PROPHECY

WING COMMANDER

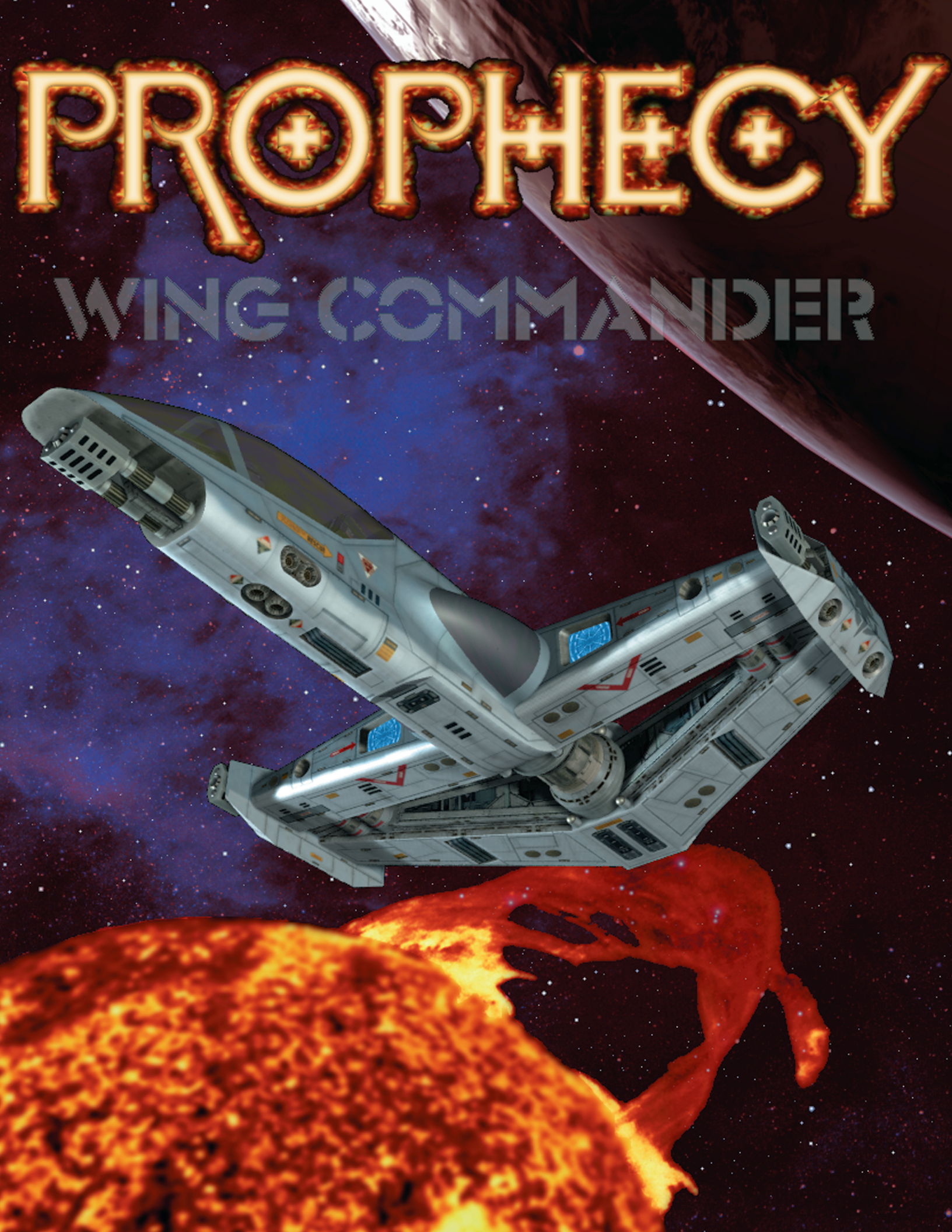




TABLE OF CONTENTS

OVERVIEW

GAME DESIGN

- GENERAL DESIGN GOALS
- PHILOSOPHY OF DESIGN
- MISSION STRUCTURE
- GAMEPLAY COMPONENTS
  - CONFED SHIPS
  - ALIEN SHIPS
- AI MANEUVERS
- SINGLE PLAYER MISSIONS
- MULTI-PLAYER MISSIONS

TECHNOLOGY

- PHILOSOPHY OF NEW TECHNOLOGIES
- ACE ENGINE

ART & LIVE ACTION

- MOVIE PRODUCTION & CINEMATICS
- STORY DEVELOPMENT

PROPHECY

OVERVIEW



"A great warrior shall come and rain holy fire upon those that have forsaken our ancestors. There will then be a time of calm, before the awakening of our darkest demons."

From the Sivar prophetess Kt'lan

This was her prophecy, this is our fate.

Thousands of years ago, the Kilrathi foretold the destruction of their home-world. Christopher Blair fulfilled that prediction at the climax of Wing Commander III.

It was also foreseen by the Kilrathi that this event would soon bring something truly evil into this universe. It did.



Wing Commander Prophecy will be the reincarnation of Origin's premiere space combat property.

Every element of this game, from the fundamental design to our cutting edge technology, has been created to do one thing: Raise the bar of the gaming experience.

Ultimately, we have focused on what our customers have always demanded: great gameplay.

To this end, we have taken steps to ensure that the foundation of this game is truly awesome missions, brought to life by next generation technology and then made compelling by the high quality storytelling that we are known for.

By building the game in this order, it is our belief that we will redefine what customers look for in products to come.

GAME DESIGN



GENERAL DESIGN GOALS

Wing Commander Prophecy will propel the Wing Commander series to its next level.

Wing Commander Prophecy will be synonymous with 'the best space combat game in the universe.' Our overall goal with Wing Commander Prophecy is to drop the jaws of the industry with our technology, artwork, and overall game design. The Player's involvement will culminate leading the attack in the most spectacular battle sequence ever seen in any videogame.

We created the heart of the game first. To create the best gaming experience, we started the design from the bottom up. Our game designers set to work creating extensive mission designs for the game, took the best of the best, placed them in order of difficulty, and only then wrapped the story around them.

Wing Commander Prophecy can best be described as the story of the Player's successes and promotions through the course of an ever-changing war. As the Player progresses through the game, he will be forced to overcome seemingly insurmountable odds, as the tide of the war shifts slowly from one of retreat, to one of attack.

Each battle success will be a personal triumph, as well as a strategic war victory. The Player will be generously rewarded for his successes, and eagerly anticipate being advanced to the next squadron. As the Player proves himself, he gets to play with cooler weapons, better missiles, and more powerful ships.

Wing Commander Prophecy will proceed geographically, towards the enemy front line. The front line of the war is ever changing, just as through the progression of any war. As the Player gets promoted to more reputable squadrons, he also moves closer to the enemy front line.

Between missions, the Player will watch the progression of the ever-changing battle front on the sector map. In the Rec Room of the ship, the Player will always have the option of viewing the status of the war with the Universe Map, as well as seeing the course of the war change in mission briefings.

Wing Commander Prophecy is designed to continue the success of the Wing Commander series, while providing the fictional foundation for a sustainable expanded product line. The Wing Commander Prophecy story will be the basis for an expanded fictional universe full of potential. Introducing a new alien threat can be the basis for a number of additional products.

More tangible than any promotion or medal, winning missions means the Player will be assigned to progressively more reputable Squadrons. Of course, the most reputable squadrons have the coolest ships--and are in the most trouble.

Multi-Player means Players can battle their friends in the Wing Commander Universe over Local Area Networks, Modems, and Serial Link Cables. Players will not only have the ability to play fantastic solo missions, but also play an unlimited variety of multi-player scenarios.

Wing Commander Prophecy will ship with a Multi-Player Scenario Builder. The scenario builder, shipping with the game, will allow Players to custom-build arenas of combat to do battle in. In addition, there will be a number of pre-designed scenarios, and a multi-player scenario randomizer.

PHILOSOPHY OF DESIGN

INTRODUCTION

It is our intention to produce two games in Wing Commander Prophecy (Single-Player and Multi-Player). We will tailor each game to the likes, dislikes, and expectations of each audience. Simply put, it is an issue of breadth vs. depth. The Single-Player Wing Commander experience will rely heavily on simulation and strategy. The missions will have a complexity of depth, providing a tactical challenge.

The Multi-Player game will rely heavily on fast-paced arcade action. The scenarios will have a complexity of breadth, providing a skillful challenge.



Wing Commander: Prophecy

SINGLE PLAYER GAME EXPERIENCE

Character Development

- Player is represented by an Avatar in the game experience
- Story revolves around the Player's performance
- Player's skill determines mission difficulty
- Player performance determines how the pilots react to the player in spaceflight

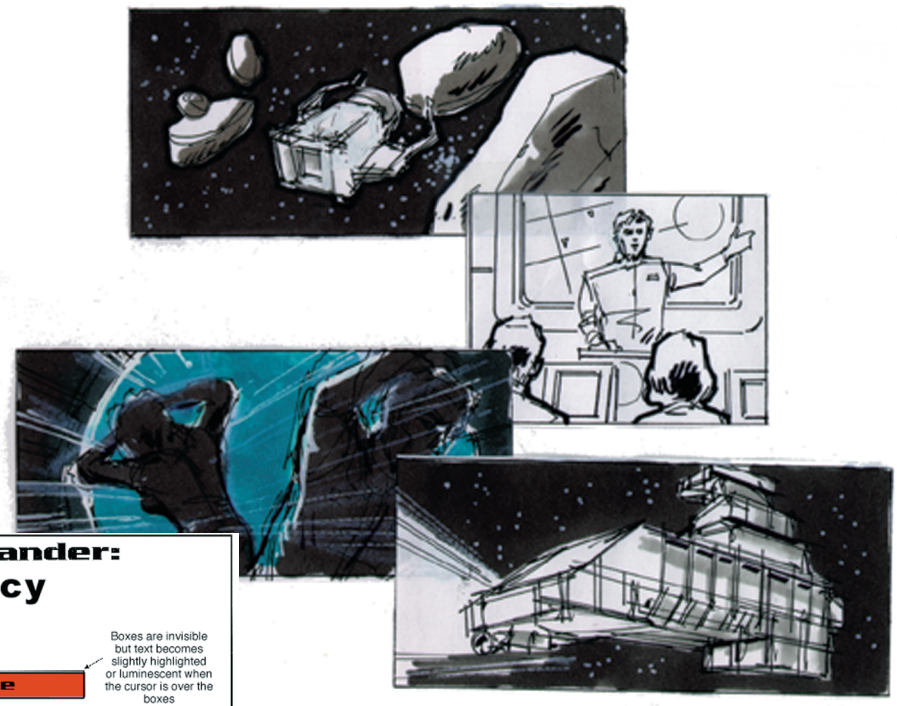
Intriguing Missions

- More missions in a single playthrough than any previous Wing Commander
- Missions progress through locations in space
- Mission Performance directly affects difficulty of next missions
- More of a simulation feel to the missions

