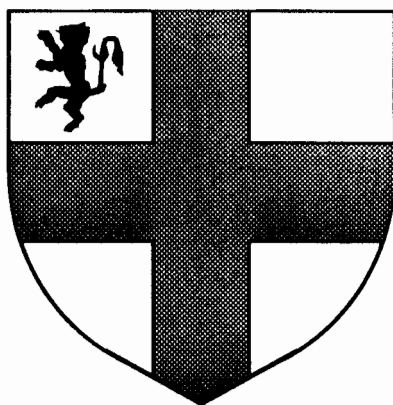


**Multi-User Word Game for OS9
Level 1 and Level 2**



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1.0 Introduction

Welcome to PERTASCII, the multi-user electronic word game. You can play PERTASCII alone, against the computer, or with friends who access your computer through a modem or remote terminal.

The object of the game is to outscore your opponents by forming words from randomly selected letters. The game is played in rounds, and each round is timed by the computer.

See the RULES section for complete rules and scoring.

1.1 Features Summary

- * A fun and educational word game for the whole family
- * Play PERTASCII alone, with friends, or against the computer
- * Allows up to 15 players at once (512K; two players with 64/128K)
- * Built-in dictionary and maintenance software (includes over 3500 words)
- * BBS mode preserves high scores and uses same letters for each round.

1.2 Required Equipment

The minimum equipment requirements for PERTASCII are:

- * Tandy Color Computer 1, 2, 3 with at least 64K memory
- * OS9 Level 1 or Level 2 Operating System
- * One floppy disk drive

The following optional equipment will enhance the operation of PERTASCII:

- * 512K RAM: allows more than two players
- * No-Halt Disk Controller: allows computer to participate as a player in addition to checking player word lists.
- * Double-Sided or Hard Disk: allows bigger PERTASCII dictionary.

1.3 Playing PERTASCII

OBJECT OF THE GAME: The object of PERTASCII is to outscore all opponents by reaching a score of at least 5000 points.

GAME SUMMARY: The game is played in rounds. Each round is timed by the computer.

The computer chooses 13 random letters at the start of each round. Players use only the first 10 letters until they have scored 2000 points. Upon scoring 2000 points, the player is considered to be IN JEOPARDY and is allowed to use all 13 letters.

During each round all players compete simultaneously. All players use the same letters. The computer records each player's words as they are typed in. No more than 10 words having the same number of letters are recorded.

At the end of each round, the computer shows each player the words typed in by all other players. Players can try to reduce their opponents' scores by disputing words. A successful dispute erases the disputed word from the opponent's word list.

Scoring is based on the number and length of a player's words. The rules for scoring are more strict when a player is IN JEOPARDY.

STARTING THE GAME:

1. Insert the PERTASCII GAME DISK into drive 0 and type:

```
OS9:chx /d0/cmds [ENTER]
OS9:pertascii [ENTER]
```

The disk light will come on. After a short delay the screen will clear, and you will see a message similar to the one below:

```
Welcome to PERTASCII
Version 1.0
Copyright (C) 1988, 1989
by Burke & Burke
```

Do you need instructions [Y/N]? _

If you press [Y], the computer will display a brief set of instructions for playing PERTASCII. Press the [N] key to skip the instructions. If you don't press any key, the computer will skip the instructions automatically after about 15 seconds.

2. The computer will ask you to enter your name. You can type anything you like (up to 8 letters) as your name. Press [ENTER] after typing in your name.

3. Once you enter your name, PERTASCII waits about 5 seconds for any additional players. It then displays a list of all players, and starts a new game. The screen

PERTASCII User's Manual Version 1.0

Welcome to PERTASCII

Version 1.0

Copyright (C) 1988, 1989

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Do you need instructions [Y/N]? n

What is your name (8 chars. max)? demo

Please wait . . .

Starting a new game.

Player #1 (DEMO) has joined the game.

Player #2 (COMPUTER) has joined the game.

PLAYING A ROUND: The computer selects a group of 13 letters at the beginning of each round. Players who are not IN JEOPARDY see and use only the first 10 letters. Players who are IN JEOPARDY (score higher than 2000 points) see and use all 13 letters.

