

AVSIM Commercial Simulator Review

Vehicle Simulator



Product Information		
Publishers: Ilan Papini/Quality Simulations		
Description: All purpose vehicle simulation.		
Download Size: 47.5 MB	Format: Download	Simulation Type: Vehicles
Reviewed by: Peter Clemenko III AVSIM Staff Reviewer - July 9, 2009		

Introduction

Vehicle Simulator is a combination of the Micro Flight and the Virtual Sailor simulators. It is a simulator that covers land, sea, and air. It's something which is a culmination of years of work. Now Vehicle Simulator is here and it handles all

kinds of things. Is it worth it? Let's find out.

Disclaimer: you will see me using custom sceneries and vehicles in this review, the sceneries are all ether off the VSF site, or just imported terrain meshes (no other stuff added to those meshes)

Installation and Documentation

The installation is straightforward, just run the EXE, and register it. The demo is the full installer; it's just locked down to 1 minute time frames. I tried out the demo mode while waiting for the key, and I really just didn't have the time to have much fun with it primarily because 1 minute is barely any time at all in a simulator. That's the one thing I really have a problem with, the demo time.

The documentation is all online, and it's decent for what it does. One thing I should note right off the bat that I didn't notice in documentation, is why the panning views doesn't work with TrackIR on. It took me asking Ilan about it. It turns out that with TrackIR enabled, it overwrites those inputs. That's the one main thing I wish was in the documentation.

So first impressions anyone?

So let's talk about first impressions, after the demo period was removed. First thing I did was load up the default scenario and played with it. I realized that the demo scenario was a powered hang glider. You'll learn more about the origins of that hang glider in my interview with Ilan further in the review, but now let's talk about the actual sim.

I noticed that it was fun to fly the hang glider. First powering it up to a height and then cut the engines and just glide. Next I tried a boat. I downloaded a Sea Shadow, and the fact that it was community made showed. There was a non textured cockpit in it, but I can't knock the sim based on the community add-ons, I can't call the sim on anything community based.

I have to say though, that it did make me wonder, how far can it go? I noticed one major annoyance whenever I start the sim, I had to reset the options to what I liked. Apparently the sim doesn't save the options settings from the last session.

It does that?

I was in for a shock later on though as I didn't realize what exactly I was getting in to. I tried the mini submarine and I found a F-16 I crashed in the sim earlier on the bottom of the ocean. I found it nose down in the sand about 400 meters below the ocean. That was something which was an instant classic moment, and I immediately took up an interest in submarines in this sim. I guess another part of it is the fact that I love Silent Hunter III.

By now, if you've been following my reviews, you'll know what I'm going to talk about next, combat! Yes it does combat, however not very well. As you may know, weapons don't respawn on the pylons in real life during flight. Unfortunately, they do in VSF. Furthermore, everything leaves a smoke trail, from bombs, to missiles, to torpedoes. Sadly, I still

Test System
Processor: Intel Core 2 Quad Q6600 @ 2.4ghz per core (4 64bit cores)
Video Card: BFG Nvidia Geforce GTX 280 OCX
Motherboard: XFX Nforce 680i It SLI
Sound: Onboard Realtek integrated sound card
RAM: 4 gigs 800mhz OCZ SLI ram on 2 sticks.
OS: Windows Vista Ultimate 64 bit Service Pack 1
Joystick: Microsoft Sidewinder Precision Pro
Head Tracking: TrackIR 4 Pro
Testing Time: 12.5 hours

haven't been able to kill anything. It seems as if when AI die, they immediately respawn.

