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The object of the game is to avoid the robots, causing them to collide with each other, creating scrap heaps. Robots are also destroyed if they run into a scrapheap. If a robot collides with you, you are **dead** and the game is over.

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See also

Moving
The Keyboard
The Control Panel

THE PLAYING FIELD

The playing field is the upper portion of the screen. This is where you and the robots do battle. The characters on the playing field may be in any position but may not move off of the playing field. These are the characters:

Player

Slow robot

Fast robot

Scrap heap

Dead player

 This is the character which represents you, the player. The player may be in any position on the playing field. You control movement with the mouse and the keyboard.

 This is a slow robot. It moves at the same rate as the player. It is a single minded creature which always tries to take the shortest path to the player. It does this by moving at an angle until it is in the same row or column as the player on the playing field and then it moves in a straight line toward the player in that row or column.

You can destroy it by maneuvering so that it collides with another robot or with a scrap heap. Antimatter also destroys a slow robot if it is adjacent to the player.

 This is a fast robot. It moves at twice the speed of the player. Like the slow robot it is a single minded creature which always tries to take the shortest path to the player. It does this by moving at an angle until it is in the same row or column as the player on the playing field and then it moves in a straight line toward the player in that row or column.

You can't outrun it so you have to out-maneuver it and get it to collide with another robot or a scrap heap to destroy it. Antimatter also destroys a fast robot if it is adjacent to the player.

 This is a scrap heap. When robots collide they are destroyed and form a scrap heap. Robots are also destroyed when they move into a scrap heap. The player can move a scrap heap by being adjacent to one and moving in the direction of the scrap heap, but only if there is nothing on the other side of the scrap heap in the direction of movement. Scrap heaps may not be moved off of the playing field. Antimatter has no effect on a scrap heap.

 This is the dead player. It appears when a robot collides with the player and signals the end of the game. It disappears when you start a new game.

▨ MOVING

You move by clicking one of the movement buttons on the <u>control panel</u> with the left mouse button, by typing a key on the <u>keyboard</u> or by clicking the left mouse button on or near the player on the playing field. After your move, the blue robots move one step towards you and the red robots move two steps towards you.

When you click on or near the player you move in the direction of the cursor. The direction of movement works just like the movement buttons and the keypad. This means that if you click in the box above the player you move up, the box below moves you down, and so on. If you click directly on the player its the same as clicking the <u>Don't move</u> button or the 5 key on the keypad. If you turn on the range finder the grid surrounding the player shows exactly how the movement detection region is divided up.

See also

<u>The Keyboard</u>
<u>The Control Panel</u>

THE CONTROL PANEL

The control panel is the lower portion of the screen. Each button on the control panel has a corresponding keyboard key as shown below.

Robot count

Robot value

Score

Demo Indicator
Quit
Demo
Go

Help

Range finder

Sit and watch

Level

Go to next level

Move left
Move right
Move up
Move down
Move up and to the left
Move up and to the right
Move down and to the left
Move down and to the right
Don't move

Safe teleport

Safe teleports / antimatter count

Antimatter

Random teleport

 Timer

 Sound Indicator

 Game options

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See also

The Keyboard
Moving

110 The robot value is the number of points each blue robot is worth when destroyed. Red robots are worth 1.5 times as much as blue robots. The number increases at each level and is partly based on the number of scrap heaps existing as the level changes. The robot value is inversely proportional to the number of scrap heaps so it is to your advantage to minimize the number of scrap heaps by luring robots into scrap heaps instead of colliding with each other.

The robot count is the number of robots still alive.

`0000000809` The current score has lots of digits, doesn't it?

 This is the demo indicator light. When a demo game is running the indicator is yellow and when a demo isn't running the indicator is black.

The control panel quit button, the keyboard Q key or the keyboard ESC key end the game.

When a demo game is running, a dialog box opens up and asks if you want to quit the demo. You can choose Yes, No or Cancel in the dialog box. Yes stops the demo game and anything else is ignored.

If a demo game is not running, a dialog box opens up and asks if you want to quit the game. You can choose Yes, No or Cancel in the dialog box. Yes ends the game and anything else is ignored.

The ESC key acts like the Q key when no dialog boxes are open. If a dialog box is open, the ESC key closes the dialog box the same as if you selected the Cancel option.