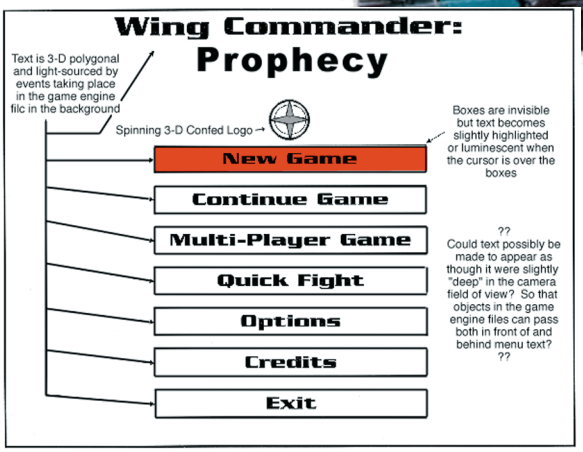
Key Points

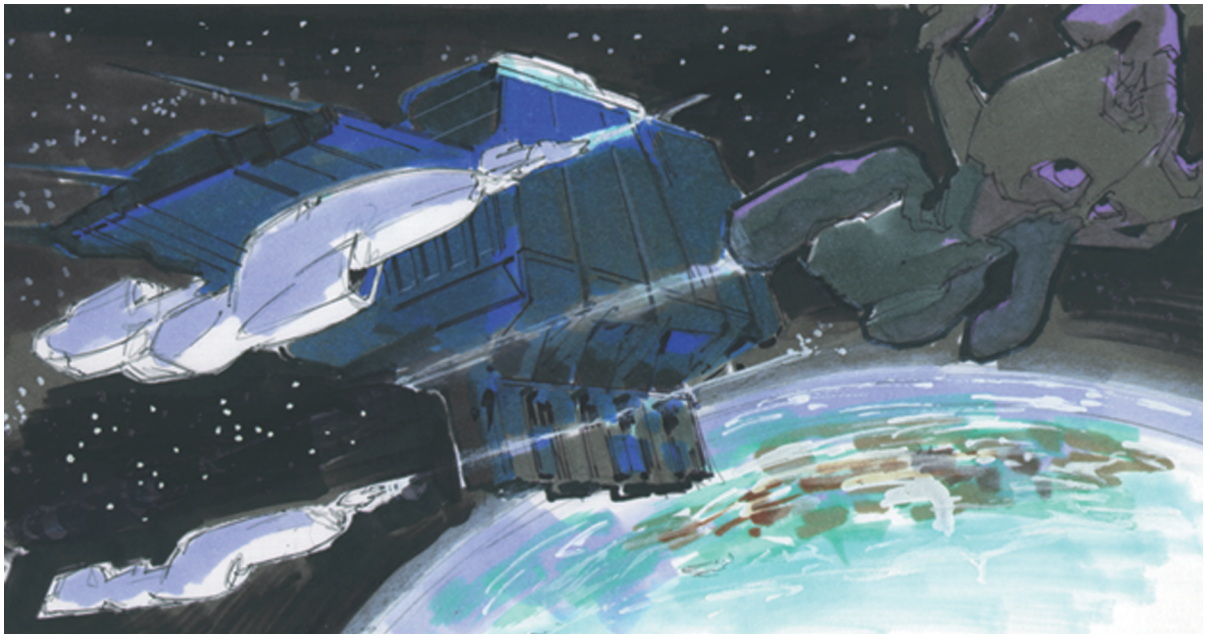
- 40-60 hours of play time
- 50+ Missions
- 7 new Confed ships, each with individual sets of weapons and loadout
- Over 10 new alien ships and ship formations to fly against
- Completely new Alien AI with formations and intelligent maneuvers
- Alien ships designed and inspired by Syd Mead
- New weapons (Plasma Cannon, Alien Disruptor Cannon, Shield Killers, Smart Mines, and More!)

Opening Movie

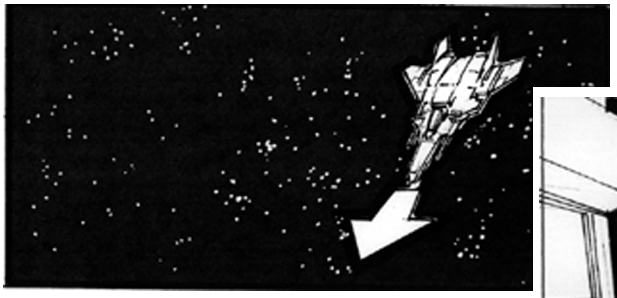


Main Menu

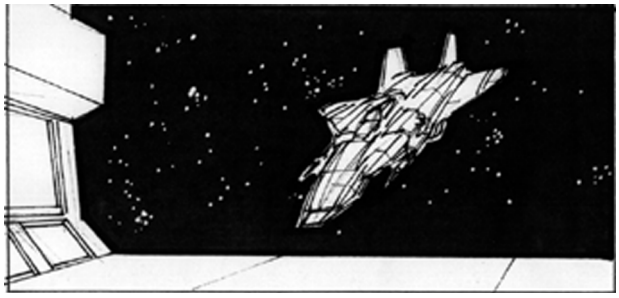


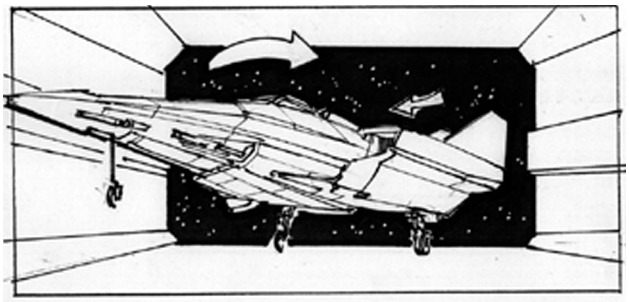


Introduction Sequence



Landing on the Midway







“Welcome aboard”



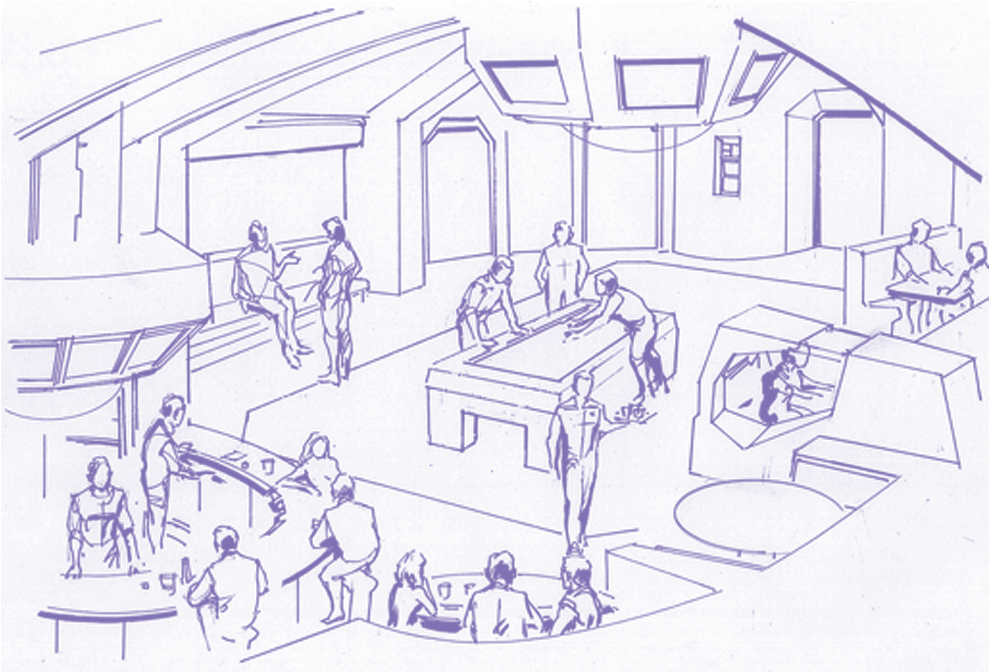
"Enter callsign please"



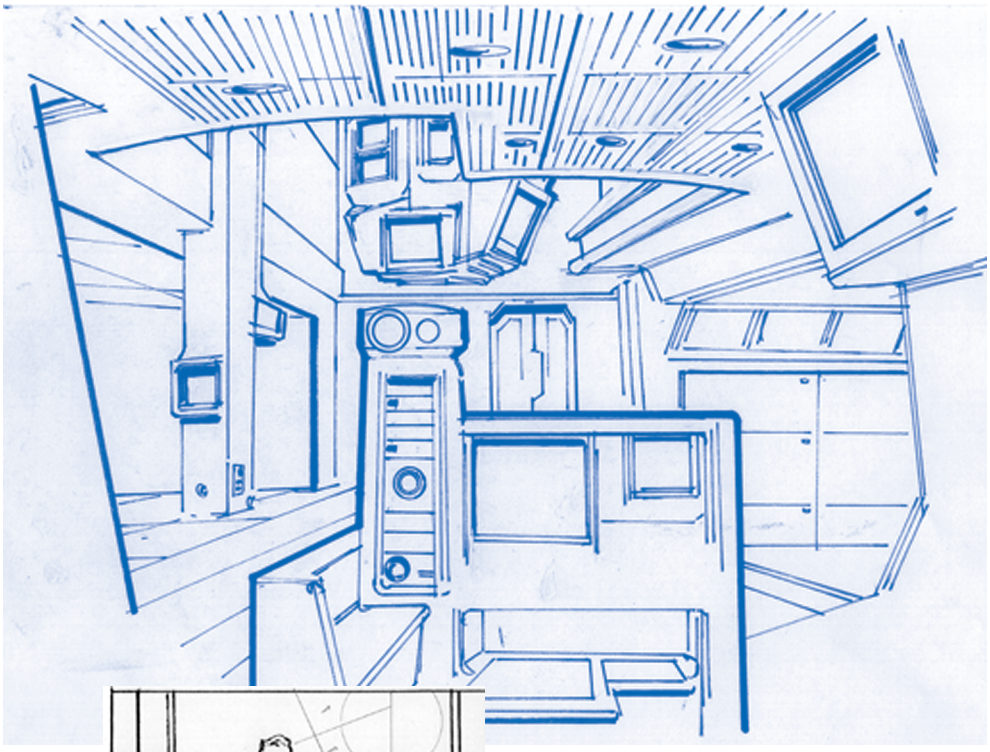
Registration screen



"On the Midway you will become familiar with...



