Final Frontier™

© 1994 by Christian Franz

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DEVELOPMENT VERSION.

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MANY FEATURES OF THIS PROGRAM ARE EITHER DISABLED OR PLAIN NOT YET IMPLEMENTED. PLEASE DON'T JUDGE THE FINAL VERSION ON THIS RELEASE.

THE ONLY REASON I MADE THIS VERSION PUBLICY AVAILABLE IS THAT YOU HAVE PROOF THAT I'M STILL WORKING ON IT AND DON'T HAVE TO ENQUIRE VIA EMAIL.

Thanks to all you people who supported me during the last year of development. I hope you like what's coming.

NYI = Not Yet Implemented

General Description
FF is a space-opera 3D real-time game. In it, you pilot a single-person space vessel ('the Ship'). You can trade goods, hunt pirates, or hire out to other people/institutions for specialized services. The object of the game is not to reach a specific goal but to explore the galaxy and survive long enough to become renown and rich.

You begin the game with a small, puny litte ship and very little money. Likewise, you only have limited knowledge of the galaxy around you. As the game progresses, you (hopefully) become more experienced. Your (on-board computer's) knowledge of the surrounding solar systems broadens with every new system you visit. These solar systems have complex political/ecological attributes and knowing what sells good where is crucial for your success as a trader.
After you have made some profits, you will be able to buy better equipment for your ship, such as a cargo compressor (so you can load up more cargo into the same space), better weaponry or more efficient engines.
After some time, you might also want to get a general service commission to be able to hire out to other people who require some additional hands. After you have built a reputation, more challenging missions will be offered to you...

The Ship:

Your ship is equipped with various computers, scanners, weapons systems, power generators and consumers. We will now look at the most important units and how you use them. The main components your ship is divided into are

- Hull
- Shields
- Power Plant
- Computers
- Weapons
- Drive

The most visible part in the game are the computers. It's various screens are clustered around the cockpit window (aka 'Viewport'), providing you with up-to-date and vital information about your surroundings and status. The various systems are intricately linked. While some parts of your ship you can do without (for example the comunit or computers), losing others will greatly reduce your chance of survival. Losing your hull is a sure way to losing your life. On the other hand, losing your computer systems can be very unfortunate as well if you need to find your way home, while it's just inconvenient if it blows while you are close to a base (provided, of course, that you are good enough to dock manually and the base is willing to let you in).
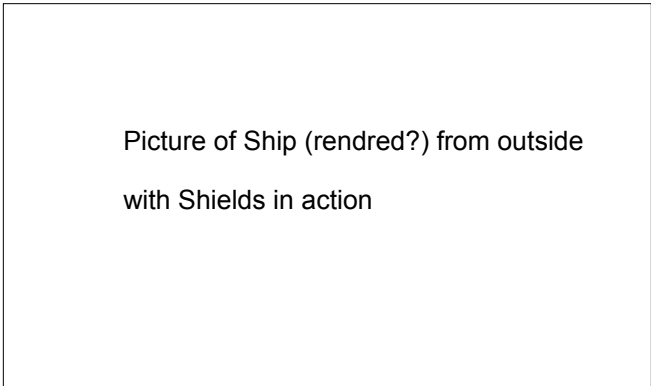
Hull

Your ship is built from average grade plasteel. It can take some abuse, being built for endurance, not for elegance, but it won't take too much. Crashing into the base at full speed, for example, would be a once-only experience.

Picture of Ship (rendred?) from outside

Shields

Because of the limited protection the hull provides, your ship is equipped with a general-purpose, active-drain effector shield. It absorbes both kinetic and actual energy (from collisions, projectile and beam weapons) and renders them harmless. This action drains energy from the shield and care must be taken when the shields have been drained, because then your hull will take damage. Luckily, the shields will rebuild themselves when not used and energy is available.
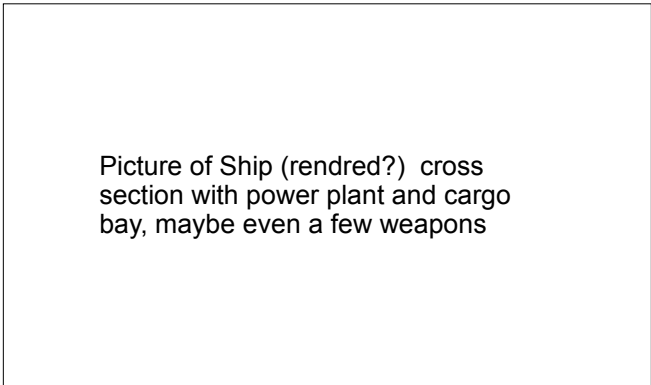
Picture of Ship (rendred?) from outside

with Shields in action

Earlier models required you to allocate energy to different parts of the shield (namely fore, aft and between). The new active-drain shields automatically flow to that part that needs energy, enabling you to have only one shield where you had to use three before.

Power Plant

Your ship is powered by a powerplant that produces a constant amount of energy. Your ships units all use this power. If there is excess energy produced by the powerplant, it is fed into your ship's energy bank for later access. In times of great energy demands (e.g. in combat) your ships units draw from this bank when they need more energy than the powerplant can supply.

Picture of Ship (rendred?) cross section with power plant and cargo bay, maybe even a few weapons

Computers

Your ship is equipped with a great variety of different computer systems. A master computer decides which computer sub-system should be displayed and which data you can live without. For example, the distance to the next base is quite irrelevant to you when you are engaging a pirate that is about to loot your cargohold. When you arm your weapons systems, the master computer automatically switches to combat HUD, displays target information and suppresses irrelevant data.