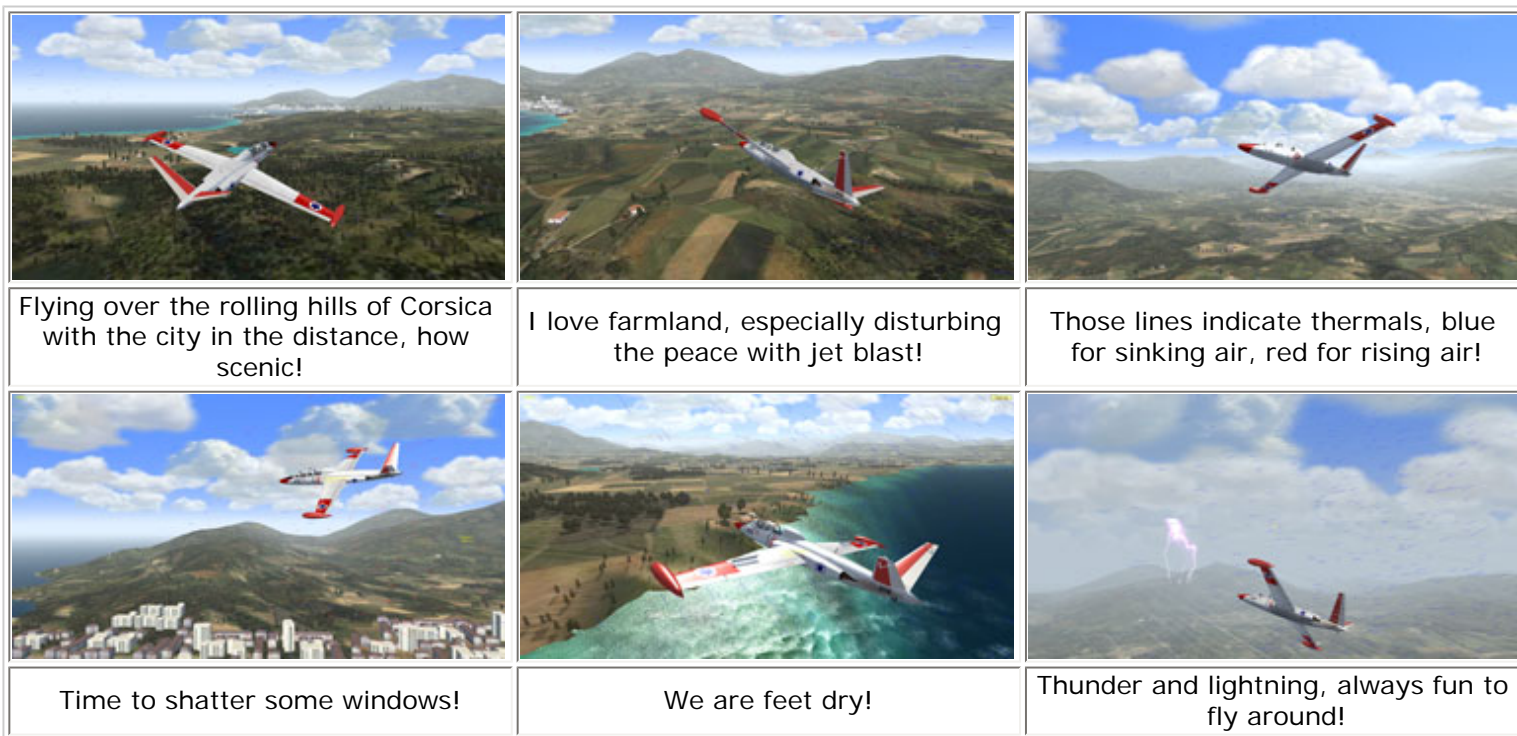
Default vehicles

Most of the vehicles are simplistic. While they look decent and handle well, there isn't much in the way of avionics. Usually with the default vehicles it's no more than four or five switches in the cockpit. According to Ilan however, more detailed avionics simulations is possible. It looks to me like this was done by a single person, and that the vehicles are more of a taste of what it can do handling wise, rather than avionics wise. It looks like the advanced stuff could be made, but the question becomes who will make them.

Graphics

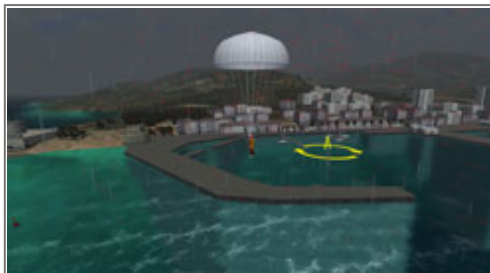
Well, it's time to talk about the graphics. There are volumetric clouds, caustics, and all kinds of things. One of my favorite views was driving a submarine just submerged and looking at the light rays in the water shining down, and then seeing fish swim by. You can add animals to the area, which is nice to see, however it seems they really aren't there for anything more but looks.

I had to turn the graphics down to about half when it came to object density. Ah well, not that big of a deal, I was more worried about the shader effects than the pre-placed objects. You can see grass on the ground (and yes it waves around in the wind), which is really nice. The fun thing was to go and see how your vehicle can go into space. It's just too bad the transition from atmosphere to space wasn't a bit more seamless.





