

VoRTeX®

Version 3.0 for Windows 95

VoRTeX is a brand new board game of strategy and chance in which the several game pieces are raced through a spiral path to a common finish. The distance of the moves is decided by the throw of a computer die. The choice of which piece to move is determined by the players so that their pieces advance more rapidly than the pieces of their rivals.

It features a revolutionary PhotoGraphic User Interface (PGUI TM) that lets your loved ones become the stars of VoRTeX!

The degree of difficulty ranges up from Tic-Tac-Toe to Chess and **you** control the level of play!

You are likely to score more points in victory if you choose more game pieces, play against more players and/or play on large board sizes. Use the options menu to make these choices.

Arrow keys or the mouse can be used to select a piece and Enter key, mouse right click or a left button double click can be used to execute a move.

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Rules of the Game

Who can play? This game can be played both by adults and children ages three and above. There are in-built features that allow even three year olds who are yet to learn how to count but can use a mouse or use a keyboard to play and enjoy the game. In the beginning, children find the keyboard easier to use to select a game piece than positioning a mouse over it.

How many players do you need? This game can be played by 1,2,3 or 4 players. You can enjoy the game by playing either the computer or other players. For maximum enjoyment 1 or 2 players can match wits against the computer. One player can use the mouse and the second player can use the keyboard. We have noticed that children find it easier to use the keyboard to select a game piece than to select it with a mouse.

Under Options... in main menu, choose no. of human players as 1, 2, 3 or 4 and total no. of players as 2, 3, or 4. For example, if you and a friend want to play at the same time, select "2" as the number of human players. If you want the computer to be third player, select 3, as the total number of players. Then the computer will play one position.

How long does it take to play a game? A game can be played in less than a minute or take over an hour. It depends on the no. of players, how big a board you choose, how many game pieces that you use and how long you think before you make a move!

How do I start playing? Click on the green button marked Start.
If you would like to see a demo click on the Demo! item in the menu bar.

Who gets to start first? Chosen randomly by the computer. The score of the starting player is marked with an asterisk (*) in the score box at the bottom right side of the screen. Every player gets an equal number of throws.

How do I throw the dice? Click on the square marked /Click Me/.
Keyboard: a) Use the tab or any arrow key to move the cursor to that square.
b) Hit enter to make the throw.

How do I move a piece? Once you select a piece by moving the cursor over a piece there are four ways of moving it: 1) Click the RIGHT mouse button, 2) Double click the LEFT mouse button, 3) STICK the piece to the cursor by clicking the LEFT mouse button. Move the piece to the target space and drop it there by clicking the LEFT mouse button. 4) Drag a piece by the number of spaces Dragging is accomplished by clicking on a piece and moving the mouse while the mouse button is still down.
Using the keyboard!

- 1) Use the tab or arrow keys to move the cursor to the pieces. To go to the next piece hit the tab or arrow key again.
- 2) Use the Enter key to make a move.

How many pieces can occupy a space? Only one except in a "safe-space".

What is a safe space? More than one piece, belonging to either one player or to rivals can occupy a safe space. The center space or the target space is by definition a safe space. The darkest colored spaces, with the same color as the center space, are safe-spaces. At the beginning of each game, safe spaces are clearly marked. For novice and medium levels, the safe spaces remain marked throughout the game.

What is bumping? When a player moves a piece (say RED) in to a space already occupied by an opponents piece (say CYAN), then the CYAN piece is sent to its starting point. This process of sending an opponents piece to the starting point is called bumping.

The Winning Move: To move the last piece in to the center space, a player must throw the exact number required for that move. When, for example, a player needs a three to reach the center space, if she throws a 4, 5, or 6 she loses her turn and must wait for another turn.

When does a game end? When at least one player has moved all of his/her pieces to the center of the board and all players have had an equal number of throws, the game ends. The player who gets all of his/her pieces to the center wins.

Can there be a tie? Yes! When two or more players get all of their pieces in the center space, the game ends in a tie.

Who can play?

This game can be played both by adults and children ages three and above. There are in-built features that allow even three year olds who are yet to learn how to count but can use a mouse to play and enjoy the game. In the beginning, some children find the keyboard easier to use to select a game piece than positioning a mouse over it.

Number of players?

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Winning Move

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Can there be a tie?

Yes! When two or more players get all of their pieces in the center space, the game ends in a tie.

Active Keys

ARROW keys	Helps to move around the screen (same as TAB).
TAB	Helps to move around the screen (same as ARROW keys).
ENTER	When cursor is on the click me square , makes the throw.
ENTER	When cursor is on a movable game-piece, makes the move.
ESCAPE	Performs an Undo during the game.
Any keystroke	Interrupts a demo!
F1	Same as selecting Hint! on the menu bar.
Right Mouse Button Click	Same as selecting Hint! on the menu bar.
Right Mouse Button Click	while the cursor is on a piece, moves it.

Scoring

The score board is at the bottom right corner of the screen. The score board is color coded to match the colors of the players pieces. The score of the starting player is followed by an asterisk(*). The computer automatically keeps the score for you.

When you ask for a hint, the computer calculates the score and suggests a move that maximizes your advantage with respect to your nearest rival.

The score is a measure of how far a player has advanced her/his pieces and the vulnerability of these pieces to be bumped by the rival pieces.