The length of a standard round is 90 seconds. The computer starts timing the round immediately after displaying the letters on each player's screen. The initial display of letters looks something like this:

Starting a new round.

Letters: (90 seconds remaining)

R J O H E N Y A S I

-

You may begin entering words as soon as you

see this screen. (NOTE: The letters are generated randomly, so the letters on your screen may vary.)

Words are formed by using some or all of the letters in any order. You can use each letter only once per word (but if duplicate letters are shown you may use the duplicates). Once you have made a word, all of the letters are available for the next word.

Enter one or more words per line, and as many lines of words as you can before time runs out! If you are in the middle of typing a line when time runs out, the computer interrupts you and accepts the incomplete line as if you had pressed [ENTER].

Pressing [ENTER] on a blank line will mix up the letters and tell you how much time is left. For example:

Letters: (72 seconds remaining)
H A N E J S Y R O I

Letters: (70 seconds remaining)
J A Y S H O R E I N

Use this feature whenever you're stumped for words. In the example, you might not have seen the words JAY, SHORE, ORE, REIN, and SHY in the first arrangement. They're hard to miss in the second!

Pressing [?][ENTER] on a blank line will show you all of your words so far. It also mixes up the letters and tells you how much time is left.

The computer ignores duplicate words, and only saves the first 10 words of each length that you enter. Only the first 5 words of each length are scored. The extra words are alternates that automatically replace words that you lose in disputes at the end of the round.

THE END OF A ROUND: When the round is over, the computer sounds a bell and displays the message:

Time's up!

This signals the start of the dispute stage of the game.

In the dispute stage, the computer chooses a player at random to be it. The computer displays the words entered by it during the current round to every player. Any player, including it, can dispute any word on the list. (a dispute, explained below, can remove words from a word list).

You should dispute any words that you think are illegal (proper nouns, nonsense words, or words that you don't recognize). To start a dispute, type in the word that you want to reject. A message will appear on the screen of it, giving your name and

indicating which word you dispute. The computer will ask it to AGREE to the dispute. If it agrees, the word is deleted. If it does not agree, the word is kept.

Some players (especially the computer) are very stubborn when it. You can dispute a word as many times as you like. Who knows? Through persistence, you may wear down your opponent to the point where they surrender even a valid word!

If you dispute your own word, it is deleted from your word list immediately.

When all players have finished disputing the list, the computer scores all remaining words and chooses a new it until all players have been it.

When all players have been it, the computer displays the current scores. If any player has more than 5000 points, the game is over and the player with the highest score wins. Otherwise, the computer selects a new set of letters and begins the next round.

COMING AND GOING: New players can join a PERTASCII game at the beginning of any round. A player can leave the game at any time by pressing the [BREAK] key. When a player leaves, the other players continue the game.

You can shut down PERTASCII completely by

Once you start up PERTASCII, it stays alive in your system as a background task until the next time you reboot OS9. You can also shut down PERTASCII completely without rebooting, by entering the SHUTPERT command at any OS9 prompt. The format of this command is:

```
OS9:shutpert [ENTER]
```

THE COMPUTER: PERTASCII can be set up for automatic computer play (see the PERTASCII ENVIRONMENT FILE section for instructions).

If your system is set up for automatic computer play, the COMPUTER will join in and play PERTASCII with you. The computer will type in and score its own words during each round. You can dispute these words, and the computer will dispute any of your words that it doesn't recognize.

Sometimes the computer will dispute a perfectly good word, and sometimes it will use a bad word, just to keep you on your toes.

The computer can also be set up to automatically learn and forget words that are disputed. When the LEARN feature is enabled, the computer will learn any word that it disputed if the "it" player doesn't agree with the dispute. The FORGET feature causes the computer to forget any word a player successfully disputes.

EXAMPLE #1 -- BEING IT:

Each player gets to be it during the dispute stage of every round. Here's what it's like to be "it":

Word list for player #1 (DEMO):

JAY SHORE ORE REIN SHY REASON OJAY
JOIN

Do you want to dispute any of these words
[Y/N]? n

Waiting for other disputes . . .