You have many different subsystems that can either be brought on-line ('activated') manually, are linked in automatically when it makes sense (the lower right monitor in your cockpit, called 'AuxInfo' is always fed through the MasterComputer's AI) or are permanently active (Radar and CompSel). Although the computers are not what one would call 'delicate equipment', rough handling can and will break it. For example, hitting the radar over the head with a few CAM projectiles might have adverse effects. You will soon find out that your Ship is quite use- and defenseless without it's computer systems.

The computer is divided into three main systems:

- Life Support
- Navigational
- Battle Computer

The *Life Support* subsystem is responsible for sustaining you in a hostile environment such as your surroundings. If it fails, you're a goner. *Navigational* provides you with information about stellar and planetary destinations, courses, waypoints. It also evaluates target course and speed. This information is used by the *Battle Computer* to cue you with relevant information to survive an encounter of the hostile kind. Losing either Navigational or Battle Computer is not fatal but very inconvenient. Losing target information will usually result in losing Life Support soon after.

Weapons

Since it's downright stupid to ship valuables around and not being able to defend it, there is a flourishing trade in what is called 'defense goods'. You can buy these defense goods almost anywhere you can dock, install them on your ship and then defend the living daylights out of the next ship that crosses your vector. Since defense tech is so readily available, you are urged to buy the best you can afford in order to protect your interests.

Also, since space pilots are more blunt than politicans, they call all this defense tech by it's common name: Weaponry. When trading defense tech items, they are usually divided into two distinct groups: DefTech and

OffTech[1]. There are many different weapons available. All fall into four different cathegories:

- Support/Armor (DefTech)
- Beam (OffTech)
- Projectile (OffTech)
- Missile (OffTech)

Note that not all defense tech is available everywhere and that some items are restricted (either use or posession). You have a total of nine mounting platforms for OffTech. Use them. Everyone else does.

Support/Armor are the classic defense items. They enable you to survive a pounding and (hopefully) provide you with enough resources to deliver a message that is understood. Items of this kind are usually shield projectors, energy banks and powerplants. Note, however, that the powerplant is also used to provide energy for any installed beam weapons, so it's also partly OffTech.
Beam weapons are the many varieties of weapons that transfer energy from your powerplant to a target. This transfer is usually damaging to the target. Many different beam weapons exist to overcome the many different defense techs. Beam weapons are cost-effective and the most commonly accepted way to discuss property disputes.

Projectile weapons (aka 'Guns') also project energy towards a target but with two major differences: firstly, they don't draw energy from the power plant since each shot comes with it's own charge. Secondly, they are much slower and can be evaded. Since projectiles don't draw on your power plant, they are good in situations where you need all your energy for your shields. Also, projectile weapons are able to deliver a much greater punch. Each projectile projector you have on board can only fire one type of projectile, so you should balance your weapons mix.

Missiles are actually some Things That Blow scewed on top of some Things That Move. Many different missile types exists, again for many different kinds of target. Dumb missiles are used for bombardement, smart missiles to defend the ship you escort, decoys defend yourself etc. They are relatively slow but deliver the biggest punch available and have the greates range

Drive
The drive is what moves your ship. There are two distinct modes of travel: sub-

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[1]Although the former name is an abbrevation for 'Defense Technology', the latter doen *not*, as one assumes, come from 'Offense Technology' but from the term 'Offing' as in 'offing your enemy'.

light and FTL. Sub-light is moving in-system and slower than

light. FTL (faster than light) is only technically faster than light (you actually don't move faster than light but out of the continuum) and is used for interstellar travel. Both drives are rolled into one standard package. The quality of your drive decides it's energy consumption and maximum speed (yes, speed, not acceleration. Read the notes about the flight model if you think I'm stupid...)

Playing FF:

Most of the time you spend in your ship's cockpit from where you guide your ship (or rather have it guided by your ship's computer systems). The only time where you are piloting your craft is when docked to a base or other vessel.

We will begin by introducing you to the Cockpit. If you havn't started the game yet, do so now. After the introduction, hit ⌘-L. The cockpit window will come up and you are launched from the base. You are now hurtling into the void away from the base at half maximum speed.

The Cockpit Window:

When sitting in your cockpit, you have a wide array of instruments at your disposal. In the center is the viewscreen. Here you look out of your ship, facing the direction the ship moves. Arranged around the viewscreen there are 4 computer monitors, a status indicator, a radar, the weapons status display and the indicators for speed, shield and energy.