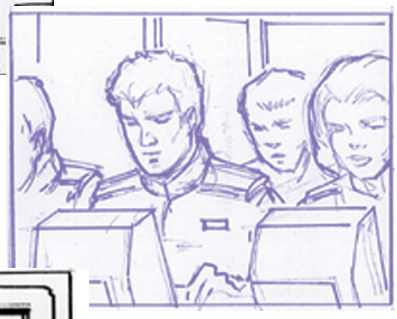
The Rec Room

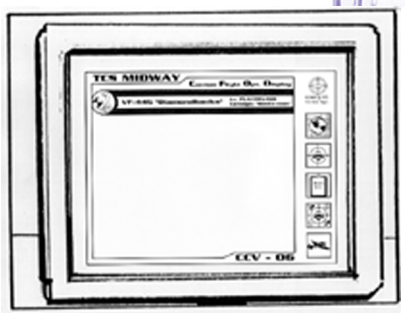


The Ready Room is where you will manage your affairs



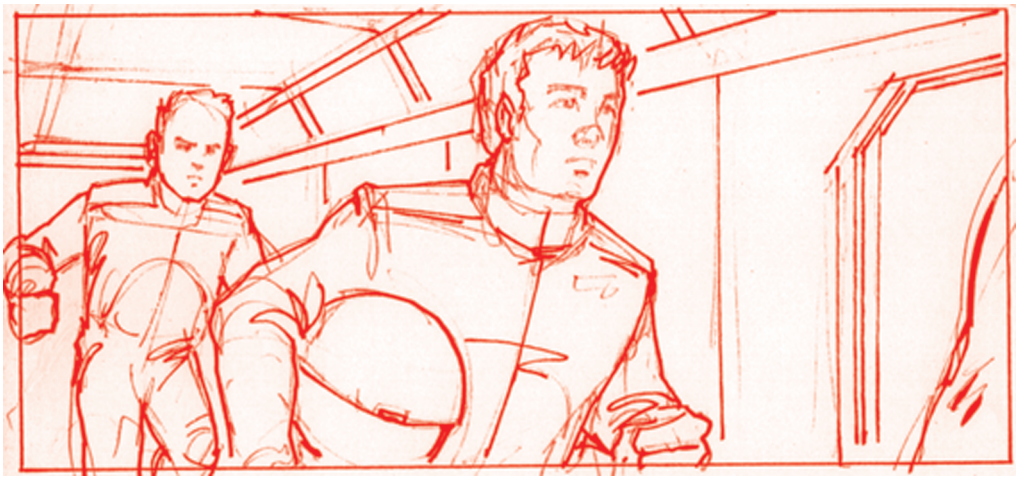
Briefings occur before each mission



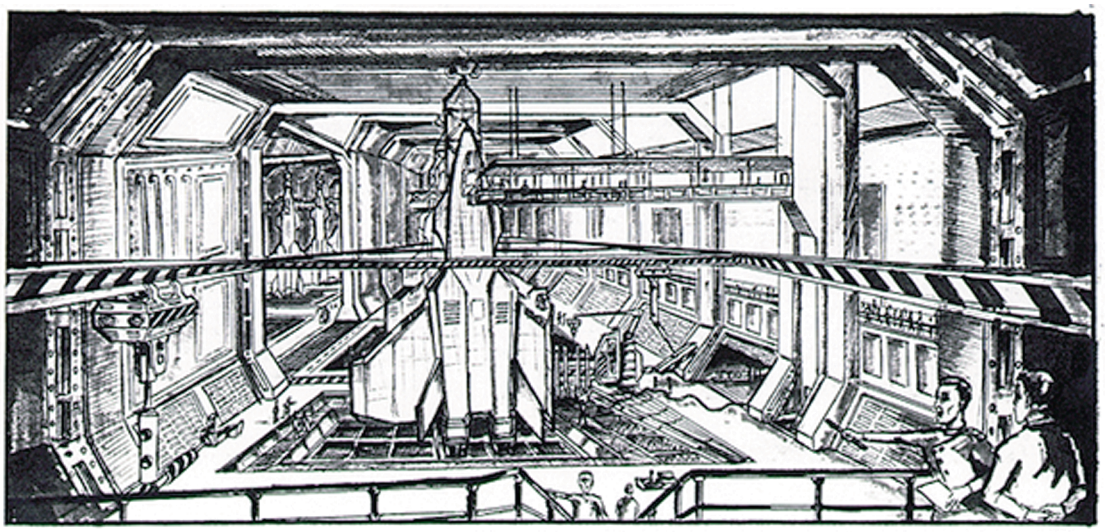


You will get mission specifics on the briefing computer

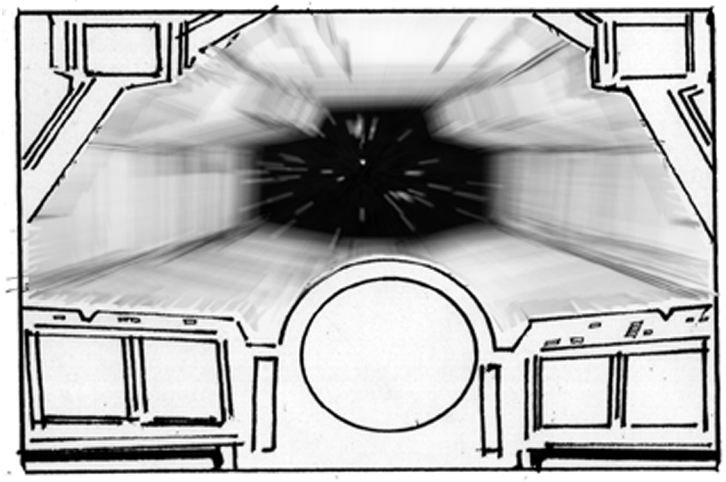




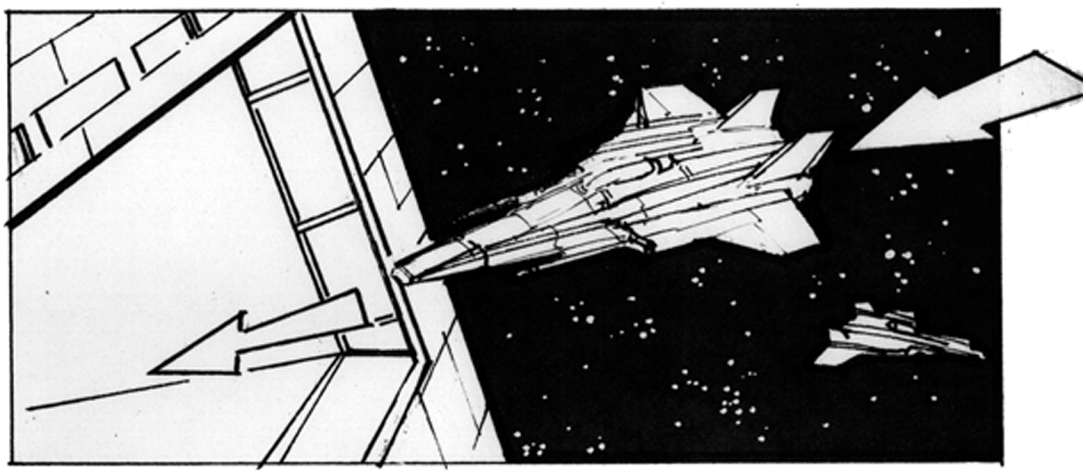
Pilots to your ships!



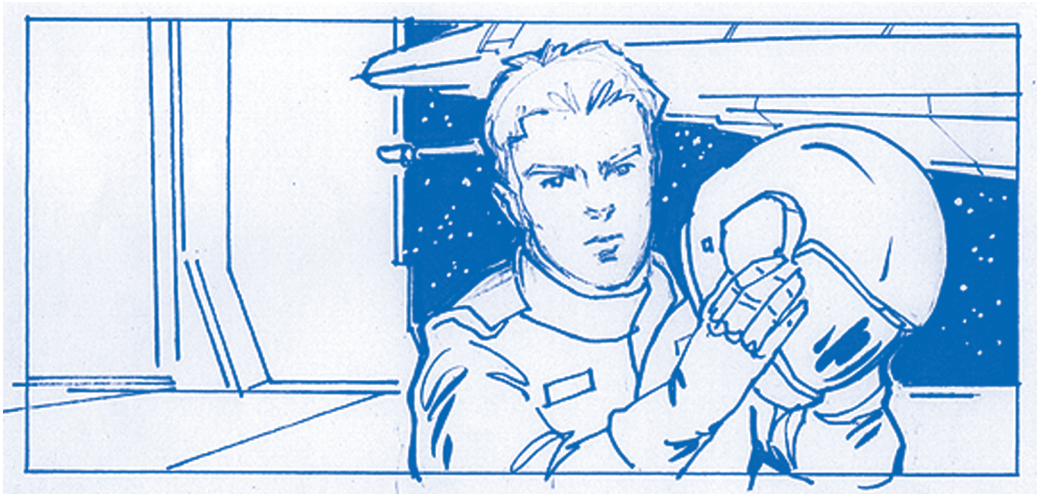
the Hangar Bay



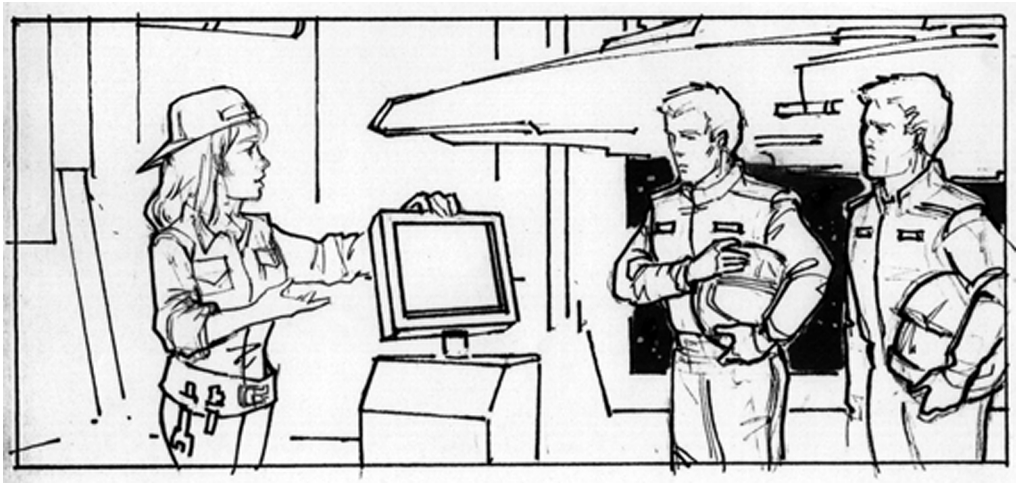
LAUNCH!!



