugging NetHack 1.4 and released NetHack versions 2.2 and 2.3.

Later, Mike coordinated a major rewrite of the game, heading

a team which included Ken Arromdee, Jean-Christophe Collet, Steve

Creps, Eric Hendrickson, Izchak Miller, John Rupley, Mike Threep-

oint, and Janet Walz, to produce NetHack 3.0c.

NetHack 3.0 was ported to the Atari by Eric R. Smith, to

OS/2 by Timo Hakulinen, and to VMS by David Gentzel. The three

of them and Kevin Darcy later joined the main development team to

produce subsequent revisions of 3.0.

Olaf Seibert ported NetHack 2.3 and 3.0 to the Amiga. Norm

Meluch, Stephen Spackman and Pierre Martineau designed overlay

code for PC NetHack 3.0. Johnny Lee ported NetHack 3.0 to the

Macintosh. Along with various other Dungeoneers, they continued

to enhance the PC, Macintosh, and Amiga ports through the later

revisions of 3.0.

Headed by Mike Stephenson and coordinated by Izchak Miller

and Janet Walz, the development team which now included Ken Ar-

romdee, David Cohrs, Jean-Christophe Collet, Kevin Darcy, Matt

Day, Timo Hakulinen, Steve Linhart, Dean Luick, Pat Rankin, Eric

NetHack 3.4 March 20, 2002

NetHack Guidebook 47

Raymond, and Eric Smith undertook a radical revision of 3.0.

They re-structured the game's design, and re-wrote major parts of

the code. They added multiple dungeons, a new display, special

individual character quests, a new endgame and many other new

features, and produced NetHack 3.1.

Ken Lorber, Gregg Wonderly and Greg Olson, with help from

Richard Addison, Mike Passaretti, and Olaf Seibert, developed

NetHack 3.1 for the Amiga.

Norm Meluch and Kevin Smolkowski, with help from Carl Sche-

lin, Stephen Spackman, Steve VanDevender, and Paul Winner, ported

NetHack 3.1 to the PC.

Jon W{tte and Hao-yang Wang, with help from Ross Brown, Mike

Engber, David Hairston, Michael Hamel, Jonathan Handler, Johnny

Lee, Tim Lennan, Rob Menke, and Andy Swanson, developed NetHack

3.1 for the Macintosh, porting it for MPW. Building on their de-

velopment, Barton House added a Think C port.

Timo Hakulinen ported NetHack 3.1 to OS/2. Eric Smith port-

ed NetHack 3.1 to the Atari. Pat Rankin, with help from Joshua

Delahunty, was responsible for the VMS version of NetHack 3.1.

Michael Allison ported NetHack 3.1 to Windows NT.

Dean Luick, with help from David Cohrs, developed NetHack

3.1 for X11. Warwick Allison wrote a tiled version of NetHack

for the Atari; he later contributed the tiles to the DevTeam and

tile support was then added to other platforms.

The 3.2 development team, comprised of Michael Allison, Ken

Arromdee, David Cohrs, Jessie Collet, Steve Creps, Kevin Darcy,

Timo Hakulinen, Steve Linhart, Dean Luick, Pat Rankin, Eric

Smith, Mike Stephenson, Janet Walz, and Paul Winner, released

version 3.2 in April of 1996.

Version 3.2 marked the tenth anniversary of the formation of

the development team. In a testament to their dedication to the

game, all thirteen members of the original development team re-

mained on the team at the start of work on that release. During

the interval between the release of 3.1.3 and 3.2, one of the

founding members of the development team, Dr. Izchak Miller, was

diagnosed with cancer and passed away. That release of the game

was dedicated to him by the development and porting teams.

During the lifespan of NetHack 3.1 and 3.2, several enthusi-

asts of the game added their own modifications to the game and

made these ``variants'' publicly available:

Tom Proudfoot and Yuval Oren created NetHack++, which was

quickly renamed NetHack--. Working independently, Stephen White

wrote NetHack Plus. Tom Proudfoot later merged NetHack Plus and

his own NetHack-- to produce SLASH. Larry Stewart-Zerba and War-

wick Allison improved the spell casting system with the Wizard

NetHack 3.4 March 20, 2002

NetHack Guidebook 48

Patch. Warwick Allison also ported NetHack to use the Qt inter-

face.

Warren Cheung combined SLASH with the Wizard Patch to pro-

duce Slash'em, and with the help of Kevin Hugo, added more fea-

tures. Kevin later joined the DevTeam and incorporated the best

of these ideas in NetHack 3.3.

The final update to 3.2 was the bug fix release 3.2.3, which

was released simultaneously with 3.3.0 in December 1999 just in

time for the Year 2000.

