

Virtual Sailor -The Virtual Sailing Simulator.

[The main features in Virtual Sailor](#)

[Minimum Requirements](#)

[Getting Started](#)

[Controls And Keys](#)

[Using the instruments](#)

[Using the map](#)

[Setting game options](#)

[How To Register Virtual Sailor](#)

The main features in Virtual Sailor:

Virtual Sailor simulates the entire the marine environment from a sailboat's perspective and makes a complete sailing experience, the major components of this environment are:

- Accurate wind and wave dynamics.
- Accurate sailboat dynamics.
- Accurate and dynamic sailboat sounds.
- Dynamic weather conditions.
- Uses many special effects for simulating day or night marine environment.
- Huge land and sea environment based on real topographic data.
- Simulates race with other boats including wind shadow effects.
- Built using the latest technology in 3D graphic acceleration and sound mixing.
- Advanced yet easy to use virtual environment, allowing 360 degrees look around.
- A simple to use program which does not require using marine terminology.
- A simulation that is truly built to expand using open formats for all files, making third party sceneries add-ons as easy as possible.

The benefits of registering Virtual Sailor are:

- You will have unlimited game time.
- You will have additional scenery and add-ons as they become available.
- You will have support and help for creating your own sceneries.

How to buy Virtual Sailor:

The registered version of Virtual Sailor costs 25\$ and can be purchased and downloaded online , Registration is with a credit card via secure server.

To register simply point your browser at <http://www.alberts.com> and search for Virtual Sailor.

Learning more about Virtual Sailor:

Virtual Sailor is built to expand and have completely open data format. Add-on sceneries will be added for the benefit of all registered users. To get support or just learn more about the status of Virtual Sailor check the homepage:

<http://www.hangsim.com/vs>

Or you can contact the author Mr' Ilan Papini

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Minimum Requirements:

- Pentium 166
- Windows 95
- DirectX 6.0
- 3D Graphic accelerator
- Sound card

Notes:

Although the program will run without the use of 3D graphic accelerator is recommended to use one, as the most impressive performance and the most fun comes when playing the game using the proper hardware.

Although the program may run without the use of a sound card, it is recommended to use one as many effects incorporate the use of sounds.

Getting started

The first time you start the program the main screen will appear. In this screen you can choose between the following options:



Quick Race This option will create a new race and allow you modify it at your choice.

Resume Race This option will resume the last race you made from the point you left the program.

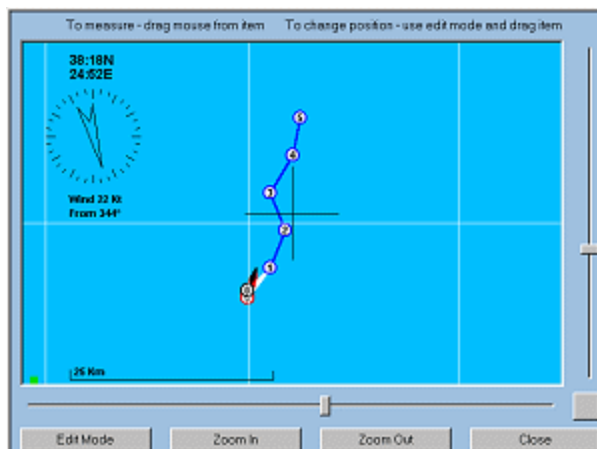
Sail This option will put you in a free sailing session or resume your last sail from the point you left the program.

Help To display this help file.

Exit exits the program.

Creating a quick race

When you select a quick race the program will create a race with several boats and waypoints and show you a map with the location of your boat and the waypoints of the race.



In this view you can zoom and pan to see you position inside the Virtual Sailor's world or you

can move the position of your boat or of the waypoints of the race.

To understand the indications on the map see using the map.

After you close this screen the race will start and you will see the following screen.



At the top of the screen you can see the instrument panel which shows you the status of your boat and around it you can see the other boats of the race, the distant pillar marks one of the waypoints of your race.

At the bottom of the screen you can see the sail control buttons, these are the lower/raise buttons which lower and raise each sail and the lock/unlock buttons which enable you to control each sail separately or together.