Speed
Shields
Energy
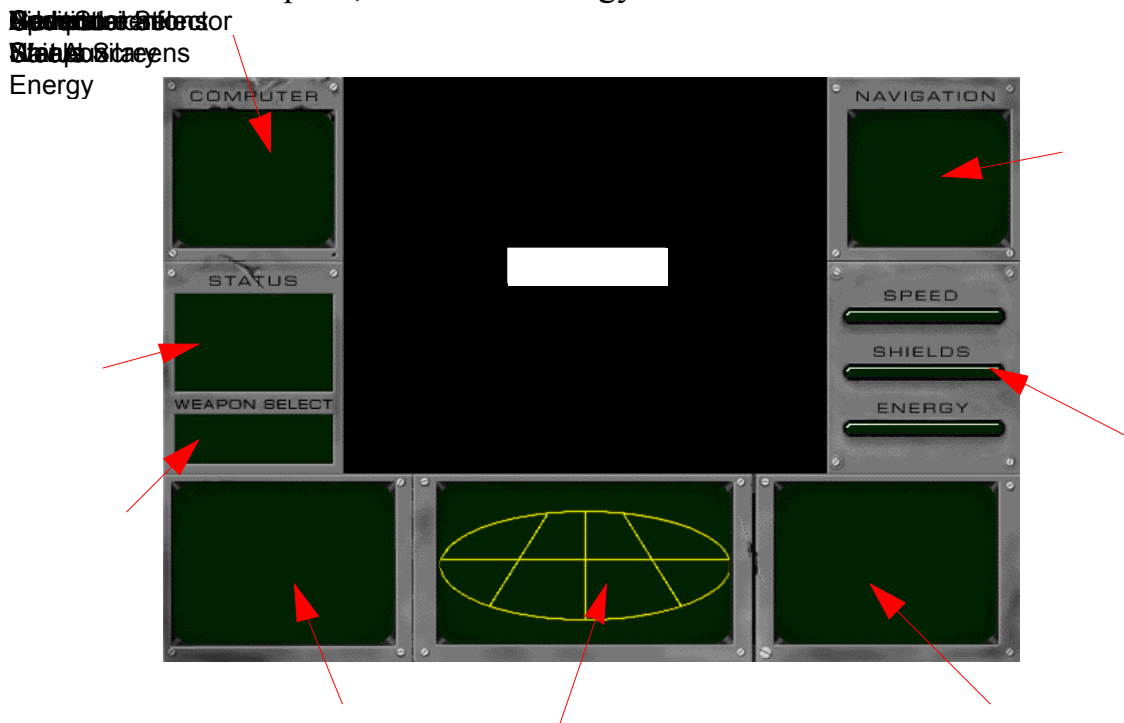
Navigation

You control the ship using polar orientation. The ship always moves forward (except of course when you cut all power, where it just hangs in space), it can't move sideways or backwards. To steer into a different

direction, you will first have to roll the ship (i.e. rotate left/right using keypad '4' and '6') so that the destination is either directly above or below you. Then you pull up (or down, using keypad '5' and '8') until you face the desired direction. Using this simple method, you can reach any destination and face any orientation. Although this way of controlling a craft might seem unfamiliar at first, you will soon find out how ingenuous this method is. To give credit where credit is due, I did not come up with this technique. The first game to incorporate it was (of course) ELITE.

[However, we live in a harsh, cold and, worst of all, innovative universe. The old ways (i.e. the ways the things *should* be done) get forgotten and skills, gained the hard way, are laughed at today. Therefore, I submitted to the clamors of the unwashed masses who have never and probably never will be a member of the ELITE team. You now *can* orient your ship the easy way: turn up/down and*turn* left/right. To roll left/right, depress shift. For those of you who now what *real* spaceflight is, check the ELITE configuration checkbox... If you are ELITE, you can find it...]

To accelerate, press Keypad '+', to decelerate, press keypad '-'.

A few words about the flight model: it is very simplistic, to say the least. If you turn to head for a different direction, you immediately go into that direction. No inertia whatsoever. If you cut the power, you stop, if you increase power, you immediately go by that speed. In reality, this would only work if your ship was mass-less and going about light speed. But in reality, you wouln't chase pirates with such a puny little ship as yours either, would you? And yes, I know enough physics to know that most of what I write is bull. So is 99% of my favorite sci-fi literature. I still enjoy it. I hope you enjoy Final Frontier as much without nit-picking or demanding a 'realistic flight model'.

If you want a realistic space flight simulator, you are looking into the wrong program. I traded simplicity for realism. If you want a better flight model, get *Zone Of Avoidance™*, the game that butchered the ELITE idea. If you want more fun, stay tuned.

In-System naviagtion is enhanced by the use of Navpoints. Your planetary naviagtional computer subsystem provides you with information about important locations. The most important information is (of course) the predominatnt base (if there is one in that system). You can access navpoints with your navigational computer and feed them into the autopilot.

When you fly around under way to some navpoint, base or other point of interest, you are always using the in-system drives. Only when traveling to another solar system ('hyperjumping') you are using the hyperdrives.

During interstellar travel the computer navigates your ship and you can relax. Only certain systems are accessible from any given system. Your stellar navigation computer subsystem will provide you with all the information you need about accessible systems. These can be fed to the hyperspatial nav sub-system to prepare for a jump.

Solar Systems

Each solar system has a predominant ecological system (e.g. Industry), a wealth status (e.g. rich) and a political system (e.g. democracy). These three factors determine the market prices and availability for all goods.

Most systems have one or more bases of different sizes. You dock at a base for outfitting your ship, repair damage, (save the game,) buy and sell goods, sign up for missions etc.. The size of the base determines docking fee and usually the availability of equipment.

Bases are heaviliy armed and usually have a fleet of defense crafts for it's protection. You should never mess with a base. Inside the base's peace perimeter all ships are protected by the base. If you attack a ship inside the perimeter or use your weapons, the base will automatically assume that you are an enemy and launch it's weapons toward you. Chances of surviving the retaliation of an annoyed base are marginal.

Hyperspace Travel

You travel from one system to another through what is commonly referred to as 'Hyperspace Jumps'. Actually you are not really 'jumping' but travel along faults in the universe that connect gravity wells of certain size. The true cause for these faults have so far not been determined (thus making arbitary jumps impossible) but they always seem to run from one system to the other neighbouring systems. Scientists assume that there is probably a connection with the immense gravity wells stars represent, but they are not sure.