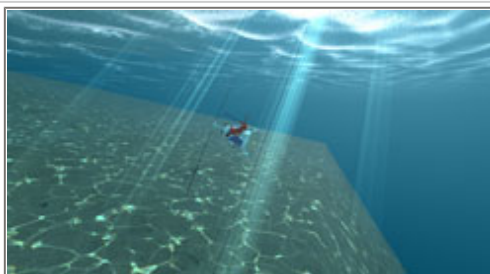
High speed thunderstorm flight



Perfect, I had to bail out in a thunderstorm and I'm gonna land in the ocean, can this day get any worse?



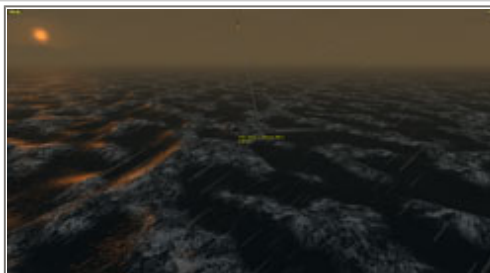
I knew I should have taken those lessons!



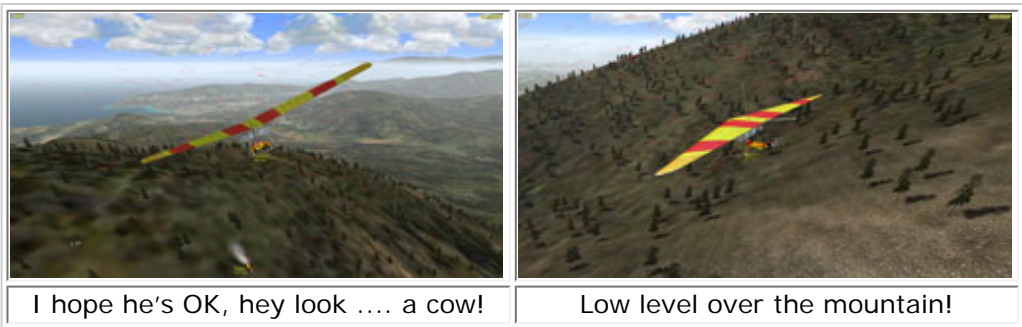
Ohhh... pretty underwater caustic effects!



Hey just because you're a tanker doesn't mean you can hog the sea!



Dear Mr. Bin Laden, please accept our gift of a Polaris missile, yours truly, Uncle Sam!





Sounds

What about sounds? Well, for one, I could hear rain pouring, waves crashing against my ship, thunder, and all kinds of sounds. The one issue I had was it seemed that the sounds were kind of generic as far as aircraft goes, but then again, I see higher quality add-ons having higher quality sounds.

So what to do about the need for new content?

Well, I figured I might as well mention this in the review, due to the lack of default scenery. The scenery is very easy to create, there's a Google Earth plug-in for placing roads and buildings and exporting them into Vehicle Sim. What about terrain elevations? Well that's easy to do too, as you only have to download a SRTM map and export it as a binary into 3dem.

I also figured out how to import GEBCO data into Vehicle Simulator. This got really fun while driving a nuclear submarine around Bermuda. The depths were interesting to say the least. This was a bit complex to do, so I'll leave instructions out of the review, but the tutorial I made is on the Vehicle Simulator forums for all who want to give it a try.

Furthermore, you can import content from Virtual Sailor and Micro Flight with minimal work. Scenery is the only thing you may need to tweak a little to get the elevations correct. Other than that, you just have to drop it in the correct folders and it's all automatic.

What have you done captain!

Have you ever had one of those days where you just want to turn on the time compression? Well let's just say that's dangerous in VSF. "Subs In Space" is something I managed to achieve with a ballistic missile submarine while hitting the land at high levels of time compression. I also managed to achieve my submarine hitting a beach during time compression and going flying over an island, and not just any island but a big freaking island, with it doing rolls and bounces all over the place until it wound up 2/3 of the island away, upside down on top of a mountain in the middle of a mountain range (the craziest 3 minutes of this sim). The physics seems to have its downfalls, especially with time compression on.

Interview with Ilan

For this review, I decided to have an interview with Ilan, the developer. This is the first review I've interviewed the developer, and I don't intend on this being the last.

Peter Clemenko:

Is Vehicle Simulator more designed as a replacement or a complement to Virtual Sailor and Micro Flight?