Player #2 (COMPUTER) disputes the word
'OJAY'.

Do you agree [Y/N]? n

Word list for player #1 (DEMO):

JAY SHORE ORE REIN SHY REASON OJAY
JOIN

Waiting for other disputes . . .

Player #2 (COMPUTER) disputes the word
'OJAY'.

Do you agree [Y/N]? y

Word list for player #1 (DEMO):

JAY SHORE ORE REIN SHY REASON
JOIN

Waiting for other disputes . . .

Score for player #1 (DEMO)

This round: 720 Total: 720

EXAMPLE #2 -- BEING UP:

When you start a dispute, you are considered to be up. Once you answer [N] to the computer's question, "Do you want to dispute . . .", you lose your right to be up for the remainder of the current round.

Here's what it's like to be up:

Word list for player #2 (COMPUTER):

SNORE SHORE SHIRE SHYER SHINE
SHEAR SAYER SHARE SNARE REIN
RAIN SHIN RASH RAYS SIREN HAS
HAY SAY SORE SIRE

Do you want to dispute any of these words [Y/N]? y

Which word? sayer

WORD RETAINED.

Word list for player #2 (COMPUTER):

SNORE SHORE SHIRE SHYER SHINE
SHEAR SAYER SHARE SNARE REIN
RAIN SHIN RASH RAYS SIREN HAS
HAY SAY SORE SIRE

Do you want to dispute any of these words [Y/N]? y

Which word? sayer

WORD DELETED.

Word list for player #2 (COMPUTER):

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SNORE SHORE SHIRE SHYER SHINE
SHEAR SHARE SNARE REIN RAIN
SHIN RASH RAYS SIREN HAS HAY
SAY SORE SIRE

Do you want to dispute any of these words
[Y/N]? n

Checking for other disputes . . .

Score for player #1 (DEMO)

This round: 1280 Total: 1280

1.4 Rules

ILLEGAL WORDS: Proper nouns, abbreviations, and foreign words not in common English use are not allowed. The plural of a word, when formed by adding an 'S' is not allowed if the singular has also been used.

WORD GROUPS: A word group consists of five legal words of the same length. A bonus is awarded for completing a word group and the next higher word group. There is no bonus for incomplete word groups or for skipping a word group.

IN JEOPARDY: Any player with 2000 points or more is IN JEOPARDY. Any player with less than 2000 points is not IN JEOPARDY. The rules for play and scoring are slightly different for players IN JEOPARDY.

NUMBER OF LETTERS: Players who are not IN JEOPARDY use 10 randomly selected letters. Players who are IN JEOPARDY use all 13 letters.

WORD LENGTH: Players who are not IN JEOPARDY must use at least three letters per word. Players who are IN JEOPARDY must use at least four letters per word.

WINNING: The game ends when, after scoring

all players, any player has 5000 or more points. The player with the highest score at the end of the game wins.

SCORING: A base score is awarded for making ANY words of a particular length. Additional points are awarded for each word of a given length.

A bonus is awarded for making both five words of a given length and five words of the next higher length (for example, five 3-letter words and five 4-letter words).

Players who are IN JEOPARDY must use at least 4 letters per word. In addition, if a player in jeopardy does not enter enough words to score 500 points, none of the player's words for that round are scored and the player loses 500 points.

The tables show exact scoring.

Word Scoring

# Letters	Base Score	Per Word
-----	-----	-----
3	50	10
4	100	20
5	150	50
6	200	100
7	350	150
8	500	250
9	500	500
10	0	1500 (NOTE 1)
11	750	2000
12	750	3000
13	1000	4000

NOTE 1: There is an additional bonus of 500 points for completing 3 or more ten letter words (3 words = 0 + 3*1500 + 500 = 5000 points).

