

OpenSSN - What is OpenSSN?

OpenSSN is a submarine simulation (subsim) which tries to emulate the behaviour of modern submarines. The player is placed in command of a submarine and is able to move about in a deep ocean environment.

At this time there is no combat in OpenSSN, but combat missions are planned for future releases.

Why a subsim?

I've always been a fan of subsims and played commercial games, but couldn't find a modern subsim for open source operating systems (such as Linux and FreeBSD). Danger from the Deep is available, but it's strictly for World War II u-boats, and has relatively high graphics requirements. Looking around I found a half dozen or so subsims that had begun and dropped away shortly after beginning development.

The LinuxSSN project had laid a solid foundation before the developers dropped the project and I decided to pick up where they left off. The heart of OpenSSN comes from their project and attempts to further their work.

Licensing info

The OpenSSN project is licensed under the GNU General Public License, version 2. The LinuxSSN project was also GNU GPL licensed and we carry on that tradition. Please see the LICENSE file for further details.

What do I need to build OpenSSN?

To build OpenSSN you'll need a C++ compiler (GNU's Compiler Collection is recommended) and the following development libraries:

SDL
SDL_gfx
SDL_image

Assuming the above libraries are installed, it should be possible to build OpenSSN with the following

commands:

```
tar xzf openssn-0.2.tar.gz
cd openssn/src
make
```

Running OpenSSN

Once OpenSSN has built, an executable file (called openssn) will be placed in the directory immediately above the "src" folder. The game can be run with plain

```
./openssn
```

The following command line parameters are recognized:

- w Run in windowed mode, this is the default
- f Run in full screen
- v Display version number and exit
- h Display help and exit

Playing OpenSSN

OpenSSN is still in its early stages of development. Players are able to pilot a submarine, perform basic tasks (piloting, diving, listening for ships and tracking surface vessels). At this time there is no combat or missions, however those are planned for future versions.

Upon starting OpenSSN, the player begins on the Map screen. This shows us a map of the surrounding area and the player's submarine appears as a green half-circle in the middle of the map. Directly to the left of the map are buttons to move the map and zoom in or out. When your submarine detects nearby ships, they will appear on the map. Red ships are enemies, green are friendly and yellow are neutral.

At the top of the screen are two black boxes. The one to the left shows the player's current speed, heading and depth. The numbers to the left are the current heading, speed and depth. The numbers to the right show desired heading, speed and depth. Submarines take a while to change course and so ordering a turn or change in depth may take a while. To the upper-right is another message box. This will show important updates. It lets us know which screen we're on, gives us important warnings, etc.

Down at the bottom of the screen are seven buttons in a row. These buttons let us switch stations on the

submarine. From left to right these stations are:

Sonar, Maps, Tracking (not operational yet), Helm, ESM & Radar. The last button on the far right quits the game. In the bottom-right corner of the screen is a time scale monitor. This allows us to compress time to speed up or slow down the action.

Sonar Station

Submarines rely heavily on sonar to let them hear the world around them. Now, in OpenSSN most of the sonar work is done for you, so you don't have to visit this screen for basic operations, unless you want to. Any contacts the sonar operator pick up are automatically placed on the overhead map so we don't have to worry about it.

However, for people who do want to look at the sonar, here's a quick guide. To the left are two "waterfall" displays. There show any signals (sound) we're picking up. The top display shows signals we can hear from our usual sonar array in the ship's bow. You'll notice we can't hear anything directly behind the sub. In the centre panel, down at the bottom, we see three buttons marked: Stop TB18 winch, Extend TB18, Retract TB18. The TB18 is what's called a "towed-array sonar". This is basically a set of microphones which get towed along behind the submarine. Extending the array let's us hear what is going on directly behind us. Any sounds the array picks up will appear in the bottom-left corner of the screen in the lower "waterfall" display. Using a towed array can hamper performance, which is why it's not used by default. If you want to stop dragging the array behind the submarine, it can be retracted.

Helm Station:

The Helm is how we get around. There's a lot here, but there are three key areas to watch. The first is in the upper-left of the Helm screen. There we see the current heading, depth and speed. Directly below those are the currently ordered heading, depth and speed. The sub will slowly move to match our current settings with the ordered settings. Directly under that we have a compass which shows our current heading. Clicking on the compass will order the sub turned to that heading. Likewise the left and right facing arrows will direct the sub to make slight turns to the left or right. There are also up and down arrows here which will order the sub to rise or dive. Near the bottom of the screen are buttons which resemble a bar graph. Clicking these will order the submarine to speed up or slow down. The centre button is "S" for stop. The buttons on the right are for forward speed and the ones on the left for reverse.

ESM Station

There's really only one important feature of the ESM screen and that is the mast control in the upper-right. If we are close to the surface (50 feet depth or less) raising the ESM mast will cause our submarine to detect radar signals from other ships. This will give us an idea of where surface ships are. Any detected ships will be drawn on the map.

Radar Station

The Radar station works much the same way as the ESM station. Expect the radar station allows us to try to pick up ships using our own radar. This can be done from a depth of 50 feet or less. Using radar is risky because surface ships can detect our radar and use it to locate us. On the screen we have controls to raise or lower the radar mast. Directly below that we can set the signal strength for our

radar, which will determine how far we can see. Any contacts within range will appear both on the radar scope (to the left) and on our overhead map.

Control Keys

Direct the submarine (these work everywhere, not just the helm screen).....

Plus key	Increase sub's speed
Minus key	Slow down
Left keypad (4)	Turn left
Right keypad (6)	Turn right
Down keypad (2)	Dive deeper
Up keypad (8)	Rise toward the surface

System controls.....

F1	Sonar screen
F2	Map screen
F4	Map screen
F5	ESM signals screen
F6	Radar screen
F10	Take screen shot
TAB	Select next target
Delete	Increase map scale
Insert	Decrease map scale
Up, down, left, right	Manipulate map
P	Pause the game
Page Up	Compress Time
Page Down	Slow time
ESC	Quit

Contact information

Did you find a bug? Would you like to request a feature? Did you patch something and want to share it? Send an e-mail to jessefrgsmith@yahoo.ca. Please place "OpenSSN" in the subject line.