The control panel demo button or the keyboard M key start a self-playing demo of the Robots game. If a normal game or a demo game is running, a dialog box opens up and asks if you want to stop the current game and start a new one. You can choose Yes, No or Cancel. If you choose Yes the current game ends and a demo game starts. Any other choice is ignored.

The control panel go button, the keyboard G key or sometimes the keyboard space bar start a new game. If a normal game or a demo game is running, a dialog box opens up and asks if you want to stop the current game. You can choose Yes, No or Cancel. If you choose Yes, the current game ends and a new one starts. Any other choice is ignored. The space bar only works this way when the elevator button has the focus.

The control panel help button or the keyboard F1 key open the Robots help window. If the help window is already open but hidden, these controls make it visible.

The control panel grid button or the keyboard D key activate the range finder one of three ways. The first time an outline appears around the area one space away from the player in all directions. The second time another outline appears around the area two spaces away from the player. The third time the outlines disappear again.

The outlines show which playing field characters are within one or two space of the player. This also helps to find where the player is when the playing field becomes too crowded with robots and scrap heaps. The outlines follow you wherever you move. The range finder is equivalent to the 'dots' command in the original Robots game.

[S] The control panel chair button or the keyboard S key freeze the player in place while the robots move repeatedly until either all robots on the current level are destroyed or until a robot catches and kills the player. It's a convenient way to finish off a level without much effort. Use this only when you are sure that you are in a safe position where it is impossible for any of the robots on the current level to reach you because you can't stop it once it starts. This is equivalent to the 'sit and watch' or 'last stand' command in the original Robots game.

 The number above the elevator button is the current level of the game being played. It is not related to the game difficulty level option.

The control panel elevator button or the keyboard space bar move you to the next level when all robots are dead at the current level. When you move to the next level all of the scrap heaps disappear and new robots appear. The number of robots and the value of each robot increase as the level increases. You also receive more safe teleports when you reach a new level.

If any robots are still alive, the program opens a dialog box and asks if you want to start a new game. Click Cancel to return to the game or click OK to start a new game. This is equivalent to the 'next level' command in the original Robots game. The space bar only works this way when the elevator button has the focus.

The control panel left arrow button, the keyboard 4 keys or the keyboard H key move the player left one space. This is equivalent to the H command in the original Robots.

The control panel right arrow button, the keyboard L key or the keyboard 6 keys move the player right one space. This is equivalent to the L command in the original Robots game.

The control panel up arrow button, the keyboard 8 keys or the keyboard K key move the player up one space. This is equivalent to the K command in the original Robots game.

The control panel down arrow button, the keyboard J key or the keyboard 2 keys move the player down one space. This is equivalent to the J command in the original Robots game.

The control panel up-left arrow button, the keyboard 7 keys or the keyboard Y key move the player up and to the left one space. This is equivalent to the Y command in the original Robots game.

The control panel up-right arrow button, the keyboard U key or the keyboard 9 keys move the player up and to the right one space. This is equivalent to the U command in the original Robots game.

The control panel down-left arrow button, the keyboard 1 keys or the keyboard B key move the player down and to the left one space. This is equivalent to the B command in the original Robots game.

The control panel down-right arrow button, the keyboard N key or the keyboard 3 keys move the player down and to the right one space. This is equivalent to the N command in the original Robots game.

 The control panel dot button, the keyboard 5 keys or the keyboard period key freeze the player in the same place for one turn while the robots move once. This is equivalent to the period command in the original Robots game.

The control panel safe teleport button or the keyboard T key move you to a random empty place in the playing field. If the safe teleport count is greater than 0 the landing place is guaranteed to be safe from the robots for this move and the count goes down by 1. If the safe teleport count is 0 then the button behaves exactly like the random teleport button and the landing place is not guaranteed to be safe from the robots. This is equivalent to the T command in the original Robots game.

6 The safe teleport and antimatter count is above the control panel antimatter button. If the count is greater than 0, safe teleport and antimatter work correctly. If the count is 0, safe teleport behaves exactly the same as random teleport and antimatter does nothing. The same count is used for both safe teleports and antimatter. Using either one reduces the count by 1. Destroying all of the robots and moving to the next level adds between 1 and 3 to the count.