The auto pilot will be engaged when you create a quick race and so you can sit back and let your boat race on it's own, to disengage it and take control of the helm press "H".

To understand what the indications on the panel mean see using the panel.

You can change the simulation rate to make the race appear faster than real life and to gain quick understanding of how the race proceeds by pressing "F4" for faster rate and "F3" for slower rate.

Resuming a race:

When you exit the program in a race mode, all the race data is saved until the next time you choose to resume the race.

After you choose this option you are placed immediately in the race at exactly the same position and time you left it.

Virtual Sailing

The program can also run in a more relaxed mode called "Sail Mode", in this mode you are not competing with other boats but simply sailing for pleasure and virtual exploration. Each time you exit the program in a sail mode, all the sail data is saved until the next time you choose to resume the sail, thus you can explore the whole world of Virtual Sailor just as

if you were sailing from port to port and leaving your boat there for the night.



Controls And Keys:

Helm control

The helm is the control wheel of the boat , you can control the helm in two ways:

With the mouse, you can drag the mouse while pressing the left mouse button, moving it to left or to the right will rotate the helm and change the direction of the boat.

Or you can control it with keyboard:

Helm Left	Left
Helm Right	Right
Center Helm	End

Engine control

Your sailboat has an auxiliary engine, this engine provides the required thrust while there is no wind or will help you battle you way against the waves and inside ports.

You can also use it to cheat while racing to gain advantage over other race boats, and also you can use it without sails at all if you just want to use your boat as an ordinary powered boat.

Increase RPM	+
Decrease RPM	-
Zero RPM	*

Sail control

Your boat has two sails, the Main sail which is mounted on the main mast and provides most of the thrust of the boat and the smaller sail called the Jib which is mounted between the front of the boat and the main mast.

A third type of sail called the Spinnaker, which is a balloon shaped sail is not simulated in Virtual Sailor for the sake of simplicity.

You can control the sails of your boat in three ways:

Using the auto pilot to control the sails automatically, press "H" to enable or disable this option.

If you are unfamiliar with sail adjustment it is a good practice to turn on this option while in a simple sailing and see how your sails adapt themselves to the wind and to your direction of travel.

When the auto pilot is off, you can control the sails with the mouse also, simply drag your mouse in a up or down direction with the left mouse button pressed, this will free or tighten the sails allowing them the make use of the current wind.

When the auto pilot is off, you also control the sail with your keyboard:

Trim Sails	Down
Release Sails	Up

You can also raise or lower one of the sails , especially when the wind conditions are extreme and the boat is close to capsizing, or when you are taking a break for the night.

Main Sail	M
Jib	J

To lock or release the sails , press the mouse button on the lock release keys, or use the following keys.

Main Sail Lock	D
Jib Lock	T

Other boat controls

You can fix the position of your boat and make it stationary near a coast of your choice with the anchor, but don't forget to raise it when you want to sail or else your boat will not be able to move.

The auto pilot of your boat has two functions, in sailing mode it will adjust your sails to the optimal angle and free you from complex adjustments, in race mode it will control your entire boat.

It is usefull in a race mode to disengage the autopilot and preform your course adjustments and then to engage it again rather than controlling everything yourself.

Anchor	A
Auto Pilot	H

Viewpoint and views

You can view your boat from the pilot's position or from the outside, you can also use the map for understanding where you are, measuring directions and distances to other points or changing the location of your boat.

Pilot View	F1
Chase View	F2
Map View	F5

You can look freely to all directions using the mouse or the keyboard:

When using the mouse simply drag your mouse with the right mouse button pressed.

Or you can use the keyboard.

Look Left	Numpad4
Look Right	Numpad6
Look Up	Numpad8
Look Down	Numpad2
Look Ahead	Numpad5

Zoom Camera	Delete
Unzoon Camera	Insert

Other controls

When you are taking a long cruise or race it is usefull to play the game in an accelerate mode, in this mode everything will happen faster than in real life and you will be able to enjoy navigating your boat without having to wait too long until you reach your destination, but when you have high waves this mode may make be uncomfortable to use, the simulation rate is displayed on the panel near the time of day.