Almost all systems are connected through these continuum faults called Hyperways[2]. To travel these, you simply select your destination from the computer, engage your hyperdrive engines and lean back. The hyperdrive compensators will generate the necessary field to cause a temporal rift in the continuum (the 'jump matrix') and let you fall through into the hyperway. There the hyperdrive engines kick in and speed you towards your destination. There, the compensators will effect a complimentary field (taking into account the shifts in gravitational and other forces) and collapse the matrix. Usually, hyperspatial

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[2]This is also commonly known as a wormhole. However, SpaceShip Mfg Inc., the leading hyperdrive producer, was driven hard by it's marketing division to give these space/time singularities a different, more trusting name. Drawing on the legendary highways of ancient earth, the marketing division came up with the new designation 'Hyperway'

travel is safe. If, your hyperdrive fails during travel, chances are high that the collapsing matrix dumps you out of the fault before anything adverse can happen to you.

This doesn't happen very often and usually you find yourself somewhere along the route to your destination.

However, since space is curved you might as well find yourself on the other end of the galaxy or, even worse, universe. Some people claim that this is how intergalactic travel would be possible, but noone who embarked to prove their theory has so far shown up again. So far only twenty-nine ships have been lost without trace due to matrix failure in the past hundret years. However, of those twenty-nine ships twelve were lost within the last 18 months...

When you begin the game, your computer holds only a very limited data base of systems in the galaxy. Whenenver you enter a system that you havn't been before, the computer automatically scans all surrounding systems and enters their information into your navigational memory banks[3]. It also hails the base for a price list of all the goods available on the market and re-calculates the value of your cargo.

3D Universe and Logbook
You can bring up a map of the galaxy as you have explored it so far. In this view, only systems show up that you have explored or those that border to those you have explored. The map shows all systems along with their names and hyperways that connect them. You can rotate the map to get a better perspective and zoom in and out, hide the names and hide the hyperways. Usually, the map centers on your current position. However, you can also view the map centered on the one you select through clicking. The System that is marked red is the one you are currently at. Clicking on a system will bring up it's name, political and economical status.

To bring up this Map, hit 'ESC' while flying (not required while in the base) and press ⌘-G. When done viewing the map, click on the green button labelled OK. To return to cockpit view, press ⌘-L.

Your ship is also equipped with an automatic computer logbook. All transactions and all major events (leaving and entering a base, destroying a ship, accepting a mission and fulfilling a mission) are automatically logged. To view your logbook, hit 'ESC' when in the cockpit and press ⌘-B to bring up the logbook wiondow. When you are done, press ⌘-L to return to cockpit view.

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[3]This is a game element. Of course it is hard to believe that you can't buy a memory chip with all data of surrounding systems at the station. But I thought the game would be more fun that way

Instruments

HUD

Since your viewscreen shows you the nothingness outside, it's important that you immediately see the things that are not nothing, i.e. something, or, more to the point, perhaps an enemy. Your ship's computer will draw funny little symbols on your viewscreen to help you estimate how far up you are the proverbial creek and if you indeed have lost your paddle.

Movement indicators Base result any enemy
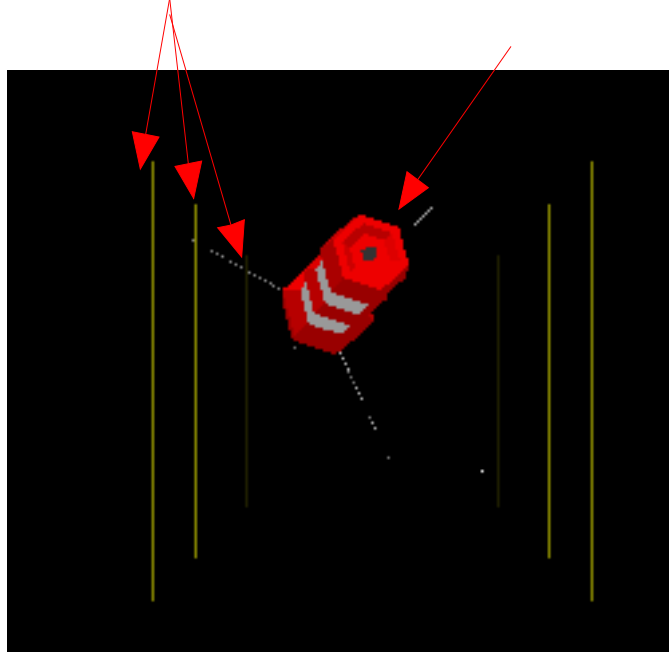
The vertical yellow bars are your movement indicators. Whenever you are moving (and your HUD switched on), the computer will put these virtual bars on-screen that mimic your movement through sapce. This is very important for delicate maneuvers (e.g. tugging an explosives transport or docking with a base). Your HUD is slaved to your navigational computer.