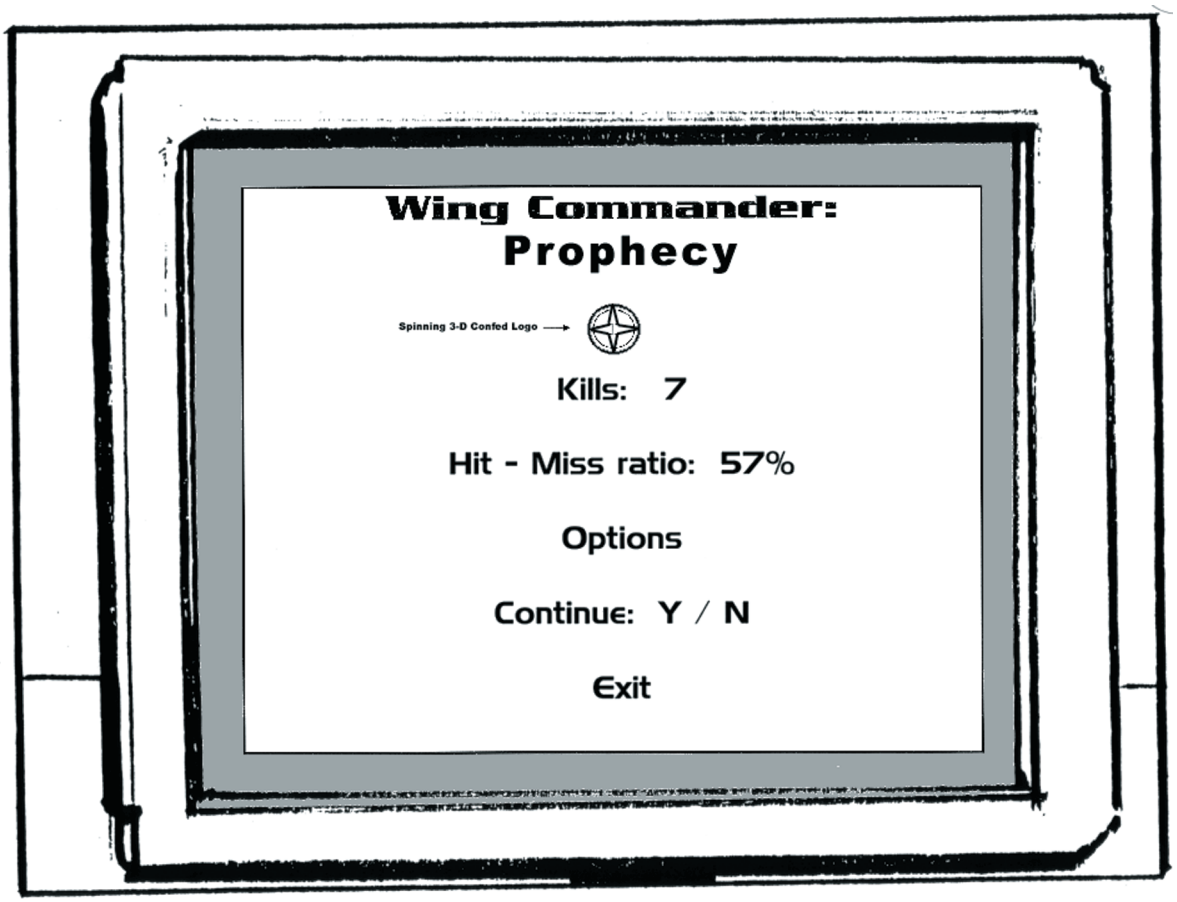
After the Mission - Back to the Midway



Congratulations!!

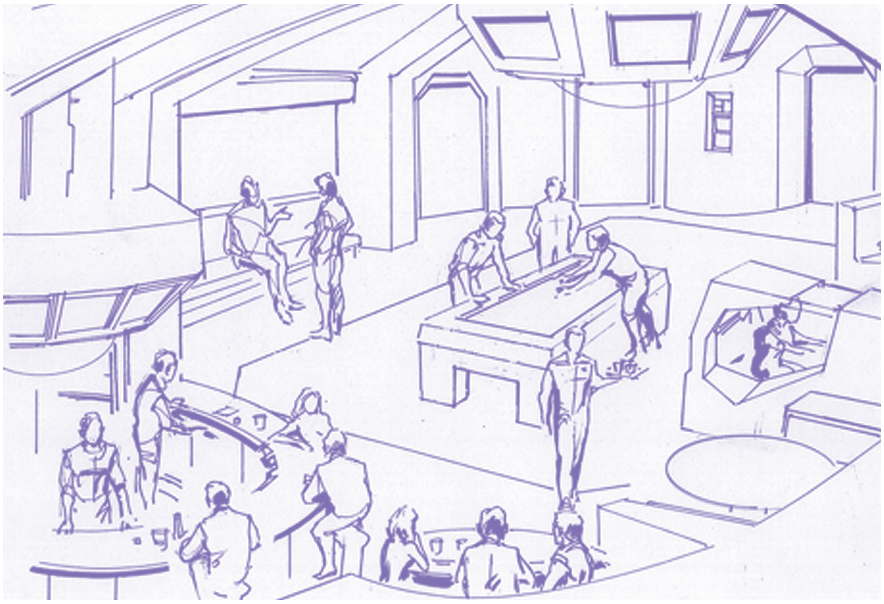


On this monitor your will receive...



...your Mission Statistics

You will then see a clip of the Story So Far and return to the Rec Room



MULTI-PLAYER GAME EXPERIENCE

Simple Setup

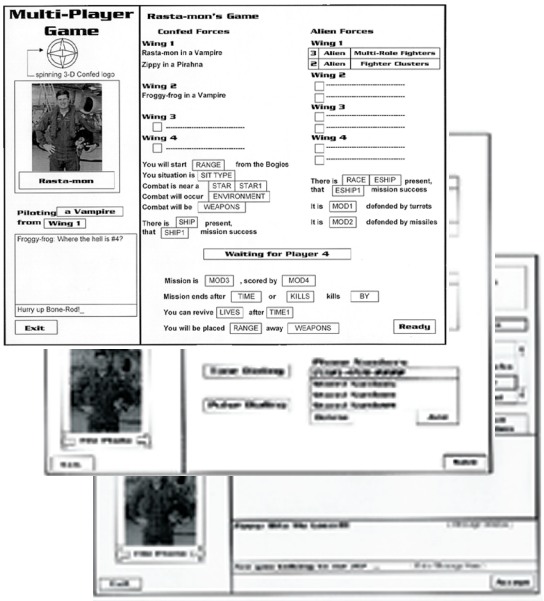
- Choose your Avatar and callsign
- Choose your type of game (Arcade or Sim)
- Select your scenario
- Choose Deathmatch or Cooperative
- Launch!

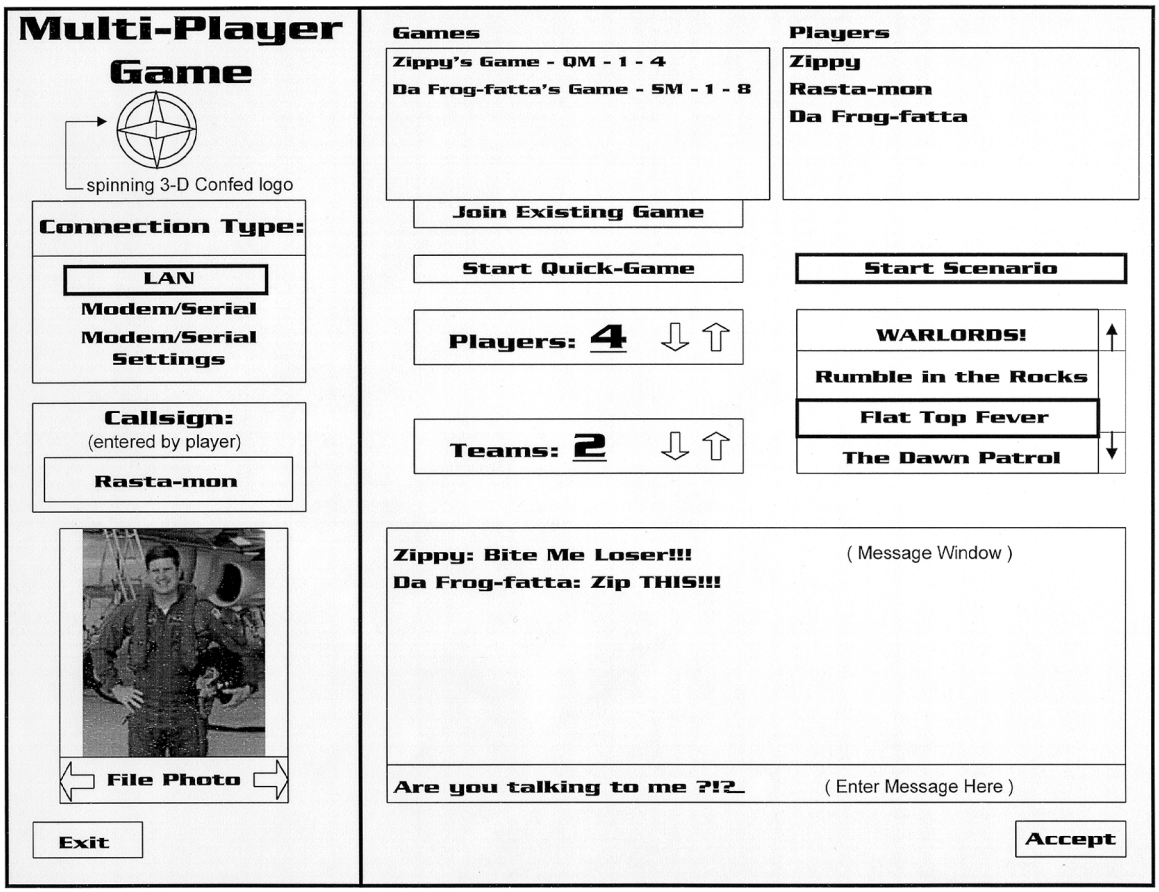
Play With or Against your Friends

- Play in teams with or against the computer
- Play Confed versus Confed, or Confed versus Aliens
- Call your friends up on a modem, link through a serial port, or play over a LAN.