Word Group Scoring

Groups	Score
-----	-----
3 & 4	300
4 & 5	500
5 & 6	800
6 & 7	1200
7 & 8	1850
8 & 9	2850
9 & 10	4000
10 & 11	5500
11 & 12	7500
12 & 13	10000

2.0 Configuration

PERTASCII comes preconfigured for use with most OS9 systems. This chapter will show you several ways that you can build a custom PERTASCII system that takes advantage of your system's advanced hardware or memory.

2.1 Hard Disk Install

You can install PERTASCII on a hard disk (or a bigger floppy disk) with the OS9 dsave command. Here's how to do it if your hard drive is named '/h0' and your 35-track floppy drive is named '/d0':

1. Insert your OS9 SYSTEM MASTER into '/d0' and type:

```
OS9:chx /d0/cmds [ENTER]
OS9:tmode -pause [ENTER]
OS9:load /d0/cmds/dsave [ENTER]
```

2. Insert the PERTASCII GAME DISK into '/d0' and type:

```
OS9:chd /d0
OS9:dsave -s20 /d0 /h0 ! shell [ENTER]
```

The disk light will come on, and the computer will display a lot of messages to

the screen. After a few minutes you'll get the OS9 prompt back.

3. Insert the PERTASCII UTILITIES DISK into '/d0' and type:

```
OS9:chd /d0
OS9:dsave -s20 /d0 /h0 ! shell [ENTER]
```

Once again, the disk light will come on and the computer will display messages as it copies files to the hard disk. The hard disk installation is complete when you get the OS9 prompt back.

2.2 Environment File

Many features of the PERTASCII program are controlled by a special text file that is read each time you start up the game. This special file, called an environment file, tells PERTASCII things like the length of each round, whether or not the computer will play along, and the score needed to win the game.

You can change the way that PERTASCII works by editing the environment file. The changes will take effect the next time you reboot OS9. You can also make the changes effective immediately by entering the shutpert command at any OS9 prompt.

2.2.1 Where is the Environment File?

PERTASCII looks for the environment file in two different OS9 directories.

The first place PERTASCII looks for the environment file is the path:

```
/DD/SYS/PERTASCII/pert_env.file
```

If there is no '/DD' device, or the environment file isn't there, PERTASCII checks the path:

```
/D0/SYS/PERTASCII/pert_env.file
```

Whenever PERTASCII can't locate the environment file in either directory, default values are used for all of the environment file options.

2.2.2 Inside the Environment File

The environment file is simply a list of text commands. These commands can be in any order, and spacing is not important.

Blank lines, and lines beginning with an asterisk (*), are ignored. You can use ignored lines to add comments to the environment file or to make it more readable.

Here's a typical environment file:

- * PERTASCII Environment File

- * Enable computer disputes
PERSISTENCE = 1

- * Set the length of a round
TIMER = 90

- * End of pert_env.file

Each of the possible environment file commands is explained below.

INIT = cmdstr

This command specifies a list of OS9 commands to be executed whenever the ScoreKeeper program is started. cmdstr is any string of commands that could be typed at a standard OS9: prompt. There can be any number of INIT lines in the environment file; they are executed in order.

One use of the INIT command is to format a RAM disk and copy the PERTASCII dictionary there at startup. You can then use the DICTIONARY command to tell PERTASCII to use this high-speed dictionary. For example,

```
* Part of PERTASCII environment file
INIT = iniz /r0;format /r0 r " "
* This is all one line
INIT = copy #20k
/d0/sys/pertascii/pertdic
/r0/pertdic
* End of all one line
DICTIONARY = /r0/pertdic
```


DICTIONARY = path

This command tells PERTASCII where to find the dictionary. PERTASCII uses the dictionary to compete in games, and also to dispute words. If no DICTIONARY command is specified, the program looks for the dictionary in two places: first, in /DD/SYS/PERTASCII/pertdic and then, in /DO/SYS/PERTASCII/pertdic.

The PERTASCII dictionary is built in a special way that allows the program to find words rapidly, but you can speed up the game by moving the dictionary to the fastest device in your system (such as a RAM disk). The PERTASCII UTILITIES DISK includes dictionary maintenance programs that let you add or delete dictionary words.