Increase Rate F3
Decrease Rate F4

When you have high seas and high winds your boat may capsize unless you lower some sails, you may reset this situation by pressing F6

Reset Capsize F6

You can measure the frame rate of the game by using the "F" key, this will give you indication on how well your computer can show the environment you are in, frame rates of 20 frames per second and more enable you to experience the wave motion correctly.

FPS Toggle F

You can toggle the main panel on or off while in pilot's view only for getting a clutter free view of your environment.

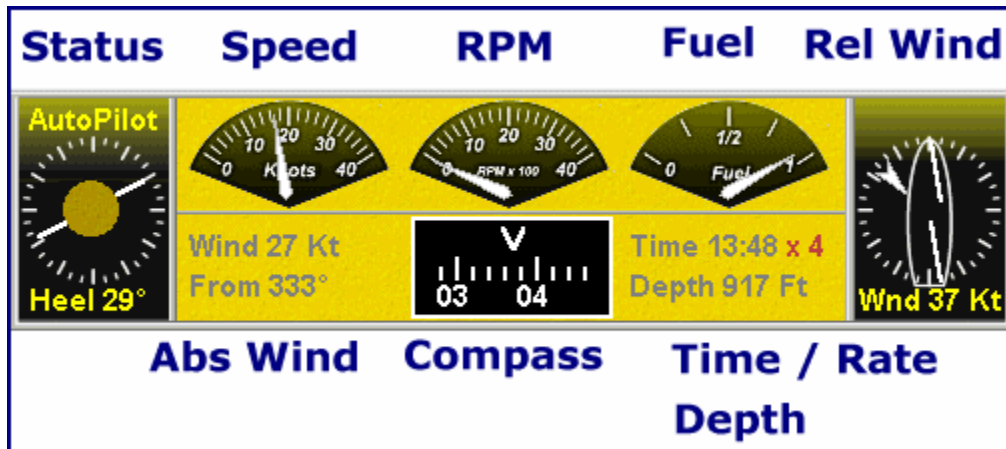
Panel Toggle P

The auto pilot is also usefull when simply sailing to control your sails position.

Auto Pilot H

Using the instruments

When you are in the pilot's view you see a large instrument panel at the top of the screen. Understanding this panel is a key element in controlling your ship.



This panel has the following indicators:

Status In this indicator you see your heel angle (the angle at which your ship is tilted) and also if you have autopilot or anchor engaged.

Speed The speed indicator measures your speed in knots, the speeds in Virtual Sailor are faster than in real life to make the game more intense.

RPM This indicator shows you how much engine power you are using in units of revolutions per second.

Fuel This is your fuel gauge, in Virtual Sailor you only have enough fuel for one hour of engine use in full power, but you can refuel your boat at any port by simply sailing around the lighthouse of this port.

Rel Wind The relative wind indicator shows you where the wind is coming from relative to your ship, this wind indication is more important to you than the absolute wind as this is what your sails feel, you also see the direction of the sails of your ship in relation to this wind, , you can also see if you are inside the wind shadow of another ship and if so how much.

The term wind Shadow means that another boat is hiding the wind from your sails and thus you have less force to drive you on, this can ruin you chance to win a race.

Abs Wind The absolute wind indicator shows you where the wind is actually coming from and how strong, note that you cannot sail directly into the wind so plan your heading according to this indicator.

Compass The true heading of your ship, note that in real life you would get a magnetic heading and have to correct it to read true heading.

There are two modes of operation for the compass, the heading mode and the azimuth mode, in the heading mode the compass will show the heading of

your boat, and in the azimuth mode you will see the word Azimuth appear and the compass will show you the azimuth you are looking at, this mode is useful for obtaining a fix on other boats or land marks.

Time/Rate In this indicator you see the time of day and also how faster the simulation is going relative to real life, if you want your game more intense set your rate higher.

Depth In this indicator you read the depth you are sailing in, you cannot sail in depth less than 25 ft or else you will get stuck, the depth meter will not measure more than 950 ft and this will be it's maximal reading.