When in combat, the normal navigation HUD is switched off to be replaced by the simpler, more straightforward battle HUD. It shows you the direction to the currently selected target (if it's not visible), the Beam Illumination Circlet (where a probability of hit is 90%) and the Aquiration Square superimposed on the current target,

Beam Illumination
Circlet

Aquiration
Square
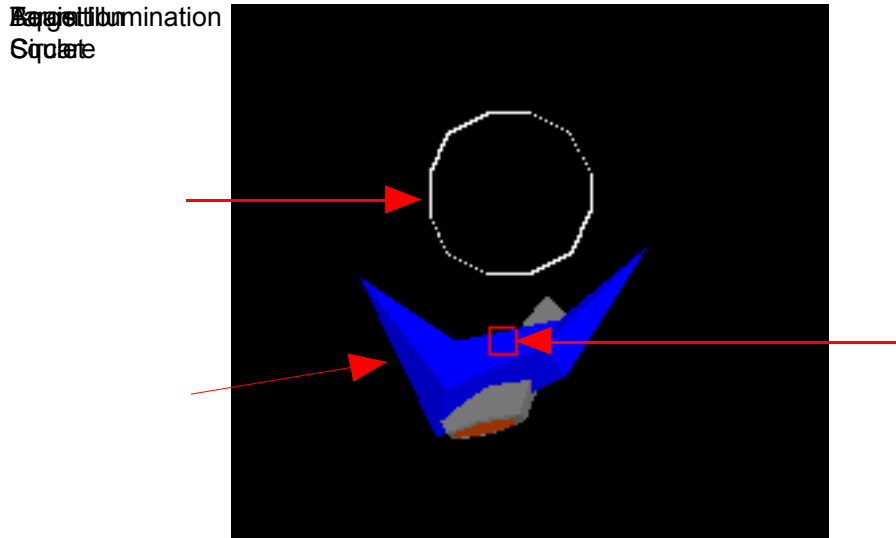
Radar
Your ship is equipped with a 3D full-theta, full-phi radar, the latest and best of it's kind (also the only one available). With it, you have information about everything going on in a sphere around you. Using the 3D radar requires some getting used to. The center of the radar is you. Extending through you is a circular plane referred to as the 'virtual ground', it's rim is usually called the 'virtual horizon'.

(picture here)

Other objects show up as little horizontal lines that are three dimensionally positioned relative to you as they are outside. To visualize their elevation (i.e. how much they are above or below you), a vertical line is drawn from the position of the object to the ground.

Radar (top) and to the
right (n : 8)
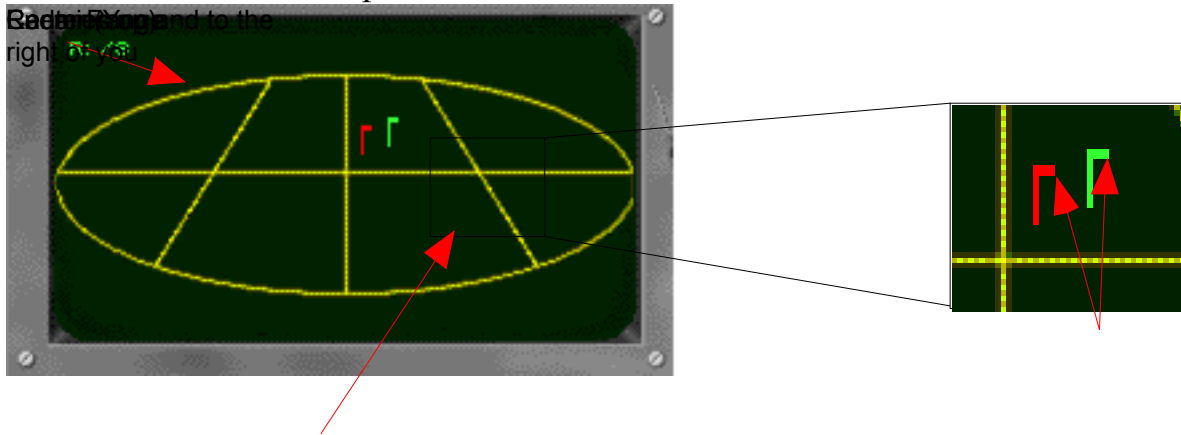
The radar has four different ranges : 1x, 2x, 4x, 8x, showing magnification values. Bases show up as little balls.

Computer Unit Selector (CUS)
Your ship has many computer modules built-in that can be activated/deactivated seperately. These units share the various monitors around your viewscreen. The only monitor that always shows the same information is the Computer Unit Master Monitor, situatet in the top left corner above the general status screen.

With the 'numLock' and '=' keys (keypad) you can cycle through the units, pressing '/' will activate that unit (i.e. bring it on-line). Some units (e.g. Navigation) have different sub-systems (Base, Planetary, Stellar). Activating a unit that has more than one sub-system will cause it to cycle through its sub-systems.

There are four major systems installed into your ship: Navigational, Battle Computer, Status and Communications. Bringing the various systems on-line will cause the different screens around the viewscreen to change their displays. Some systems are mutually exclusive. For example,

you can't switch to base navigation while your battle computer is on-line since both systems would compete for display devices. Let's take a look at the different systems

Navigational Aids
To aid your navigation, your ship is equipped with a general-purpose navigation computer. This computer always uses the upper right and the lower right auxilary screen in the cockpit. There are four distinct navigation modes: Base, Planetary, Stellar and Combat.

The basic element of all these Navaids is the Direction finder. It is represented by a circle in which you find a little dot, the 'Blip'. The Blip indicates the relative direction (not the distance) of the destination to your ship. When you turn, the Blip moves accordingly.

When you directly face your destination, the Navaid will sound a short audio feedback. When your destination is behind you, the Blip becomes hollow. All Navaids also show the Range (i.e. the distance) to your destination.