TIMER = count

This command sets the length of a round (in seconds). A normal round is 90 seconds, but you may want to lengthen the rounds when playing against the computer -- it can think up words very quickly, and you might need time to catch up!

COMPUTER = count

Enables or disables the computer as a competitor, and sets the computer's

handicap. If count is zero, the computer will not compete in PERTASCII games. Non-zero values of count enable the computer. A value of 1 tells the computer to use every word that it finds in the dictionary when competing; a value of 2 tells the computer to use every 2nd word, and so on. With no handicap (COMPUTER = 1) and a large dictionary, the computer usually wins a 5000 point game within two rounds. If you are using a large dictionary, you may want to set the handicap to 2 or 3.

You may not want to activate the computer if you are storing the dictionary on a disk controlled by a HALT-type floppy controller (such as the standard Tandy floppy controller). This type of controller disables the keyboard during disk access; when using this type of floppy controller, PERTASCII will miss any words that you type in while the computer is searching for its own words. Even with this type of controller, you can copy the dictionary to a hard disk or RAM disk for full-speed operation.

PERSISTENCE = count

The persistence of the computer in disputes is set by this command. If count = 0, the computer does not dispute words and will immediately surrender any word that you dispute. Any other value sets the number of times the computer will dispute a word before giving up. Unlike the COMPUTER

environment file command, the PERSISTENCE command is not limited by HALT-type floppy controllers.

VOCABULARY = 0..3

Use 0, 1, 2, or 3 to specify how the computer updates the PERTASCII dictionary when it loses a dispute.

- 0 Computer vocabulary is fixed; no dictionary updates.
- 1 Computer learns new words if it disputes a word and loses.
- 2 Computer forgets words that players successfully dispute.
- 3 Both 1 & 2 above.

SEED = count

This command controls the randomness of the game. If SEED < 0, all games will be the same and SEED determines the pattern of letters used. If SEED >= 0, all games are different.

BBS = 0,1

PERTASCII includes a built-in "BBS mode", which is enabled or disabled by this command. In the normal mode (BBS = 0), games last until the winning score is reached and the computer does not keep track of high scores. Setting BBS = 1 shortens all games to a single round and

causes the computer to keep track of the top ten HIGH SCORES. BBS mode can be combined with the SEED command to make PERTASCII into an exciting on-line BBS game where the letters stay constant for an entire day and each caller tries to make the HIGH SCORE list.

WIN = score

This command sets the number of points needed to win the game. The normal winning score is 5000 points, but larger or smaller winning scores can be set. Note that this command does not change the number of points needed to be IN JEOPARDY (2000 points), the minimum score while IN JEOPARDY (500 points), or the penalty for failing to make the minimum score (-500 points).

2.3 The Dictionary

PERTASCII comes with a 3500 word dictionary, which fills most of a single-sided, 35 track floppy disk. This dictionary is large enough to let PERTASCII win consistently against all but very skillful players.

When using the standard dictionary, PERTASCII will dispute most words of four or more letters. It's important that you not set the program's PERSISTENCE too high, or you'll have to fight long and hard for words that are obviously legal.

The VOCABULARY command is one way of increasing PERTASCII's word power: the computer will learn a new word whenever it loses a dispute. You can also use the programs on the PERTASCII UTILITIES DISK to scan entire documents or word lists into your dictionary automatically.

The PERTASCII dictionary is stored in a special format that allows the program to find words rapidly. As you add words to the dictionary it becomes fragmented: the words are distributed randomly in the dictionary, and it takes the computer longer to find them. You can eliminate this problem by using the ALLWORDS and ADDPERT commands (see Appendix A) to rebuild the dictionary.

A.0 Dictionary Utilities

The special dictionary provided with PERTASCII contains about 3500 words. Most people commonly use about 10,000 English words, and there are about 100,000 words in an unabridged English dictionary.

We have limited the size of the PERTASCII dictionary so that it will fit (with the PERTASCII game) on a standard 35 track floppy diskette. If you have access to a hard disk or larger floppy drives, you can improve PERTASCII's game by adding words to the dictionary. One hard disk test system at Burke & Burke uses a 2 Megabyte, 50,000 word dictionary. So far, nobody's gone more than 3 rounds against it!