The control panel antimatter button or the keyboard A key fire an antimatter blast. If the antimatter count is greater than 0 all robots adjacent to you are destroyed. You stay where you are and then the robots move one turn. If the antimatter count is 0 nothing happens.   This is equivalent to the A command in the original Robots game.

The control panel random teleport button or the keyboard R key move you to a random empty place in the playing field. The landing place is not guaranteed to be safe from the robots for this move and the safe teleport count does not change. This is equivalent to the R command in the original Robots game.

▆ The sound indicator light is above the control panel options button. If all sound is turned off the indicator is black. When either MIDI or WAVE sound is on the indicator is green.

The control panel options button or the keyboard O key open a dialog box which allows you to set the <u>game difficulty level</u>, change the <u>background music</u>, choose the player <u>voice</u>, view the <u>top 10 scores</u>, choose the <u>demo game speed</u> or set the <u>audio volume levels</u>.

 The timeout counter is for the timed game and shows how many seconds are left before the robots move by themselves. The display appears when the game difficulty level is set to anything other than Beginner.

The top 10 scores are saved in a file named ROBOTS.HST. When a game ends, the top 10 list is checked and if the current score is greater than at least one in the list, a dialog box opens and asks you to enter your name. If you click the OK button in the dialog box the score is saved and the top 10 list is displayed in another dialog box. If you click the Cancel button the score is not saved and the list is not displayed. If the score file is deleted or corrupted, a new one is created with all slots erased.

The game has several levels of difficulty:

GAME LEVEL	TIME LIMIT	BONUS
Beginner	no limit	no bonus
Intermediate	9 seconds	10%
Advanced	7 seconds	20%
Expert	5 seconds	30%
Cyborg	3 seconds	40%

Beginner level has no time limit on moves and this is the default level when the game is installed. All other levels have a time limit on moves which gets shorter as the level gets more difficult. If you don't move within the time limit, the robots stop waiting for you and move while you remain in place. The timer then resets and this continues as long as you make no moves.

The advantage to playing at higher levels is that the score accumulates faster. A bonus is added to the score at the end of each level of play for Intermediate through Cyborg levels as shown.

The level of difficulty can be changed by clicking the Game Options button. When the Game Options dialog box opens the current game difficulty level is shown in the Level box. You can click the arrow at the right of the box to select one of the options. Click the Game Options box OK button to make the change effective.

Your selection is saved in the configuration file and becomes the default the next time the game is started. You cant change the game difficulty level of a game in progress. If you change the difficulty level while a game is in progress you are given the option of canceling the change or restarting the game at the new level.

The background music is the MIDI sequence which plays while the game is running. Sound cards differ widely in the way that the MIDI sequence sounds when played through them. Presently the MIDI sequence has been customized for several variations of Sound Blaster©, Pro Audio Spectrum 16™ and Gravis Ultrasound™.

You can select an alternate MIDI sequence if you dont like the one which is playing by clicking the Game Options button. When the Game Options dialog box opens the current background music configuration is shown in the Music box. You can click the arrow at the right of the box to select one of the options. Click the Game Options box OK button to make the change effective. Your selection is saved in the configuration file and becomes the default the next time the game is started.

Sound Blaster is copyright Creative Labs, Inc.
Pro Audio Spectrum 16 is a trademark of Media Vision, Inc.
Gravis Ultrasound is a trademark of Advanced Gravis Computer Technology, Ltd.

The demo game speed can be changed by clicking the Game Options button. When the Game Options dialog box opens the current demo speed is indicated by the Demo Speed slider. Click or drag the slider to speed up or slow down the time between moves in the demo game. Click the Game Options box OK button to make the change effective.

You may want to run the slow speed at first to see how the game is played. Moving the slider all the way to the right runs the demo as fast as your computer can manage. For lower powered computers you may not see much improvement because most of the computing time is spent in the movement search routines.

The dying player voice can be changed by clicking the Game Options button. When the Game Options dialog box opens the current voice selection is shown in the Voice box. You can click the arrow at the right of the box to select one of the options. Click the Game Options box OK button to make the change effective.