The sail and drive controls:

At the bottom of the screen the sail control buttons can be seen, these include four push buttons as can be seen in the following image:



The inner buttons are used to raise or lower the sails, the left one is for the Jib and the right one is for the Main sail.

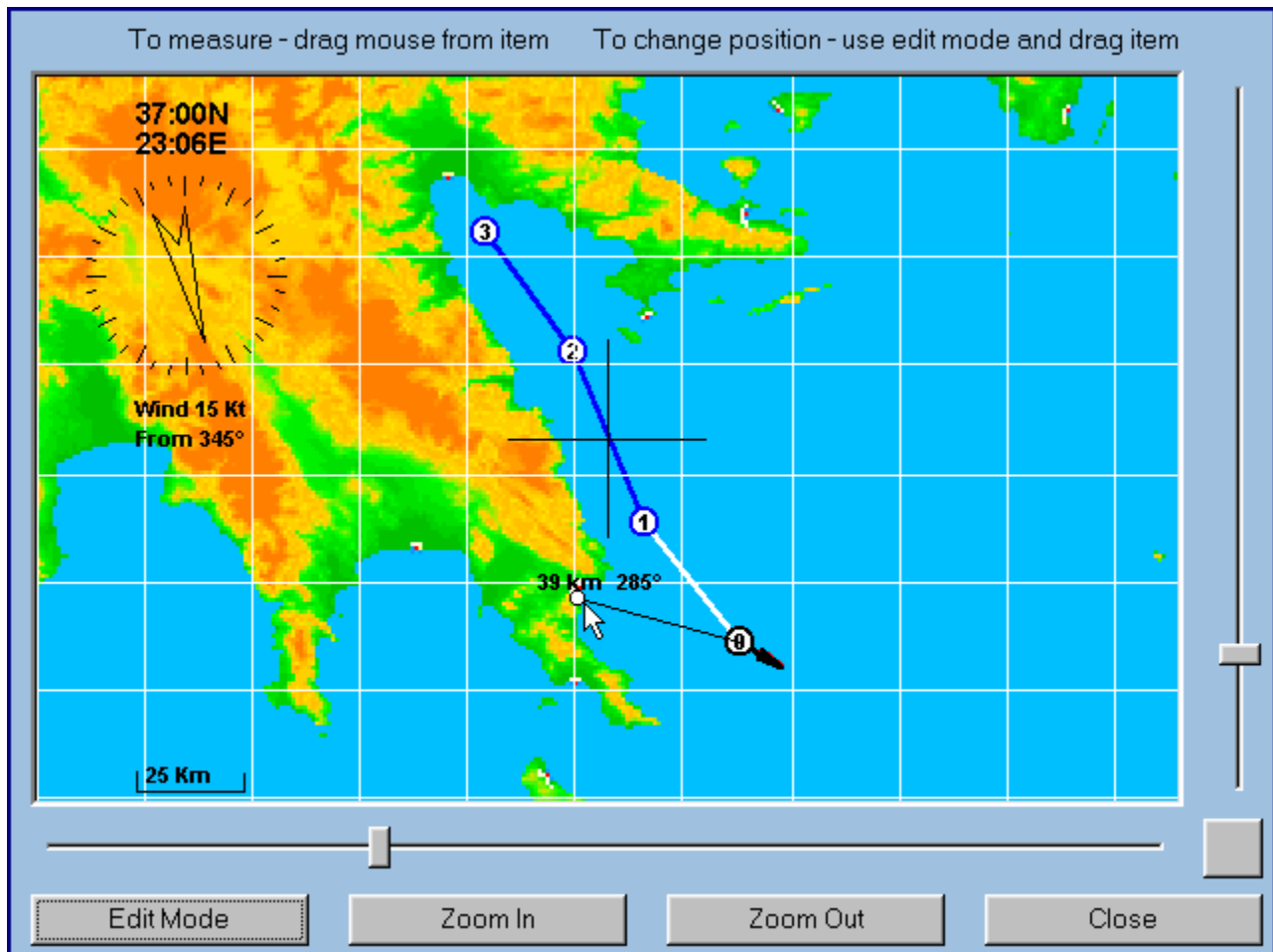
The outer buttons are used as the winch control, they can be locked (darker brown color) or free (glowing red).