The 3.3 development team, consisting of Michael Allison, Ken

Arromdee, David Cohrs, Jessie Collet, Steve Creps, Kevin Darcy,

Timo Hakulinen, Kevin Hugo, Steve Linhart, Ken Lorber, Dean

Luick, Pat Rankin, Eric Smith, Mike Stephenson, Janet Walz, and

Paul Winner, released 3.3.0 in December 1999 and 3.3.1 in August

of 2000.

Version 3.3 offered many firsts. It was the first version to

separate race and profession. The Elf class was removed in pref-

erence to an elf race, and the races of dwarves, gnomes, and orcs

made their first appearance in the game alongside the familiar

human race. Monk and Ranger roles joined Archeologists, Barbar-

ians, Cavemen, Healers, Knights, Priests, Rogues, Samurai,

Tourists, Valkyries and of course, Wizards. It was also the

first version to allow you to ride a steed, and was the first

version to have a publicly available web-site listing all the

bugs that had been discovered. Despite that constantly growing

bug list, 3.3 proved stable enough to last for more than a year

and a half.

The 3.4 development team initially consisted of Michael Al-

lison, Ken Arromdee, David Cohrs, Jessie Collet, Kevin Hugo, Ken

Lorber, Dean Luick, Pat Rankin, Mike Stephenson, Janet Walz, and

Paul Winner, with Warwick Allison joining just before the re-

lease of NetHack 3.4.0 in March 2002.

As with version 3.3, various people contributed to the game

as a whole as well as supporting ports on the different platforms

that NetHack runs on:

Pat Rankin maintained 3.4 for VMS.

Michael Allison maintained NetHack 3.4 for the MS-DOS plat-

form. Paul Winner and Yitzhak Sapir provided encouragement.

Dean Luick, Mark Modrall, and Kevin Hugo maintained and en-

hanced the Macintosh port of 3.4.

Michael Allison, David Cohrs, Alex Kompel, Dion Nicolaas,

and Yitzhak Sapir maintained and enhanced 3.4 for the Microsoft

Windows platform. Alex Kompel contributed a new graphical inter-

face for the Windows port.

NetHack 3.4 March 20, 2002

NetHack Guidebook 49

Ron Van Iwaarden maintained 3.4 for OS/2.

Janne Salmijarvi and Teemu Suikki maintained and enhanced

the Amiga port of 3.4 after Janne Salmijarvi resurrected it for

3.3.1.

Christian ``Marvin'' Bressler maintained 3.4 for the Atari

after he resurrected it for 3.3.1.

There is a NetHack web site maintained by Ken Lorber at

http://www.nethack.org/.

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From time to time, some depraved individual out there in

netland sends a particularly intriguing modification to help out

with the game. The Gods of the Dungeon sometimes make note of

the names of the worst of these miscreants in this, the list of

Dungeoneers:

NetHack 3.4 March 20, 2002

NetHack Guidebook 50

Adam Aronow Helge Hafting Mike Engber

Alex Kompel Irina Rempt-Drijfhout Mike Gallop

Andreas Dorn Izchak Miller Mike Passaretti

Andy Church J. Ali Harlow Mike Stephenson

Andy Swanson Janet Walz Norm Meluch

Ari Huttunen Janne Salmijarvi Olaf Seibert

Barton House Jean-Christophe Collet Pat Rankin

Benson I. Margulies Jochen Erwied Paul Winner

Bill Dyer John Kallen Pierre Martineau

Boudewijn Waijers John Rupley Ralf Brown

Bruce Cox John S. Bien Richard Addison

Bruce Holloway Johnny Lee Richard Beigel

Bruce Mewborne Jon W{tte Richard P. Hughey

Carl Schelin Jonathan Handler Rob Menke

Chris Russo Joshua Delahunty Robin Johnson

David Cohrs Keizo Yamamoto Roland McGrath

David Damerell Ken Arnold Ron Van Iwaarden

David Gentzel Ken Arromdee Ronnen Miller

David Hairston Ken Lorber Ross Brown

Dean Luick Ken Washikita Sascha Wostmann

Del Lamb Kevin Darcy Scott Bigham

Deron Meranda Kevin Hugo Scott R. Turner

Dion Nicolaas Kevin Sitze Stephen Spackman

Dylan O'Donnell Kevin Smolkowski Stephen White

Eric Backus Kevin Sweet Steve Creps

Eric Hendrickson Lars Huttar Steve Linhart

Eric R. Smith Mark Gooderum Steve VanDevender

Eric S. Raymond Mark Modrall Teemu Suikki

Erik Andersen Marvin Bressler Tim Lennan

Frederick Roeber Matthew Day Timo Hakulinen

Gil Neiger Merlyn LeRoy Tom Almy

Greg Laskin Michael Allison Tom West

Greg Olson Michael Feir Warren Cheung

Gregg Wonderly Michael Hamel Warwick Allison

Hao-yang Wang Michael Sokolov Yitzhak Sapir

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NetHack 3.4 March 20, 2002