Simplicity

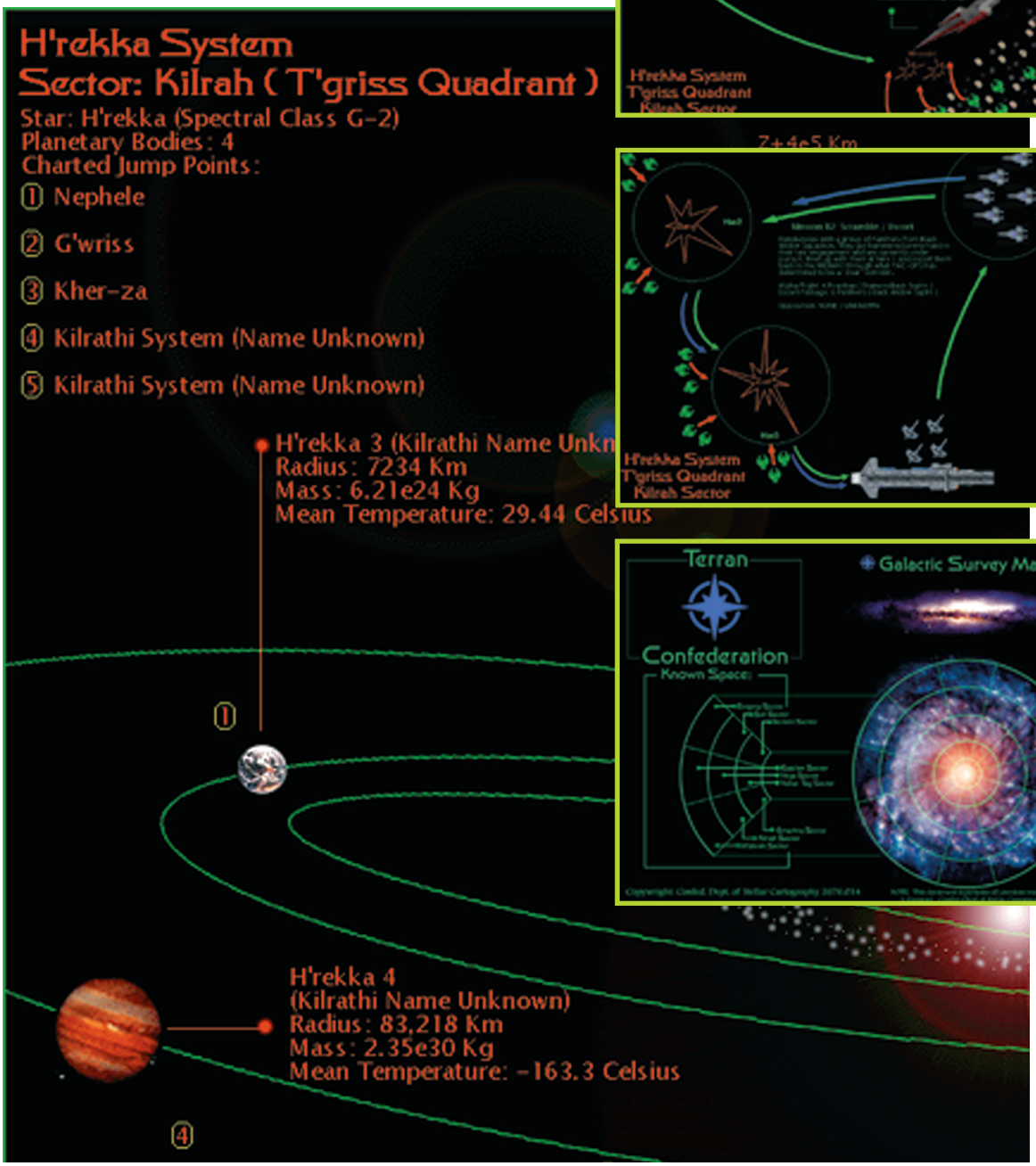
- Intuitive interface, modeled after the best in the business
- Power Ups in Arcade Mode
- Simple weapons interface in Arcade mode (2 fire buttons; pre-determined, static loadout)

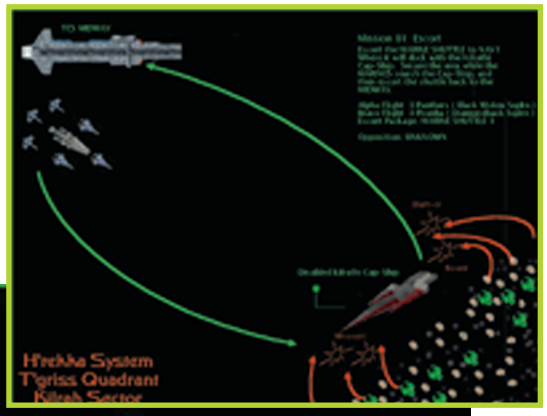


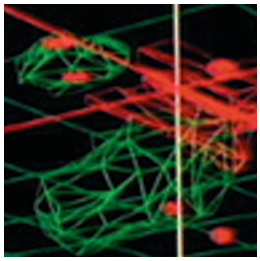


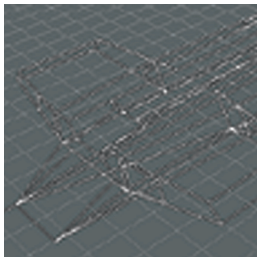
MISSION STRUCTURE

Philosophy of Building mission structure: to provide realistic development of war scenarios and progression of battle sequences.

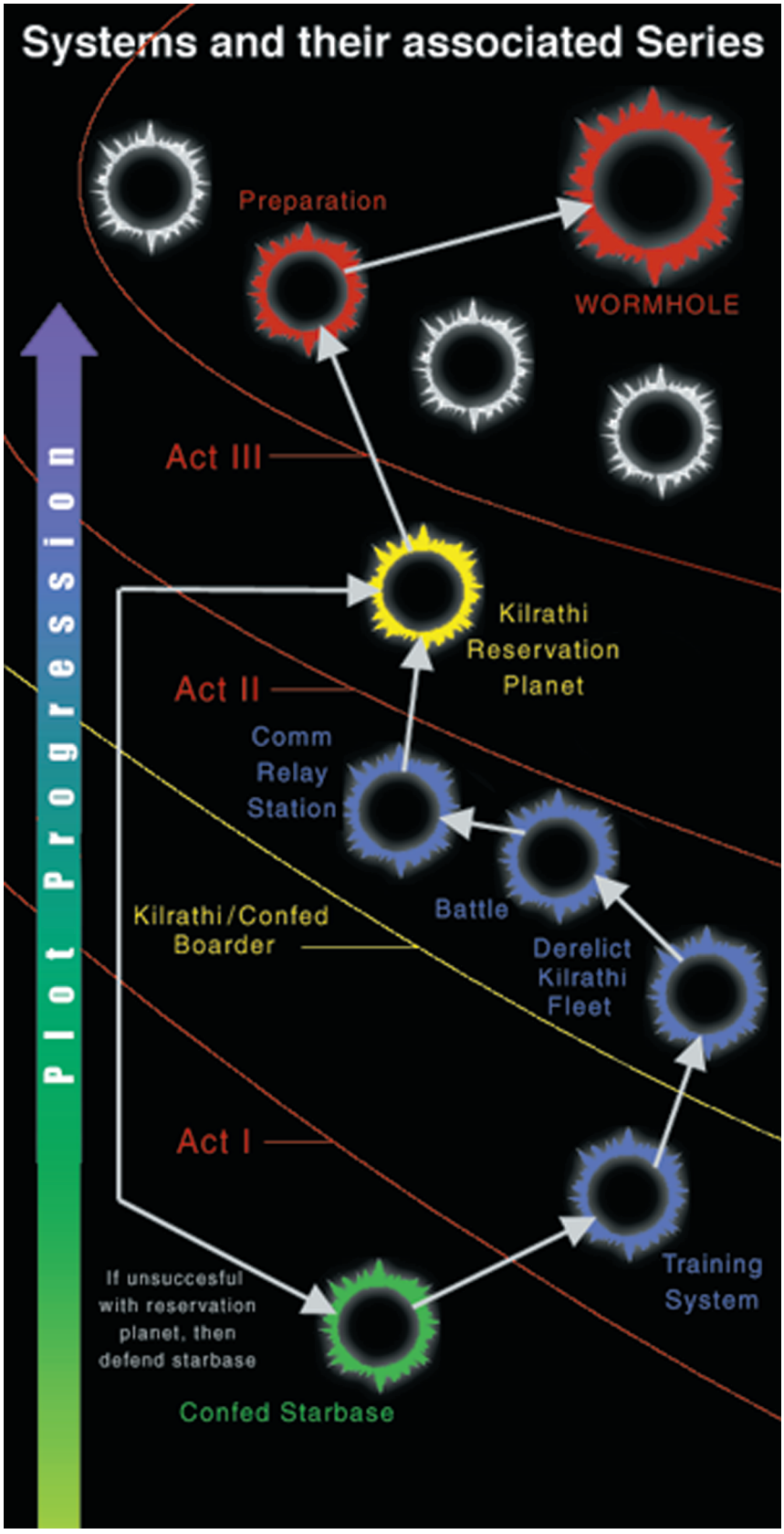











Systems and their associated Series
Preparation
WORMHOLE
Act III
Kilrathi
Reservation
Planet
Act II
Comm
Relay
Station
Battle
Kilrathi/Confed
Boarder
Derelict
Kilrathi
Fleet
Act I
Training
System
If unsuccesful
with reservation
planet, then
defend starbase
Confed Starbase
Plot Progression