The audio volume has separate slider controls for background music and all other sounds. The background music is a MIDI sequence and all other program sounds are from .WAV files. You can change the volume levels by clicking or dragging the sliders. The volume changes dont take effect until you close the dialog box. When you close the dialog box the volumes are saved in the configuration file and become the default values the next time the game is started. The system volume settings at the time you start the Robots game are restored when you quit the game.

Sound card drivers vary in the way that volume is controlled. Some of the older ones have only a mechanical control but most of the new ones have software control. Those with software control may support MIDI volume, .WAV volume and separate left and right channel controls for either MIDI or .WAV volume in any combination. The program automatically provides all of the controls appropriate for the sound card drivers which you have installed. For those drivers with software volume control, move the sliders to the left to decrease volume and to the right to increase volume. For drivers without volume control, the sliders have only two positions, full left which turns the sound off and full right which turns the sound on. Your sound card may also have a master volume control. If it does, you have to use the audio mixer software which comes with the sound card to adjust it.

Note that some of the older sound cards such as the 8 bit Sound Blaster card have only mechanical volume control but the driver incorrectly tells the Robots program that it has software volume control. This is an unfortunate fact of driver software that you may have to live with. If the volume control slider can be positioned somewhere in the middle but only gives you on/off control when moved full left or full right, thats most likely whats happening.

Another possible problem with sound control can occur if you have more than one sound card installed or if you had a different sound card installed previously. The Robots game uses the first available audio and MIDI synth drivers as the sound control devices. If you had a different sound card installed previously, the driver may still be installed. If the volume controls are present in the dialog box but dont do anything, go to the Main program group, open up Windows Control Panel and select Drivers. Remove any audio drivers which belong to the previous sound card and delete the file ROBOTS.CFG in the ROBOTS directory. A new ROBOTS.CFG file will be created automatically the next time you run the program. If you have more than one sound card installed you must be crazy so we cant offer any rational advice.

In general, if you experience any other trouble with audio the easiest way to fix it is with the Microsoft Media Player. When the MIDI and .WAV samples packaged with Windows are operating correctly with the Media Player, the Robots game audio should also function correctly.

See also

Sound

A configuration file named ROBOTS.CFG is maintained on the directory where the Robots game is installed. If the file is deleted a new one is created with the default configuration as follows:

Game difficulty level: Beginner (no time-out)
Background music: Self-configuring for supported sound cards, otherwise Sound Blaster D
Voice: Mr.
Demo game speed: Medium
Audio volume levels: Same as system levels the first time Robots is run.

THE KEYBOARD

Some of the keyboard keys are recognized for commands. The keys which controlled single space movements in the original Robots game perform the same functions in this game. Teleport and antimatter commands use the same keys as in the original Robots game. Keyboard commands are as follows:

Antimatter
Move down and to the left
Display range
Go
Move left
Move down
Move up
Move right
Demo
Move down and to the right
Game Options
Quit game
Random teleport
Sit and watch
Safe teleport
Move up and to the right
Move up and to the left
Don't move
Help
Repeat last command
Quit game
Go to the next level
Change control focus

Multiple space movement commands in the original Robots game are not supported. Instead the number keys control single space movements the same as the small buttons in the center of the control panel. This makes it easy to move using the number pad on the keyboard.

Control Panel   Number Pad

6

1

2

3

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tab Following the standard Windows protocol, the tab key moves the focus from one control panel button to another sequentially across the control panel. When a control panel button has the focus it has a darker border and stands out more than the other control panel buttons. One of the control panel buttons will always have the focus and it is activated by the enter key just as if you clicked the mouse on it. This helps to make it possible to play the game without a mouse.

enter Following the standard Windows protocol, one of the control panel buttons always has the focus which is characterized by a darker border so it stands out more than the other control panel buttons. The enter key activates the focused control button just as if you clicked the mouse on it. The tab key moves the focus from one control panel button to another across the control panel. This makes it possible to repeat commands with the enter key and to play the game without a mouse.