Ilan Papini:

Actually Vehicle Simulator is newer than Micro Flight and certainly takes over all of its functions and vehicles. However, as a final update to Micro Flight I have just recently released update to version 5.2 which is a porting of Micro Flight to DirectX9.0c and Speech SDK 5.1 with some new gui and optimizations.

It is not meant to be continued, but as a replacement for people with older machines, not capable of running VSF. Virtual Sailor is a different ball game, actually there are so many vehicles and scenery for it that I cannot just replace it and throw away the key.

Here I have to proceed with caution, I will first introduce all remaining functions into VSF, very soon this year, this includes the sailboats, racing, sextant, pilot animations (the old style), and towing.

Then checking with the users to see if they lack anything i will make a big decision, whether to port VS to VSF completely, or to update VS to VSF gradually, keeping the scenery compatible with VS7.

I would like to be able to make VS8 on top of VSF, as after all it has better dynamics, better scenery capabilities and more, but not at the expense of upsetting people or breaking compatibility, so we may yet see VS8 which is distinctly different than VSF. I have a very long wish list for VS8, I will have to consider that as well,

Peter:

What was the overall inspiration of creating this simulator?

Ilan:

The inspiration started about ten years ago, I have had my PPL for 20 years now, and stopped hang gliding approximately 15 years ago due to a serious accident which happened while using my own design of a twin powered hang glider (which flies in the program under the name Seagull).

Some 10 years ago I developed a program called HangSim to simulate hang gliders only, I developed it just because I missed the feeling and did not find MSFS a suitable replacement.

HangSim was nice but limited, then followed Virtual Sailor (1999) and Micro Flight (2001) on the following years, since then i got countless requests for combining these two into one making flight, and marine simulations combined into one program.

In addition to that the power of the average home machine, increased over these years to allow much better scenery and higher density, and of course my knowledge has increased since then to make that possible.

Two years ago, after completing version 7 of Virtual Sailor, I decided to take some time off and explore the latest techniques in graphics and physical algorithms, I decided to write everything from scratch being totally open to every possibility I discover, for over a year of this period this work evolved into a game "engine" I called internally VS Frame (or Vehicle Simulator Framework) as I did not have any limitation on what I could do, then, seeing it was a good engine i started to add to it features from VS and MF, and allowed vehicle importing from these two programs, so that all vehicles are supported in it.

Under the hood the program is radically different than anything I have written before, because it is not based upon a fixed simulation of any specific vehicle, i.e. anyone who used to develop simulators knows there are many "adjustment factors" and "effects" that need to be added to make the simulator do something like the actual plane or boat does, this used to consume most of my time in previous years.

But now, the simulation is built around basic "elements" which one can combine and play with inside the program, it is these elements which make up any vehicle imaginable, there are no "factors" no "adjustments" just pure physics.

In addition, things I could not dream of years ago, like 20 thousand segments of grass moving randomly in the wind, 3D waves crashing under you as you fly above the beach, and much more, were becoming possible, now, with the addition of any of these things I felt the program is really getting to be what i wanted so long ago, and getting to be as real as I remember from the time I used to fly with the birds.

(now I try to avoid them when I fly light planes of course ...)

Peter:

What is the planned future of vehicle simulator?

Ilan:

The planned future of Vehicle Simulator is composed of a near future and a more distant one.

In the near future (this year) i will add the remaining functionality left in VS into VSF, such as sails, sailboats, Sextant, Mooring, better collision detection, towing, ATC.

This will convince more VS users to start using VSF, and hopefully to make new scenery and new vehicles for it.

IMHO, the scenery making for VSF is so much more accurate and easy than it was for VS that it is a shame there is so little of it yet,

I intend to motivate more and more people to make new scenery and use it for sea and air navigation.

In the more distant future, i intend to add more AI and animation and even a programmatic interface to scenery and vehicles, so that one can create scenery objects and vehicles that interact with you.

I intend to add more vehicle visual editing tools, such as panel editors, etc. and also make some smarter instruments using the DLL option I have made in this version already, this DLL functions as FSU PICK and has full source code inside the instrument called DLL_G1000.

Then perhaps in the farther future i will add more space vehicle functionality such as multiple stages, rocket motors and thrusters etc.

but this is still not certain, I may well remain on the earth bound vehicle domain.

Peter:

What is the potential to simulate aircraft with advanced avionics? Is it even possible, and if so, how would one go about it? What about things like sonar?