Base Navigation
The NavBase monitor (upper right) shows additional info needed for docking. First, it tells you if you are close enough for the docking computer to show additional info (InRange).
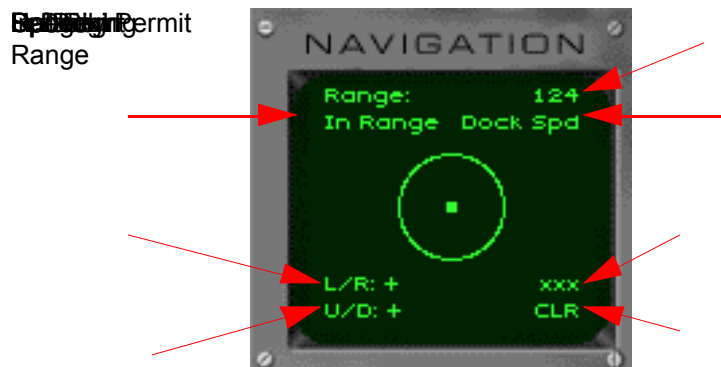
Then it will tell you if your speed is correct (TOO FAST) and if your alignment with the base's rotational axis is correct (U/D, L/R) and your correctly rotated (ROT!). Additionally, it shows if you have docking permission.

The NavAux monitor (lower right) shows info about the base (open/closed, docking permission etc.).

While in NavBase mode, you communication unit is preset for ship-to-base communication.

Planetary Navigation
The NavPlan monitor (upper right) shows the current planetary (i.e. inner-system) destination. It sports only the basic Navaids (Direction finder and Range).

The NavAux monitor (lower right) shows the available planetary destinations.1 is always a base. Zero will cancel any selection. The Planetary Navigator is used for inner-system missions. You can mark your current location as Planetary Destination 9 if you want to return to a specific point (NYI).

The Planetary destination selected is automatically fed into the autopilot, the HUD will display a little cross where your destination is. To engage Autopilot, press 'A'.

Stellar Navigation

NavStel (upper right monitor) is the only NavAid without Direction finder and Range.

Political/Target Information
System/Station

Instead, it displays information about the stellar system you have selected from the NavAux (lower right).

The system you select is automatically fed into the hyperspace computer. To engage the Jump Drive, press 'H'. You can only jump close to so-called jump-points (NYI - alternative: jump only if far away from base).

Combat Navigation
The CombatNav is the most complex (and important) of your NavAids. The Direction finder shows the direction of the currently selected target (or 'NO TARGET'). If the target is in range of your weapons systems, the InRng Indicator will come up. The current range is also displayed and the target's speed. When you directly face the target, you hear the audio feedback, indicating that the missile subsystem can lock onto the target (TRACKING).
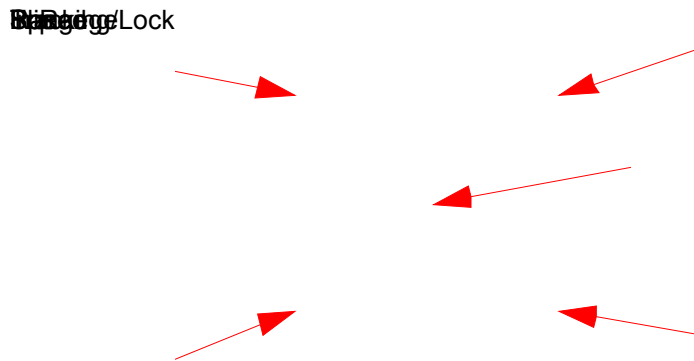
Pressing Enter will lock the target (LOCK). A square will appear at the target's center in the viewscreen. If your Weapons are armed and Missiles selected, you now can fire them at your target. To release a missile, you must select it as current weapon and press Space. To release a target, press Keypad '0'.

The NavAux monitor (lower right) shows information about the currently selected target: Owner, Class, Weapons, Shields, Maneuver and Friend/Foe status.

If the computer recognizes the Target as a pirate, it will automatically raise shields, ready the weapons system and display the bounty (NYI). If no target selected, it will show 'No Target'.

To cycle through all available targets, press keypad '7' and '9'. The currently selected Traget shows on the radar as a red object.

If you have auto-targeting active, the BattleComputer will always select the target that is closest in front of you. When in NavCombat mode, your Communications Unit is set for ship-to-ship communication. To enable auto-targeting, press 'T'

Combat Navigation can not be entered using the Activate Unit command in the CUS. Instead, it is tied with the weapons master switch 'W'. When your weapons are activated, the NavAid is locked into CombatNav.

Another way to enter NavCombat is to activate the battle computer using the CUS.

Communication

Depending on your current NavAid setting (Base, Planetary, Stellar or Combat), your Comunit is set either to ship-to-base communictaion or ship-to-ship communictaion. If you activate the comunit, the ComAux screen (lower left) shows a menu of the available messages to send. They are usually

       0. Sign Off (i.e. do nothing)
       1. Request Trade or request docking permission
       2. Demand surrender
       3. Call for help

When you receive an answer, it is displayed inside the view window.

Remember, to communicate with the base, you have to switch to NavBase and to communicate with other ships, you have to activate the battle computer and target the ship you want to talk to.

Status

You can call up many status screens about your ship. To advance to the next status screen, activate status through the CUS. The screens appear on the StatusAux screen (Lower left) and are:

Ship verbose - Status of all major systems
Ship graphical - Your ship. damaged units are colored red
Weapons stores - Your available weapons and their status
Cargo (1) - Net value of cargo at current market prices
Cargo (2) - Cargo List part 1
Cargo (3) - Cargo List part 2

Other Displays

The general Status display summarises the most important status information:

Condition:
green - yellow - red

Fuel:
Shows the amount of fuel left for the power plant. No fuel means you are just about dead.