This chapter describes the dictionary maintenance utilities provided on the PERTASCII UTILITIES DISK. These utilities let you add, delete, and look up words in the PERTASCII dictionary.

ADDPERT
DELPERT

Syntax: **addpert** [-s] [-f path]
delpert [-s] [-f path]

Function: **ADDPERT** adds words from standard input to the specified **PERTASCII** dictionary. **DELPERT** similarly deletes words.

Options:

-s Silent mode. This turns off the sign-on message and certain diagnostic messages.

-f path Specify pathlist (filename) of the dictionary. If this option is omitted, the program tries the default paths:

/D0/SYS/PERTASCII/pertdic
/DD/SYS/PERTASCII/pertdic

Notes:

Words are read from standard input. Each input line contains one or more words. Blank lines and punctuation are ignored. There is no distinction between upper and lower case. **ADDPERT** ignores words already in the dictionary; **DELPERT** ignores words

that are not in the dictionary.

Adding words to the dictionary at random can cause dictionary fragmentation, which slows down PERTASCII. See the examples under ALLWORDS for a method of eliminating dictionary fragmentation.

Examples:

To add all words from the text file stuff.txt to the standard PERTASCII dictionary:

```
addpert -s <stuff.txt
```

To add words from the terminal to the dictionary /r0/wordlist:

```
addpert -f /r0/wordlist
```

To delete the words "FOO" and "FRU" from the standard dictionary:

```
delpert  
.  
.  
foo fru  
[CTRL] [BREAK]
```


ALLWORDS

Syntax: allwords [-s] [-f path]

Function: Displays all words in the specified PERTAScii dictionary to standard output.

Options:

-s Silent mode. This turns off the sign-on message and certain diagnostic messages.

-f path Specify pathlist (filename) of the dictionary. If this option is omitted, the program tries the default paths:

/DO/SYS/PERTAScii/pertdic
/DD/SYS/PERTAScii/pertdic

Notes:

Words are displayed in the order that PERTAScii finds most convenient, not alphabetically.

Examples:

To display all words in the standard PERTAScii dictionary:

allwords

You can use **addpert** and **allwords** together to remove fragmentation from your PERTASCII dictionary. To do this, place the PERTASCII GAME DISK in drive 0 and a newly formatted disk in drive 1 and enter these commands:

```
OS9: copy /d0/sys/pertascii/pertdic
      /d1/pertdic #40K
OS9: del /d0/sys/pertascii/pertdic
OS9: allwords -s -f /d1/pertdic !
      addpert -s &
```

CHKPERT

Syntax: `chkpert [-s] [-f path]`

Function: Looks up words from standard input in the specified PERTAScii dictionary, and outputs any words not found to standard output.

Options:

`-s` Silent mode. This turns off the sign-on message and certain diagnostic messages.

`-f path` Specify pathlist (filename) of the dictionary. If this option is omitted, the program tries the default paths:

`/D0/SYS/PERTAScii/pertdic`
`/DD/SYS/PERTAScii/pertdic`

Notes:

Words are read from standard input. Each input line contains one or more words. Blank lines and punctuation are ignored. There is no distinction between upper and lower case.

Words not found in the dictionary are displayed on standard output.

Examples:

To see if the words THE and HASSOCK are in the dictionary:

```
chkpert
.
.
THE HASSOCK
HASSOCK
```

In this example, THE was found but HASSOCK was not. If your dictionary is large enough, you can use the chkpert command as a simple spelling checker!

DICEWORDS

Syntax: `dicewords [-s] [-f path] list`

Function: Displays all words in the PERTASCII dictionary that can be formed from the specified list of letters.

Options:

`-s` Silent mode. This turns off the sign-on message and certain diagnostic messages.