 SOUND

This game is intended to be used on a computer with a sound card installed. It will run without a sound card but it's much more fun with one. Any Sound Blaster™ compatible card should work although the sound will vary somewhat depending on the hardware used for synthesis and digital conversion. The background music is designed to work with the Windows MIDI Mapper configured to use the sound card internal synthesizer as a General MIDI instrument. The meaning of all this is basically the same for all versions of Windows but things appear quite differently when you need to examine or change settings. In general, for any sound problems, the first thing you need to do is to get a program called the Media Player to play at least one wave (.WAV) and one MIDI (.MID) file. When this works the Robots sound should work too.

For Windows 3.1, first open the Control Panel icon in the Main program group. If your sound card drivers are installed correctly there should be a Drivers icon and a MIDI Mapper icon. You can use the Drivers icon to check which drivers are installed. If there isn't a WAV driver and a MIDI driver for your sound card, see the installation instructions for your sound card to install them.

If the drivers are installed, open the MIDI Mapper icon. Select Show | Setups and look in the Name box. Select General MIDI if you can find it. If you can't find it, the next best choice should have Extended or Ext somewhere in the name such as SB16 Ext FM. If you can't find a suitable choice or you want to find out if your choice will work, select the Edit button and a chart is displayed similar to the following:

Src Chan	Dest Chan	Port Name	Patch Map Name	Active
1	1	Voyetra Super Sapi FM Driver	[None]	☒
2	2	Voyetra Super Sapi FM Driver	[None]	☒
3	3	Voyetra Super Sapi FM Driver	[None]	☒
4	4	Voyetra Super Sapi FM Driver	[None]	☒
5	5	Voyetra Super Sapi FM Driver	[None]	☒
6	6	Voyetra Super Sapi FM Driver	[None]	☒
7	7	Voyetra Super Sapi FM Driver	[None]	☒
8	8	Voyetra Super Sapi FM Driver	[None]	☒
9	9	Voyetra Super Sapi FM Driver	[None]	☒
10	16	Voyetra Super Sapi FM Driver	[None]	☒
11	11	[None]	[None]	▨
12	12	[None]	[None]	▨
13	13	Voyetra Super Sapi FM Driver	[None]	☒
14	14	Voyetra Super Sapi FM Driver	[None]	☒
15	15	Voyetra Super Sapi FM Driver	[None]	☒
16	16	Voyetra Super Sapi FM Driver	[None]	☒

The Robots game plays the background music on channels 1 through 10 in the Src Chan column. Make sure that the Port Name for those channels shows the synthesizer driver for your sound card and that the Active box for each channel has an X in it. You can change the configuration if necessary by clicking the left mouse button in the appropriate area of the table and select from the options available. Src Chan 11 through 16 aren't used by the Robots game so their configuration doesn't matter for this application. Note that the Src Chan and Dest Chan numbers are the same except for Src Chan 10 which may be mapped to Dest Chan 16. Channel 16 on many sound cards is a percussion channel so the mapping is necessary to conform to the General MIDI specification which reserves Src Chan 10 for percussion.

To test the .WAV player and MIDI configurations, open the Microsoft Media Player icon. If you can't find the icon, use the Program Manager to find MPLAYER.EXE on the WINDOWS directory and double click it with the left mouse button. Select Device | Sound and you will be given a list of .WAV files which are on the WINDOWS directory. Choose one and click the play button (right arrow) in the Media Player window. Select Device | MIDI Sequencer, choose canyon.mid, click the play button again and you should hear canyon.mid play.

For Windows 95 you have to look in different places.   Select Start | Settings and left click Control Panel. Double click Multimedia to open the Multimedia Properties window. Select the Audio tab and look in the top section named Playback. Select an item in the Preferred device list which should be the name of your sound card such as Sound Blaster Playback (220). The Volume slider will become active if your sound card has software volume control. You may have to go back to Multimedia Properties more than once to adjust the slider until you get a comfortable volume level. Select the MIDI tab, then select Single instrument. There should be a choice in the lower list box under Single instrument which suggests that it uses the sound card internal synthesizer, something like MIDI for Internal OPL2/OPL3 FM Synthesis. Choose that one and click the Apply button at the bottom of the window. Close the Multimedia Properties window.