GAMEPLAY COMPONENTS

PROPHECY ART SUMMARY

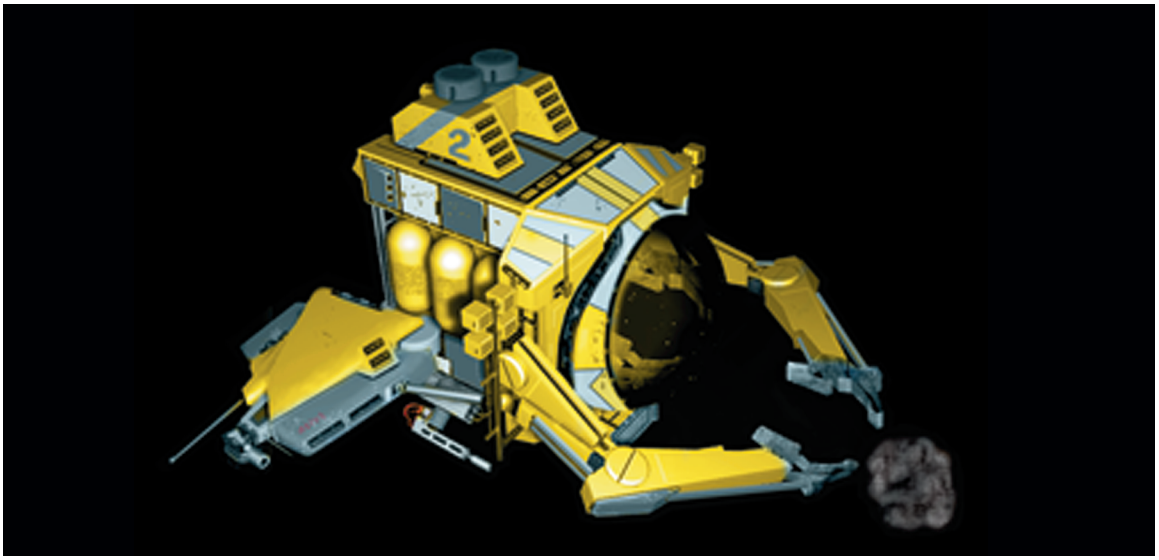
- New Aliens with a radically different look and feel
- Updated aesthetic for established Confed look and feel
- Use of Alias|Wavefront for animation and game object creation
- CG virtual sets composites with practical sets from video
- Introduction of character animation

Perhaps the most interesting new element for the latest facet of our Wing universe is the introduction of a new Alien enemy with a completely different look than anything else out there. Along with these new characters is our growth into creature animation using Alias and StudioPaint the latest in 3D paint. In addition this high end 3D package allows us to create cutting edge cinematic animation as well as game object creation/editing. We continue to push our compositing skills with Wavefront's Composer for CG sets and special effects.

ALIAS AS GAME OBJECT CREATION TOOL

- Full poly creation / manipulation
- One software package for all levels of art object production
- New ACE game engine developed with Alias
- Can be used by designer for object property creation and editing
- Death of EOR

From the original development of our game engine for Silverheart, the ACE group developed a system by which the artists could use the same 3D package, Alias, to create not only the highly detailed cinematic version of an object, but the game polygon version as well. Alias offers a rich environment of poly creation and editing tools that artists or designers can use to define object properties such as hard points, collision boundaries, BSPs and motion constraints for child objects (e.g. turrets). This elimination of our old in house EOR package gives greater creative control in the artists hands and speeds the flow of object implementation. The support that Alias gives this aspect of their software is unparalleled and frees our internal technologies group from constant tool maintenance.

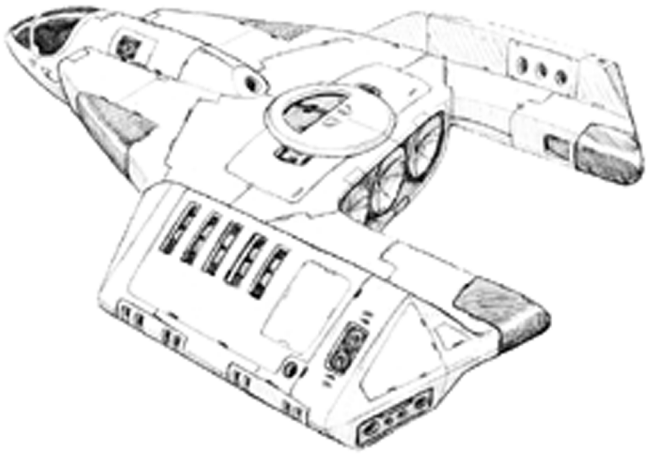


CONFED SHIPS

CONFEDERATION CONCEPTUAL DESIGN PHILOSOPHY

- Form Follows Function
- Natural tech progression of modern airships
- Flight dynamics fully integrated into design
- Meaningful squad markings

Form follows function is the credo by which the conceptual design team followed in the creation of our Confed objects. Demonstrating a natural tech progression of current day warcraft was the focus of our look and feel. Flight dynamics of each ship are incorporated into the look and construction of those objects. Our coloration and squad markings reflect specific aspects of the pilot groups that deal with the story.



F/A-105A TIGERSHARK MULTI-ROLE FIGHTER

Squadron: DIAMONDBACKS, BLACK WIDOWS

Missions: TARCAP, FORCAP, SEAD, BARCAP, escort, recon, light strike and light antiship, Wild Weasel

Speed: 7
Acceleration: 7
ESM: 7
Aft Shield Strength: 6
Fore Armor: 4
Port Armor: 4
Guns: 6

Agility: 7
Radar: 5
Fore Shield Strength: 6
Shield Recharge Rate: 6
Aft Armor: 4
Starboard Armor: 4

FIGHTER LOAD-OUT:
Gun # and type: 2X Laser, 2X Adjustable Mass Driver
Missiles: 8X dogfight

WILD WEASEL LOAD-OUT:
Gun # and type: 2X Quantum Disruptor, 2X Adjustable Mass Driver
Missiles: 4X dogfight, 4X short range anti-radiation missiles

Length: 44'10" (~13.66m)
Width: 33'10" (~10.33m)

Special Equipment and abilities: The Tigershark is intended to fill a variety of roles at various times, and is therefore specialized at nothing in particular. It is most frequently used for light strike and SEAD duties, but can be effective as a fighter (particularly with external airborne-early-warning guidance to compensate for its mediocre radar set).

Its shields are of medium strength, with good (though not excellent) recharge characteristics. The Tigershark is a generally valuable supplement to the more specialized fighters in a CV's wing, capable of filling most 'gaps' as needed.

Rationale: The Tigershark is the first ship the player will fly, providing him a basis of comparison for the more capable types. Fighters like the Panther and Shrike will seem far more exciting when the player has flown similar missions in the less specialized Tigershark (that is, when they graduate up from something mediocre to something good).

F-110A WASP INTERCEPTOR

Squadron: DIAMONDBACKS, BLACK WIDOWS, WOLF PACK

Missions: FORCAP, sometimes BARCAP

Speed: 6	Agility: 10
Acceleration: 10	Radar: 4
ESM: 4	Fore Shield Strength: 3
Aft Shield Strength: 3	Shield Recharge Rate: 7
Fore Armor: 2	Aft Armor: 2
Port Armor: 2	Starboard Armor: 2
Guns: 8	

FIGHTER/POINT DEFENSE LOAD-OUT:
Gun # and type: 2X Tachyon, 2X Adjustable Mass Driver
Missiles: 4X dogfight, plus 4X anti-bomber rocket packs (swarmers' discussed below)

Length: 38'4' (~11.66m)
Width: 33'11' (~10.33m)

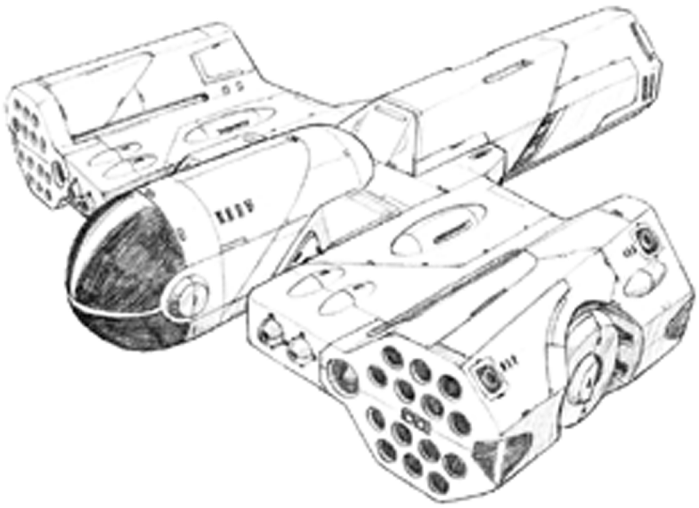
Special Equipment and abilities: The Wasp is a small point-defense fighter which serves as the inner tier of a carrier group's defense. Lacking the range and endurance for prolonged CAP-style patrols, it is usually launched only when enemy bombers have breached the outer BARCAP and are closing on the carrier itself (in a 'scramble' situation).

It is tailored to destroy enemy torpedo bombers, at which it is devastating, but it is also effective against most fighter-class targets. In addition to its traditional missile armament, it carries four 'cluster-rocket' packs (swarmers). These short-ranged weapons are very small missiles which ripple-fire in 'swarms' of twelve or greater and are guided to their target by a laser designator in the Wasp's nose. They are a 'one-shot, one-kill' weapon usually employed against torpedo bombers from a close tailing position, and almost always result in the enemy's instant destruction.

This ship will make use of detachable booster rockets for this craft that will get it to its destination quicker without using afterburner supply and at a faster rate than afterburner velocity. Once expended the booster is automatically jettisoned, resulting in a noticeable acceleration and maneuverability increase for that portion of the fighter which remains.