Ilan:

Very possible, there are now approximately 50 types of analogue instruments possible, and also several digital screen instruments, such as naval radar, aviation radar, moving map and more, on top of that there is a DLL interface allowing multiple custom made instruments (digital and multi screen) which can be made by me or anyone interested using this DLL interface.

The DLL is loaded as an ordinary instrument through the panel, and receives from the program all vehicle data, and also a device context to draw upon, this exposes the panel for user made instrument and graphics and exposes all data from the program to the panel or instrument.

I have made one such instrument and will make more; to encourage people to make their instruments as well, a source code of this sample instrument is included inside the DLL_G1000 directory inside the instruments.

However, there is one comment to be made, Vehicle Simulator can simulate advanced avionics, but that is not its main purpose, its purpose is to facilitate many different types of vehicles, land, sea and air, and to let the user explore their dynamics and physical aspects.

The program is not meant to replace X-Plane or FSX, but as a more hands on program to experience and experiment with different vehicle types, and the art of flying them.

It is similar to my approach in real life, I do not make long navigations, but i like to fly VSR and explore new place, like to do some aerobatics (if the plane I fly permits that) like to sail but not to race and so on, I guess it is this "seat of pants" feeling i was missing in MSFS and which I wanted to create this program for.

Peter:

What is the plan to simulate things such as bathymetry and failures of systems on the vehicles?

Ilan:

Bathymetry is possible even now, just yesterday I have updated the matrix editor to edit also bathymetric data, and of course the program accepts bathymetric data and use it for sea bottom if so specified in the scenery header file.

Echo sounder exists inside the program, and possibly a sonar will be added as well.

The underwater side of the program is still in early stages, all the options are there, one can design underwater scenery, there is marine life inside the program, and one can explore it using submarines and some instruments, I am not sure the program will focus on that greatly.

p.s. For animals there is also a programmatic interface using DLL, this allows for custom behavior and custom animations to be made, I have made two of these examples and included them as dll's with source code inside, these are called "Cat_dll" and "gull_dll", users can use these samples to create very interesting and interactive animals or machines moving along the scenery.

Failure of systems - unlikely to be implemented, as I said the program does not concentrate on systems, but more on the physical and visual side, I will leave this side to FSX and X-Plane.

Summary / Closing Remarks

All in all, I like it a lot. This is a remarkable piece of work, and includes so many different elements of simulation; it's amazing this is only done by an independent developer. With the pure potential this has, I can imagine some very highly detailed vehicles in this simulator's future.

My only problem with it is the limited scenery areas currently available. This is something I see as being remedied somewhere down the line, but for now, it is pretty limited. Even with the limit of the minimal amount of scenery, I have to say it does pretty much everything you can imagine vehicle wise. It's obvious that this sim is worth a look. The question becomes, will it take off like an eagle or fall like a brick. That's something that will wind up being down to the community.

There is incredible potential for add-ons, however if no one makes them, then it's moot point. Is it worth it you ask? I say the answer is YES! Even if you don't like simplified vehicles, sometimes it's worth it just to be able to do whatever

you want, including going below the ocean to drive a submarine and have a bit of fun underneath the sea. I will admit this right now, I have spent a lot more time with this in a submarine than in an aircraft. I tried using a submarine once and got hooked on being the silent hunter of the seas.

For me, I feel that while it has nice physics, it can't stand up to FSX or X-Plane at this point in flight simulation, as there isn't enough in the way of complex aircraft. Where this does shine though, is in versatility and because of that, I found it incredibly enjoyable just to relax and ride the ocean in a nuclear submarine.

You might notice this review was a bit shorter than normal, well that's because it's kind of hard for me to describe the experience of this simulator, it's something you have to try to understand. All in all, it's a good sim, but it isn't really that detailed in any one thing. This seems to me like a good framework, however until there are more complex vehicles, I can't say it would be my primary sim. The way it handles things has a very great potential for future development. Overall, try the demo, see if you like it, and if you do, go for it.

What I Like About Vehicle Simulator

- It covers ALL kinds of vehicles
- It's always enjoyable to have a change of pace, in this case, I got addicted to submarines
- All kinds of cool things to do
- I found it easy to mod myself
- Animals all over the place including cows, cats, seagulls, fish, and all kinds of things
- Weapons on vehicles!
- Great graphics!
- Fun physics (even if they do have their flaws...)

What I Don't Like About Vehicle Simulator

- Limited scenery selection
- Simplistic default vehicles
- You have to set up the options each time you start the sim (saved options anyone?)
- The demo only allows 1 minute of play

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