When the winch controls are free each of the sails can be controlled by using the Up/Down keys of the keyboard , the Up/Down movement of the mouse or by the auto pilot which sets them to the best drive performance.

On the winch controls a triangular arrow marks how much drive (the amount of forward driving force the sail is giving your ship) the sail is giving, your goal is to set the sail angle to give maximum amount of drive.

Using the map

The map is a key element in Virtual Sailor, knowing how to use it correctly is essential for getting the most out of the program and experiencing your virtual world.



Based on real area:

The map in Virtual Sailor is based on a real section of the world, this section is approx 1000x1000 km in size and you can sail inside it and explore it.

Since your boat is only a tiny spot in this map you can zoom in and out to see your closer surroundings.

press the Zoom buttons to zoom in or out and move the slider controls to pan your view.

The rectangular button between the sliders is used to center your view on your ship or on the race in progress.

Since the map is based on the real world, you can actually read the real coordinates of the cursor's position on the upper left corner of the screen and you can use an atlas to see the names of the places you explore.

Places of interest are marked with red spots:

Inside the map you will see some area with red pixels surrounded by blue or white ones, these mark places where special objects has been placed, a red spot is where you will find a harbour with houses and a lighthouse, when you go around such lighthouse your ship will be refueled.



Absolute wind indicator:

Below the coordinate indicator , you see the absolute wind indicator, in this indicator you see where the wind is coming from and at what strength.

Getting a Fix:

When you plan your way you may want to know how far you need to travel or simply measure a direction to a given point of reference, this is called "Getting a fix".

To get a fix in the map, simply drag your mouse upon it with the left mouse button pressed, you will get a line of sight from your boat to the mouse position with azimuth and distance reading.

Moving the boat or the waypoints:

To move your boat or the waypoints you use the map view, press **Edit Mode** button and drag the item you want to move, a white rectangle will appear around the selected item indicating that it can be moved.

Programming your auto pilot with the map:

An advanced use of the map is to program several navigation waypoints for your auto pilot to follow.

Use the game options dialog for setting the number of waypoints and boats and then create the new race with several waypoints and no other boats, move the waypoints to the desired locations in the map view, close it, and engage your auto pilot, your ship will follow the selected route on it's own.

You can use this option for getting to a selected port automatically, doing so at night adds a special excitement and fun.



Setting Game Options:

The options in virtual sailor can be set by using the main menu from within the game, these options include weather and environment options and general options.

Weather and environment:

The weather in Virtual Sailor is constantly changing, just as in real life but faster. You can control and set the weather conditions by selecting from the weather menu , you have three dialogs there:

Wind and Sea This will control the wind direction and strength and also height of the waves, you can choose to link the height of the waves to the strength of the wind or not.

Visibility and Sky Here you control the visibility and cloud coverage, you can also make the sky appear darker as if a storm is approaching by setting sky brightness, you can choose to link the sky brightness to visibility or not.

Time of day You can set the precise time of day using this dialog, keep in mind that when playing in accelerated time the time of day will move faster than real time.

General Options:

The general options in Virtual Sailor can be controlled by selecting from the options menu, you have the following options dialogs:

Video The video settings are chosen automatically by the program each time you start it, however you can change your screen mode and display driver by changing the options in the video dialog, these will be used for the current session only.

Sound The sound in the program is very realistic and complex , it is composed of several components, the most important ones are the wind , waves and engine sounds. you can control the strength of these components and enhance one relative to the others, for example you may set the waves sounds high and the others to low and hear how each and every wave your boat hits makes a specific new sound, or you can set the wind sound high and hear the sound of the wind on the wires of you main mast when you lower your sails in strong wind.

Game This dialog controls the way new racing is created, the number of boats and waypoints in it, and also the options you wish to lock to make you experience more realistic and hard.

Scenery In this dialog you select the scenery you wish to use , the basic program comes with one default scenery, as add-on sceneries become available you may select them from this dialog.

Boat In this dialog you select the boat you wish to use , the basic program comes

with one default boat, as add-on boats become available you may select them from this dialog.

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