Auto Pilot:
On-Off, Toggle with 'A'. Only usable if Planetary Destination set. Automatically switches off when arrived at destination.

Auto Target:
Toggle with 'T'. Only usable when in NavCombat

Time
Time since you left the base. The readout shows hours, minutes and seconds, respectively.

Variable Indicators

These indicators show you at a glance how much of the maximum available is left. When this indicator shows red, you should be careful, when it shows yellow, you should watch it, if it shows green, you don't have to worry about it.
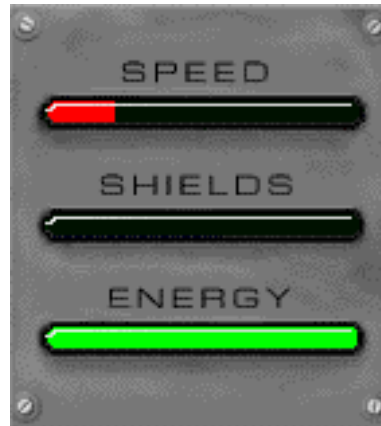
Shields:

Raise/Lower with 'S'. Shields have an enourmous drain on the energy banks. However, when you lower the shields, the banks are fed with this energy until energy banks are full. Then, the shield energy simply dissipates.

Speed:

Raise with '+', lower with '-' (both Keypad). The faster you go, the more energy is consumed from the power plant and, unltimatively, from your energy banks.

Energy

This status bar shows how much energy is stored in your energy banks. The banks are charged by the power plant when it produces excessive energy and depleted by your ships units when they consume more energy than is produced.

Combat

You enter combat in three different ways:

- Being attacked by other vessels will automaically raise shields and enable all weapon systems
- Automatic combat mode when computer identifies other vessels as pirates
- Enabling all weapons manually to attack a pirate or other ship

Neutralizing Pirates will also bring you money. If you are attacked or if you attack a Pirate and neutralize him, you will receive the bounty that was set for him. Note that if you neutralize (i.e. kill) other ships, you will be considered a pirate (and attacked).

Weapon Selected
Shows the currently selected weapon and further information (such as how many projectiles left, ready to fire, overheat, no target, locked on etc.)
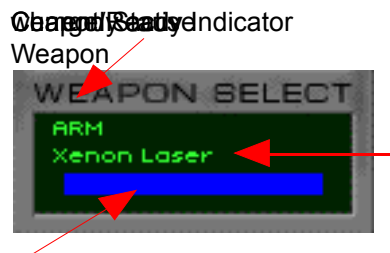
Selecting Weapons
You cycle through your different weapons systems with 'Q' and 'E' (forward, backward)

Arming Weapons
You press the Weapons master 'W' which will simultaneously raise shields (when down), arm the currently selected weapon and place the NavAid in combat mode. This also sets your Comunit to ship-to-ship mode.
When in combat mode, you can disarm your weapon with 'D' (SAFE)

Firing Weapons
When your currently selected weapon is armed and ready, pressing space will fire it.

Weapons Systems

Your ship's offensive weapons systems fall into three main cathegories: Beam, Projectile and Missile (actually, Missiles are smart projectiles, but since they are self-propelled, we keep them in a class of their own).

Beam Weapons

A Beam Weapon is usually a high-energy beam of some sort (light, particle, sub-particles, antimatter) that is directed at your target. It travels at lightspeed and always in a straight line. Beam weapons are effective at long ranges and deadly at short ranges. However, they draw heavily on your power source.

Projectile

Projectiles are also sometimes referred to as 'Torpedoes'. This name, however, is misleading, since a torpedo is assumed to have a certain inteligence. Projectile Weapons don't. These weapons use matter of some kind that is highly accelerated towards the target. The damage is delivered through impact. There are kinetic, explosive and other effects when hit (most notably gravitronic torps). Projectile weapons are much slower than beam weapons and can be evaded on long ranges. Using heavy matter projectiles on short distance has devastating effect on the target. They are not very effective at long ranges.

Missile

These are little spaceships with a warhead and some intelligence (about that of a mad mythical shark) that are launched against a target. Once launched, this little devil will zoom towards its destination, exploding on or close to impact. Missiles are very effective at close range and deliver the greatest possible damage. On long distance, however, they can be easily destroyed by ACTCM (Automatic Computer Tracking and Counter Measure), the Battle-Computers automatic self-defense against incoming objects.

ACCM

Not under your but your ship computer's control is the ACTCM, an autonomous device for tracking and -possibly- destroying incoming small objects such as small meteroids, debris and, to some extend, missiles. The ACTCM works automatically employing beam weapons. However, these lasers don't bear enough punch to attack a real ship.

Tractor Beam

This is no weapon but a tool. You operate it as you would operate a missile (lock it on to a target). When activated, the tractor beam emits a steady, controlled beam of Gravitachs that work like a rope. Use it for towing large objects and to dock with other ships. Don't use it for docking at the base since you can easily destroy parts of it's outer hull

(That is a very ineffective means of attacking a base since in that case everyone will be wearing vacsuits anyways).

Configuration:
Your ship has 10 mounting brackets for various weapons systems. Of these, each type of either beam or projectile will use one, while each missile and its launcher will use one. Thus, you can either load up 10 beam weapons or 1 beam, 1 projectile and 8 missiles or any other combination.
Weapons systems can be bought at stations. Not all equipment can be bought at every station. The bigger the station, the greater the selection. For some equipment you must have a special license, other equipment is downright illegal to posses (not to mention to use).