`-f path` Specify pathlist (filename) of the dictionary. If this option is omitted, the program tries the default paths:

`/DO/SYS/PERTASCII/pertdic`
`/DD/SYS/PERTASCII/pertdic`

Parameters:

`list` A string of letters, with no imbedded blanks, to be used during dictionary lookup.

Notes:

This program uses the same rules as

PERTASCII when looking up words in the dictionary. PERTASCII will only find the first 10 words of each length; dicewords will find every word in the dictionary that can be made from the specified letters.

Examples:

To find all of the words that can be made from the word TESTING:

dicewords testing

For this example, PERTASCII found the following words in the standard dictionary:

GENT GETS GET SINE STEIN TINES TIE NEST
TENS NET TEN TEST SET GIN SIGN SIN TINT TIN
ITS SIT

If it's any consolation, dicewords also missed a few. Here are some others we found in the 50,000 word dictionary:

INGEST STING NETS NEST GINS TINS STINT GENT
GENTS TINGE TESTING SETTING SING TINGES TIE
TIES SITE TENT TENTS SENT GIST

B. O How It Works

The PERTASCII game is actually split into three OS9 program modules (Pertascii, ScoreKeeper, PertComp) and one data module (pert.com). The program modules pass data back and forth through the data module using a system of semaphore-controlled buffers.

Each of the program modules performs a unique function, which is explained below.

PERTASCII: This is the program module that collects words from each player and passes them back and forth for scoring. One copy of PERTASCII runs for each player in a game. PERTASCII handles all communications between a single player and the rest of the game system.

Information is passed to the player through OS9's standard input and output paths. Each player in a game of PERTASCII uses their own terminal or window.

PERTASCII doesn't know how to score rounds, but it does know the rules for entering words. Score and timing information is passed into PERTASCII from the ScoreKeeper module. PERTASCII automatically loads and starts ScoreKeeper every time you run it.

PERTASCII also handles disputes between

players, passing word lists and other data to other concurrent PERTASCII tasks through the data module.

ScoreKeeper: The game is really controlled by the ScoreKeeper module. This program module times rounds, scores word lists, and determines the winner of a game. It also records high scores in BBS mode.

ScoreKeeper is a special type of program, often called a daemon. The word, daemon, means gaurdian spirit. Programmers use the word to refer to programs that just sort of hang around in a computer, waiting to do some work on behalf of a user or another program. A printer spooler is another common type of daemon.

PERTASCII automatically loads and starts up ScoreKeeper (if it isn't already started) whenever you play the game. Once started, ScoreKeeper continues to run even after the end of the game. If you play again, ScoreKeeper is already in memory, ready to control the game.

A single running copy of ScoreKeeper handles all players in the game.

PertComp: When automatic computer play is enabled in the environment file, ScoreKeeper automatically starts up the PertComp program to play for the computer.

PertComp is another deamon task that knows

how to do only one thing: it plays PERTASCII like a human player would. Each round, PertComp searches the dictionary for words that can be made from the round's letter list. PertComp screens and records these words just like PERTASCII would, and it even disputes words that it doesn't recognize.

Once started, PertComp continues to run even after the end of the game. ScoreKeeper doesn't know the difference between PertComp and a human player. If PertComp ever detects that it's the only player in the game, it goes into a "dormant" state until another player comes along. In this way, PertComp avoids tying up your computer by playing against itself constantly.

Only one copy of PertComp runs during the game.

pert.com: This data module is shared by ScoreKeeper, PertComp, and all copies of PERTASCII. It is divided into several regions: the common globals, the player database, the high score database, and the shared word list.

Each region of the data module is semaphore-controlled: if a program is accessing a region, no other program can access the same region until the first program is done with it.

The first task to run (PERTASCII,

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ScoreKeeper, or PertComp) loads pert.com into memory from the current commands directory and links to it. If pert.com is already in memory, the task just links to it.

The data module contains initial values for many of the game's internal variables. These values are modified as the game is played. If the initial values aren't right, the game will malfunction. NEVER 'SAVE' THE PERT.COM MODULE OUT TO DISK -- ALWAYS COPY THE ORIGINAL FROM THE GAME DISK IF YOU NEED A FRESH COPY.