Its thin shields recharge quickly.

Rationale: This ship is flown early in the game, providing an occasional alternative to the Tigershark.



F-109A VAMPIRE
SPACE SUPERIORITY FIGHTER (CLASS A)

Squadron: WOLF PACK

Missions: BARCAP, TARCAP, offensive counter-air, escort, some FORCAP, some RECON, Wild Weasel

Speed: 10
Acceleration: 8
ESM: 8
Aft Shield Strength: 8
Fore Armor: 5
Port Armor: 5
Guns: 10

Agility: 6
Radar: 10
Fore Shield Strength: 8
Shield Recharge Rate: 8
Aft Armor: 5
Starboard Armor: 5

FIGHTER LOAD-OUT:
Gun # and type: 1X F. Anti-missile turret, 2X Ion Cannon, 2X Adj. Mass Drivers, 2X Tachyon
Missiles: 8X long range anti-fighter, 4X dogfight

WILD WEASEL LOAD-OUT:
Gun # and type: 1X F. Anti-missile turret, 4X Quantum Disruptor, 2X Adj. Mass Drivers
Missiles: 8X long range anti-radiation missiles, 4X anti-radiation missiles or 4X dogfight

Length: 60'1' (~18.33m)
Width: 43'9' (~13.33m)

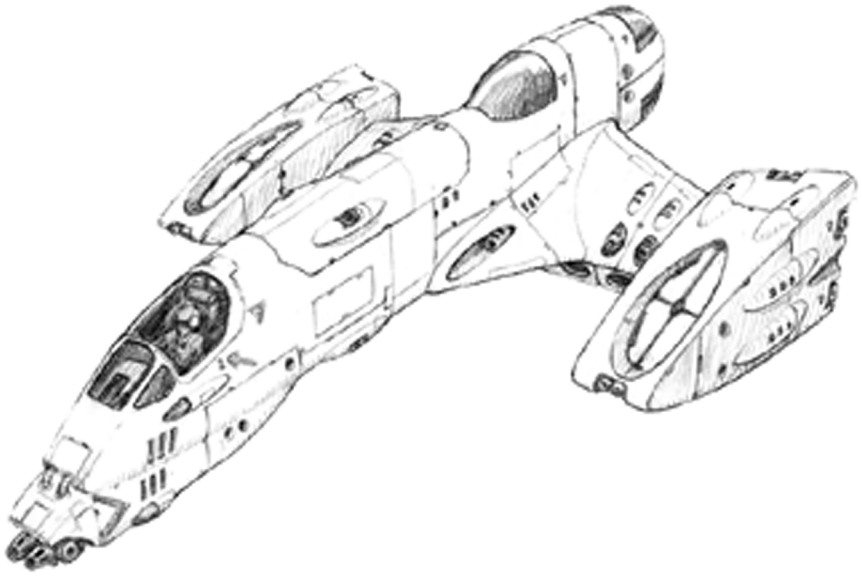
Special Equipment and abilities: Usually assigned to heavy fleet carriers, the Vampire is customized to destroy other fighters. It is equipped with a nose-mounted, high rate-of-fire turret intended to down incoming anti-fighter missiles (though it may also be manually told to target fighters instead). This enables the Vampire to engage in long-range missile duels with other space superiority fighters with good chances of survival.

The Vampire also sports a sophisticated targeting computer system, which enables it to lock onto and engage with missiles up to four fighter-sized targets simultaneously.

Its shields are of medium strength, but exhibit a better-than-average recharge rate.

The Vampire is optimized for superior pitch maneuverability, and as such its outboard engine nacelles are designed to pivot plus-or-minus 30 degrees about their X axis.

Rationale: The Vampire is a fighter the player gets late in the game—a reward for getting that far. The most fun in any Wing Commander is had shooting down other fighters, and the Vampire will do this better than all others.



TB-80A DEVASTATOR
TORPEDO BOMBER (CLASS A)

Squadron: WOLF PACK

Missions: Strike, anti-ship, anti-hangar, sometimes recon

Speed: 5	Agility: 4
Acceleration: 4	Radar: 4
ESM: 8	Fore Shield Strength: 10
Aft Shield Strength: 10	Shield Recharge Rate: 6
Fore Armor: 9	Aft Armor: 9
Port Armor: 9	Starboard Armor: 9
Guns (anti-fighter): 5	Guns (anti-ship): 10
ECM: 8	

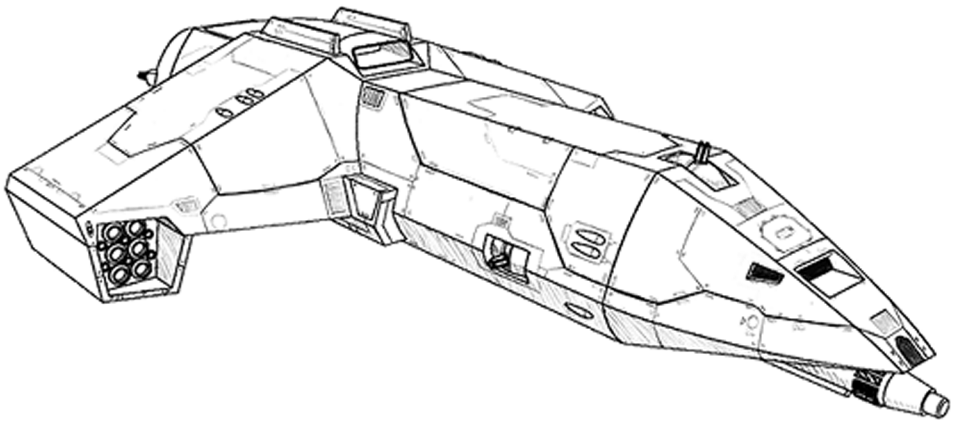
BOMBER LOAD-OUT:
Gun # and type: 1X Plasma cannon, 1X T. Ion Turret, 1X B. Ion Turret, 1X R. Ion Turret, 2X S. Ion Turret
Missiles: 6X torpedo, 8X dogfight

Special Equipment and abilities: Usually stationed on fleet carriers, the Devastator has a simple mission: survive long enough to destroy a big target. Its radar has limited range, and can only track (not lock) fighter-sized targets. The radar is instead specialized to detect, categorize, analyze, and track capital-ship-sized targets. It can not only target these as a whole, but target individual sub-components (engines, generators, bridges, weapons systems, etc.) and bring weapons to bear on them. Its main anti-ship armament is the torpedo.

Its single fixed gun armament, however, is a massive plasma cannon. This is essentially a smaller version of the same weapon carried by capital ships. Virtually useless against fighters (due to its very slow firing rate; about one shot every two seconds), this extremely powerful weapon can cause credible damage to starships, and is by far the platform of choice when it comes to striking heavily defended and armored targets like battleships and heavy cruisers.

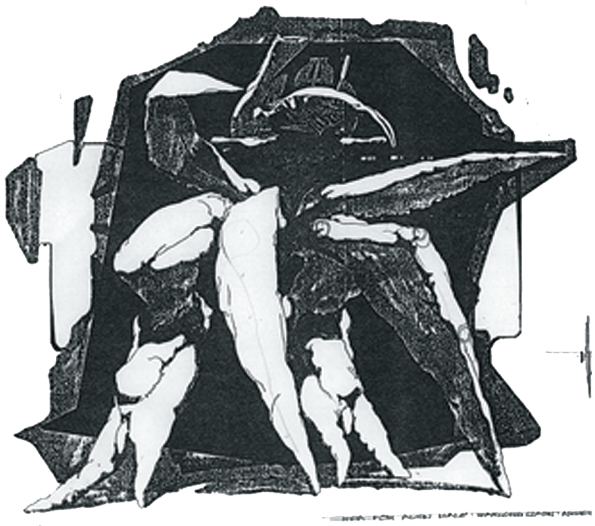
Additionally, to facilitate its survival in a fighter-rich environment it carries anti-fighter turrets on its top, bottom, rear, and sides. Its shields are extremely thick, but exhibit only average recharge characteristics.

Rationale: The Devastator is the most powerful bomber available. Like the Vampire, it gives the player something powerful to 'graduate' up to at later stages of the game.



ALIEN SHIPS

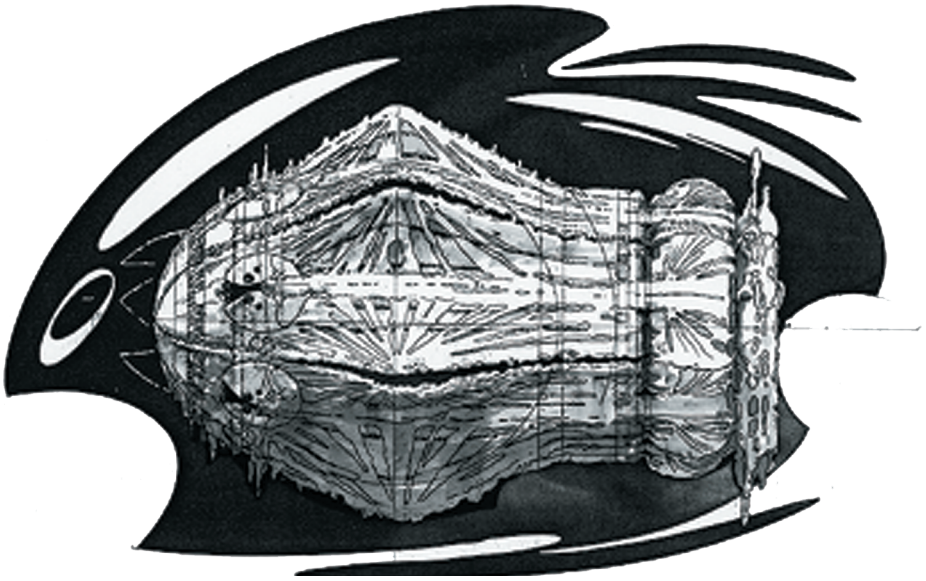
ALIEN CONCEPTUAL DESIGN PHILOSOPHY



- Insect / crustacean inspired look and feel
- Septagonally divided objects is basis for all Alien designs
- Ships demonstrate an important link to the look of the Alien characters
- Natural “dart frog” splashes of warning color
- “Hive” flight dynamics fully integrated into design for swarm ships

Our new Alien ships are connected to the look of our Alien creatures, they both share a insect like aquatic feel. All objects are based on a system of 7 axis symmetry. The ships are marked with bright and occasionally bio-luminescent patterns of color that denote class or function. The swarm like mind set of the lower fighter classes dictates the design of specific ships that group together in specific ways for a variety of flight maneuvers.