At the end of the game the winners point total is calculated by adding the differences between the winners score and the others. For example, if the winner scored 90 points and the other three players scored 70, 40 and 50 the winners point total is calculated as follows.

$$\begin{aligned}\text{Winners points} &= \{ (90-70) + (90-40) + (90-50) \} * 10 \\ &= \{ 20 + 50 + 40 \} * 10 \\ &= \{ 110 \} * 10 \\ &= 1100 \text{ pts}\end{aligned}$$

You need not understand the scoring method to play and enjoy the game. This information is given for players with an interest in probability and risk analysis.

Algorithm:

1) For each stopping position away from start, ten points are awarded. For example, at the start of a game, if RED moves a piece by 6 spaces, then his score is 60.

2) If instead of being at the start of the game, assume this move from home was made during the middle of the game. Also imagine that there is an opponent's piece (Blue) that is less than six spaces (say four spaces) away from a Red piece. It is Blue's turn to move and the probability that blue is likely to get a four is 1/6. Red is vulnerable and a throw of 4 by Blue could lead to Blue bumping the Red piece to starting position (where Red's score is zero). In other words, Red could lose 60 points, if Blue throws a four. The probability of Blue throwing a four is 1/6. In other words, the probability of Red losing 60 points is 1/6. This could be neatly summarized into the following score for Red.

$$\begin{aligned}\text{Red's score} &= \text{Actual position} - \text{Actual Position} * 1/6 \\ &= 60 - 60 * 1/6 \\ &= 60 - 10 \\ &= 50\end{aligned}$$

3) If in addition to Blue piece 4 spaces away, there was another Blue piece 5 spaces away, then the Red piece is vulnerable to a throw of either 4 or 5 by Blue. The probability of throwing a 4 or a 5 is 2/6. This situation can be neatly summarized as follows

$$\begin{aligned}\text{Red's Score} &= 60 - 60 * 2/6 \\ &= 60 - 20 \\ &= 40\end{aligned}$$

4) The same could be expanded to the Red piece being vulnerable to more than two pieces.

5) If in the middle of a game, a player is faced with a difficult choice of having to pick from more than one possible move, a scoring system such as the one described above can lead to a logical decision that maximizes

one's own advantage.

Special Features

When you place the cursor over an piece that is movable, the score board at the bottom right side of the screen changes to reflect what would happen if that piece were moved. You can use this feature to compare scores of two moves and decide on the better move. (Version 2.0 feature)

When the VoRTeX window is resized, the board is also resized so that the entire board fits in the resized window. (Version 2.00 feature)

Play Level can be chosen from the Options.. menu to be Novice, Medium or Expert

Max. Throw

Under the Options... dialog box you can choose a Maximum throw value for the die to be 2, 6 or 11. For max throw values of 2 and 6, a single die is used. For both these dies, every number is equally probable. For example, in a die with a max. throw of 6, you have as good a chance of getting a 6 as you do of getting a 1 or any other number in the 1..6 range.

For max. throw of 11, a pair of dies are used. One of these dies has numbers 1-6 on its sides and the other die has numbers 0-5 on its sides. These pair can give you values from 1 to 11. The most probable value is 6 (probability of 6/36, you have one in six chance of getting 6. The other values and their probability are given below:

Value	Probability
1 & 11	1/36
2 & 10	2/36
3 & 9	3/36
4 & 8	4/36
5 & 6	5/36
6	6/36

For a small size board, the max. throw value of 11 is not allowed.

VoRTeX REGISTRATION FORM

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Toll Free: 1-800-VORTEX-S
Phone: 1-302-239-4661
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Please give us your valuable comments and suggestions. We love to hear from you!

VoRTeX95.Version 3.00 960910

Instructions for Custom Version: Please print out the registration form from the help section

Display of Photos

Photos can be displayed by clicking the Display of Photos item in the Game menu

Southpaw

If you are a southpaw (left-handed) you can click on this item from the Game menu to facilitate your play.

Sound

Sound can be turned on or off from the Game Menu

Game Piece Speed

The speed with which the game pieces move around the board can be chosen by the player from the Game Speed item in the Game

Number Assist Speed

When you place the cursor over a piece, its movement path lights up with numbers. You can adjust the speed with which the numbers are displayed from the Number Speed item in the Game menu. You also have the option of turning this display off from the same dialog box.

Dice Sound

The sound of dice being shaken and thrown can be turned on or off from the Game Menu.

Select Players

Choose **Select Players** . item from the Game menu. Select a player by clicking on the check-box. If the check box is marked then that player is included for the next game.

Clicking on the number of human players also activates this dialog box. .

Select Colors

Choose **Select Colors** . item from the Game menu. You can change a player's game piece colors from this dialog box by choosing the colors right beneath the players. If you selections are not given to you the first time, try again in a different order.

Customizing

Decide on what images you want to include. These could be images of you, your loved ones, pets, hobbies etc., You can include 8 images in VoRTeX

Obtain a bit map file of this image by scanning in a color or b/w scanner.

Bitmap files must have one of the following eight names.

player1.bmp, player2.bmp, player3.bmp, player4.bmp, player5.bmp, player6.bmp, player7.bmp, player8.bmp.

Copy these files to your directory containing VoRTeX files (typically, c:\vortex95)

Bitmap Size: 128x128 recommended

No. of colors 256 colors (8 bits)

We recommend square images

Quality photos lead to better images on the screen. Make sure the image is atleast about 1/4" square.