Using Weapons:
To use any weapon, you must select it and have the battle computer activated. Using the weapons is quite simple. You pre-select the weapon and it shows up in the weapons status control. Whenever the weapons are armed (i.e. the battle computer is turned on) and the weapon is ready, pressing the trigger (space bar) fires the weapon. You aim at your target using the circular sights in the viewscreen.

Beam/Projectile:
Beam and projectile weapons can fire repeatedly. To do this, simply leave the trigger (space bar) depressed. Some Beam/Projectile weapons take longer to reload/recharge, some heat up while using. Whenever the computer detects a condition where a weapon is not ready to fire it will withhold fire until the first possible moment where the weapon can fire again.

Missiles
Most Missiles have to be programmed to home on a target to be effective. These missiles use special optical recognition techniques along or a special guidance beam. For this you have to designate a target through the target selectors *and lock on to it by bringing it into the sights once*. After you have locked on to the target, pressing the trigger will launch the missile towards its target[4]. Dumb missiles will lock onto the nearest target in front and attack it (be *very* careful using these when protecting a convoy).

Your Enemies

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[4]I know that this way of handling missiles would be ineffective even with todays technology. But it would be less fun pressing the autobattle button and watch the computer eradicate sixteen targets in a split-second and then move on to the base

Your enemies come in all sizes, colors and guises. While you are on the good side of the law, your enemies are usually pirates and 'free traders', as well as rogue patrol crafts (in unstable political systems). In certain systems that are at war you can also be attacked by military vessels of the other side. If they find you guilty of espionage or blockade running, you'll have a problem (usually a terminally short one).

If your legal status has fallen below a certain threshold, police crafts will seek you out. If it drops further, headhunters will be on your trail as well. While pirates usually are a nusiance ranging from bad to worse, police crafts are lethal, military crafts dangerous and head hunters deadly. Some pirates will surrender when pressed hard to save their lives. Some military vessels will also. Police vessels never surrender. Headhunters prefer blowing themselves up before they surrender.

And then there are the bases. *Never* take on a base unless you know exactly what you do (which is, in effect never). Bases are bad news to have as an enemy. You can annoy a base by offending it through communications. They will close the doors to you and forget it until the next time you are around. But to get a base angry, attack it. It will make life miserable for you. It will launch defensive crafts. It will turn its beams on you that make your offensive weapons look like flashlights. It will use excessive force just to make a point. And it won't forgive.

Docking

For successful docking, follow these steps:

      1. Aquire Docking permission

      2. Line up with base at a safe distance

      3. orient your ship that you are aligned with the bases rotation axis

      4. approach slowly until almost inside

      5. synchronize with base rotation when the gate is horizontal

      6. enter

If you have a docking computer, aquire docking permission and activate docking sequence.

Trading

Trading on the whole is easy. You buy goods, store them in your cargo bay, fly to a different system (or find a ship that will trade with you), dock at the base/ship and re-sell them. If you are lucky, the price difference makes up for the money spent to get here. There are many different goods that can be bought. Those that are marked with an asteriks (*) will blacken your legal status if you trade them. On the other hand, the possible profit on these is much bigger.

When inside a base or ship you can trade. For this you call up the price list. On it, you find (in that order) item name, price (buy/sell), quantity available and quantity aboard your ship.

To buy or sell an item, click on it and the trading dialog will appear. Buy sell the amount you want. If you get short on either quantity, MU or storage capacity, the dialog will tell you.

Improving your ship (NYI)

When inside a base, you can purchase equipment for your ship. These can be selected from a list similar to the trading list, except that you will only see those items, that are available at the base. Different bases carry different items. Some items (especially the illegal weapons systems and military weapons) cannot be purchased regularely but will be awarded for successful missions or are found aboard pirate vessels.

Missions

Whenever you are aboard a Base or docked with another vessel you can call up the Missions menu. If there is a mission available and you are commissioned to accept a mission, you can opt to accept it.

When you finish a particular mission, you are automatically rewarded the amount of MU that was agreed as payment. Some missions offer advance payments, other offer items as payments (such as equipment that can't normally be bought or a clean legal record).

If a mission is available depends on your rating. For example, the Break&Retrieve mission where you have to take on a base will only become

available after you achieve dangerous status and have at least

some military equipment (which can't be bought but must be earned in other missions).

In the real game, you can't see the available missions in advance. Only a small set of missions is offered per Station (if at all). You may only sign up for a limited amount of missions at the same time.

I'm thinking about the following missions:
- Escort - Escort vessel(s) to jump-point/other systems base
- Courier (planetary, stellar) - Bring documents to other base within time frame
- Smuggle - Bring illegal/highly sensitive cargo to destination
- Search & Recover - Look for lost ship (this is where you use the return-to destination), tractor beam on and bring back
- Rescue - Fly to coordinates, search, dock and rescue, all within time frame
- Guard Duty - Protect base for time frame
- Tug (Schlepper/Bugsier) - use tractor to maneuver inert ship into dock/base
- Seek&Destroy - seek out a pirate/target/spy/whatever and eliminate
- Emissary (no combat or combat to surrender) - Fly into combat zone and deliver emissary, do not kill anyone
- Spy - fly into combat zone, specific location, do something (recover object, lay mines) and return
- Taxi - Convey person to destination
- Break in and retrieve - Attack base until surrendes, retrieve personnel/Items and return
- Fly Cover for bomber - Fly cover for warship that attacks major base/Planet

The missions module is currently (mar 95) being implemented.