To test the .WAV player and MIDI configurations, double click My Computer. In the My Computer window, select the drive which Windows 95 is installed on, usually (C:). Find the Windows folder and open it, then find Mplayer (or Mplayer.exe if file extensions are displayed). Double click the first Mplayer icon to open the Media Player window. Select Device | Sound and a list box will pop up which shows any .WAV files in the currently selected folder. Use the Look in: controls to select the Media folder and you should see a file named The Microsoft Sound (or Sound.wav). Select the file and click the Open button at the bottom of the window. You should now be back in the Media Player window so click the play button (the leftmost button with an arrowhead on the face pointing to the right). If everything is operating correctly you should hear The Microsoft Sound file play. After it finishes, select Device | MIDI Sequencer and a list box will pop up which shows any MIDI sequence files in the currently selected folder. Select the Windows folder and look for a file named Canyon (or Canyon.mid). Select Canyon and click the Open button at the bottom of the window. You should be back in the Media Player window again so click the play button and you should hear tunes.

If all of this is operating correctly, the Robots sound should be too. After you start the Robots game, check that the .WAV and MIDI volume are turned on in the Game options dialog box. Also you can choose a Background music variation from the game options dialog.

Sound Blaster is a trademark of Creative Labs, Inc.

See also

>   The Control Panel
>   The Keyboard

HINTS

 Antimatter

 Movable scrap heaps

Safe teleport vs. random teleport

 Secret Codes

Antimatter

Use antimatter sparingly. Note that it only destroys robots adjacent to you so don't use it when there is a fast robot two spaces away unless you are sure that the fast robot will collide with another robot two spaces away.

Don't use antimatter when there are no robots adjacent because it will have no effect other than to lose one count.

Antimatter and Safe Teleports

Remember that antimatter and safe teleports come from the same pool so an antimatter blast uses up a safe teleport.

If you have enough time, build a fortress of scrap heaps and hide behind them. A simple arrangement of three heaps in an L shape can be very effective. In the example below, the player is safe from all robots in the directions shown.

Use random teleport instead of safe teleport early in the game. There is much less chance of landing in a bad place at the lower levels when there are few robots around. That way you can use the safe teleports at higher levels where they are needed more.

The value of each robot in the next round is inversely proportional to the number of scrap heaps created in the previous round.   Double speed robots count 1.5 times the value of normal robots.

Codes

The authors wish to express their gratitude toward all of the testers who so willingly devoted their time to find bugs and ways to improve the game. The authors realize that this time would have been otherwise spent on much more useful endeavors such as watching TV or playing other games. But, all seriousness aside, the authors welcome your continued comments and suggestions. By this time we'll bet you're thinking: 'This sound like some kind of marketing garbage. Where are the clues?' Well the authors assure you that this is all genuine clue material, sufficiently encrypted to get you started on the right path and to make you sick at the same time. As with all events in the universe, if you look for patterns hard enough you will invariably find them, even if the ones you are expecting to find don't exist. In this regard, the authors can only say that you should look for the correct patterns, if indeed that is what you want to find. But how do you know what to look for if you don't know what it is? That's the fun of it. In conclusion we would like to add that this is as much fun for us as it is for you, probably a lot more in fact, and as far as the authors are concerned, you can rely on us for quality entertainment.

ABOUT THE AUTHOR

A.D Pecuyne
The Media Company
History
Disclaimer

A.D. Pecuyne is a grumpy, sarcastic and highly abrasive person.   Chances are you have already seen him on the street and didn't want to know who he was. He doesn't like anything other people like and no one else likes what he likes. He's a social leper and can't carry on a conversation without constant interruptions, wise cracks and changing the subject at random.

Odd hours are the norm as he stays up all night causing trouble. If he sleeps at all then he wakes up at the crack of noon or perhaps later the following day. His age is questionable since he claims to have personally known many historical figures, but it's certain that he's no spring chicken. Pointless expenditure of mental energy is a hobby which includes spending countless hours trying to solve paradoxes.

He just can't get enough of robots, hence this game.

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Robots for Windows™ is adapted from the robots game for UNIX® platforms written by Allan Black, (unlike A.D. Pecuyne) a decent, respectable citizen engaged in noble pursuits at Strathclyde University, Glasgow. Enhancements to the UNIX® version were made by Graeme Lunt and Julian Onions, Nottingham University, both of whom are also proper human beings.

Robots for Windows was conceived and written in cooperation with New Virtual Research and uses NVR AntiHack™ technology.