MULTI-ROLE FIGHTER

Speed: 6
Acceleration: 7
ESM: 8
Armor: 6
Agility: 7
Radar: 5
Shields: 5
Guns: 6
Gun # and type: 4X Alien Cannon
Missiles: 4X anti-fighter or anti-turret
ECM: 5

Description:
This is a rather conventional, multi-purpose fighter similar to the Dralthi, Hellcat, or Tigershark. It is moderately well armed, shielded, armored, and maneuverable. It is usually employed in the anti-fighter role, though anti-turret missiles can be employed.

CONVENTIONAL SPACE SUPERIORITY FIGHTER (ACE SHIP)

Speed: 8
Acceleration: 9
ESM: 8
Armor: 6
Agility: 8
Radar: 6
Shields: 7
Guns: 7
Gun # and type: 4X Alien Cannon
Missiles: 6X anti-fighter or special
ECM:

Description:
This is a conventional fighter, with specialized guns and missiles. They are rather frightening compared with the alien generic multi-role fighter, being faster, better shielded, better armored, better armed, and more maneuverable. They will be piloted exclusively by ace-level aliens





SPRINGBOARDS IN WING COMMANDER PROPHECY

The idea in springboards comes from game design of console games. The principle is to build upon the player's experience in the game. For example, making the player use Autopilot on the first mission, and making sure the player gets a radio comm telling him how to do it, means that we can assume that he'll know how to Autopilot the next time the light comes on.

Other examples of springboards we're using are:

- SOS call (change your nav direction)
- Drop mines (in ships with this available)
- Escort AWACS (defend a moving object)
- Destroy Turrets (on cap ships)
- Destroy Mines (aliens left in nav area)
- Destroy Engines on Capship
- Disable ships
- Dock with Refueling/Rearming ship
- Search for Transmitter
- Scramble
- Drop marker for Big Gun
- Destroy towers on Worm Hole
- Defend Midway
- Land on Midway
- Jump at jump-point
- Autopilot
- Detach Booster from Wasp
- Afterburn
- Chaff
- Reallocate shields
- Reallocate power
- Rear Turret



Wing Commander: Prophecy

POWER-UPS IN WING COMMANDER

POWER-UPS

On the Multi-Player game, there will be power-ups available. Each ship has been designed with this in mind. Each gun and missile type will be upgradeable during the mission by finding power ups. To progress through the level easily, you will need to find the best power ups. There will also be power ups that can change your gun and add more missiles.

How they function
Fly through them. Your ship will assimilate the attributes immediately and automatically.

Ships
Each ship will have one type of forward firing gun, and one type of missile. Each will have different levels of power, giving each ship specific strengths and weaknesses.

Guns
Each type of gun will have four levels of power ups, and there will be special power ups that max out your guns (go directly to level 4). An example of a gun power up would be the Laser. Laser Level 1 would be the weakest laser. Laser Level 2 would be 25% more powerful. Level 3 would be 25% again more powerful, and Level 4, 25% more. If you grab an extra gun power up after 4, you would go into Special Mode (Level 5) and the Laser would be super-powerful for 30 seconds, then returning to Level 4.

There will also be power-ups to cool your guns, and some to increase the max heat levels.

Missiles
Each type of missile will have four levels of power ups, and there will be special power ups that max out your missiles (go directly to level 4). An example of a missile power up would be Swarmer missiles. Swarmer Level 1 would be two missiles that seek the enemy ship. Swarmer Level 2 would have four missiles that seek the enemy, Level 3 would have six, and Level 4, eight. If you grab an extra missile power up after 4, you would go into Special Mode (Level 5) and the missiles would be super-powerful for 30 seconds, then returning to Level 4.

There will also be power-ups to give you unlimited missiles for brief spans of time.

Shields
Shields will function as they have normally, i.e. slowly recharge from your power pool. If you pick up a shield power up, you will max out your shield strength, or increase your shield's maximum strength. We can even lower the shield recharge rate overall, so the shield power up actually means more to the player. If it's fun, we may remove the shield recharge altogether, to make the power-up the ONLY way to recharge the shields. All in the name of fun.

There will also be Invulnerable power-ups (rationale: they give you special shield power) that will repel all damage.

DEFENSIVE/REPAIR ARMOR

Full Repair
- ICON: Chunk of armor with blue energy spinning around it
- 100% shields
- 100% armor
- Repairs all down systems
- If you are at Max, then you run through it

Armor Power Up
- ICON: Chunk of armor adds 25% of total armor strength
- Up to 100% maximum if you are at Max, then you run through it

Shield Power
- ICON: Blue ball of energy adds 25% of total shield strength, up to 100% maximum
- Also restores full power to shields. If shields are destroyed, this will repair them immediately if you are at Max, then you run through it.

Extra Shields
- ICON: Blue ball of energy with Saturn rings adds 10% to your total shield strength maximum. Also restores full power to shields. If shields are destroyed, this will repair them immediately
- Maximum shield extension is 150% - If you are at Max (and shields are recharged).

AI MANEUVERS

ARTIFICIAL INTELLIGENCE

The rule of thumb in this game is that we've listened to the postmortems of the previous Wing Commanders and made a laundry list of what needs to be fixed for this game. Here are some highlights:

1. Avoidance

Trademark moves for different types of ships:

1. "Crazy Ivan." Canned fake left go right w/ afterburner. (Ship yaws left 20 degrees, yaws 180 degrees right and after burners away at maximum speed.)
2. "Invert Loop." Invert 180 roll, hard pitch down. (roll 180, pull through, push out)
3. "Burn and Turn." Max speed and pitch up 35 degrees, engage slide and rotate 180 degrees, shoot down on player while going backwards.
4. "Fast Loop." Hard Loop at maximum speed.

2. Attack moves for fighters

Trademark moves for different types of ships:

1. "Turret." Set speed to zero, becoming a rotating turret.
2. "Kamikaze." When almost dead, run straight at player to ram him with your ship.
3. "Kill the Innocent." Aliens attacking turrets of shuttles and transports. (It would be nice for the first wave of fighters to destroy a transport's turrets, then have a 2nd wave of bombers take out the ship unhindered.) Or (another way of saying it:"defensive" child objects to have priority over "parent".
4. "Waste the Cap Ship." Torpedoes used to take out capital ships. (Bombers and fighters should expend a few more torpedoes destroying a capital ship objective.)

Team (or group) Maneuver Examples

A. Trademark moves for different types of ships:

1. "ABC Ya." Alien Bomber Cluster (ABC) (with torpedo) makes attack run on Cap ship. Defense: Fire missile at torpedo to destroy all the ABC. Partial Defense: If you hit only one of the cluster, it is likely they will break off attack, and come back again.
2. "Bombs Away." Alien Bomber Cluster (with Swarmer missiles) appears in the actionsphere and releases its 12 Swarmer missiles. Defense: Fire missile at the Swarmer missile tube to destroy all the ABC. Partial Defense: Launch a lot of chaff and hope the missiles don't hit you.
3. "Mines." Alien Bomber Cluster (with mines) drops mines for the player to run into. Defense: Fire missile at mine launcher to destroy all the ABC. Partial Defense: Don't ever fly behind one of these things. Avoid mines.
4. "Flanking." 2 aliens attack player: one on left, one on right. Defense: Afterburn forward and loop around one of the ships (to the left or the right). At this point you should have both of them in your sights, hopefully near each other, with one of them caught in a crossfire. Spray and destroy. Partial Defense: Pull up (or down), afterburn, and turn around. Choose a target and spray! Both will have a bead on you, but you'll be in the clear.

Turret AI Examples

1. More accurate and less damaging with an increased firing rate and range.
2. Attacking Wingmen and the player simultaneously.

Wingman AI Examples

Wingmen shouldn't accelerate faster than the player, unless ship specs allow it.

Larger distinction between wingmen.

Factors:

1. Refire rate
2. Accuracy
3. Missiles
4. Rate of Ejection
5. Rate of effectiveness with player commands.
6. Chatter Type (this should be handled by the data recorded - all business, comedian, rookie, wussy, etc.)

Specific Ship Type AI Examples

Plasma Cannon Cluster (3 make a cluster) - (No afterburner) Joined together into a single larger ship, the emission points of their individual cannons touch to form a single, massive plasma cannon which is effective against starships. In this configuration they are similar to a torpedo bomber (though there is no missile armament).

Regular attack pattern: As most of their attention is kept on maneuvering in the cluster, they are not able to make many deviations from their course. Their targets need to be stationary or making few course corrections. They make strafing runs, and then break apart to reform.

Regular Defense Pattern: Attempt to evade, and when evasion is not possible, split into solo fighters. PCCs cannot see behind them, so if you can attack them from the rear, they're toast.

Intelligence: Minimal.

Possible maneuvers: PC Muscle, ABC Ya, Malachi Crunch.

Weakness: If you can hit them with a sufficiently powerful missile as a cluster, the concussion may destroy the entire cluster.

Weakness: They cannot 'see' behind them when they are attacking. Therefore if they are on course with an object, they are defenseless if a player approaches from the rear.

Fighter Cluster (3 to 5 make a cluster) - (With Afterburner) This is a pure space superiority variation of the "swarm" fighter. A single power distribution "node ship" produces energy for up to a dozen smaller cannon-armed vessels which fly in space around it (unlike other cluster ships, never joining into a single unit).

These smaller vessels function almost as free-flying turrets. Destruction of the node ship causes a massive explosion, plus the destruction of all associated fighters.

Regular attack pattern: Seek and destroy the player. Because it's basically a flying set of turrets, attack does not have to be directional. Turn toward the player and shoot.

Regular Defense Pattern: Group with other BCs and/or evade.
Intelligence: Medium

Possible maneuvers: Follow Me (leader), Step Into My Parlor, Four vs. One.

Weakness: If you destroy the node ship, the concussion will destroy the entire cluster.

Weakness: There will always be one direction the Fighter Cluster cannot fire. This is the weak spot. It is directly behind the ship.

Weakness: The more smaller turret vessels you destroy, the easier it will be to take out the node ship in the center.

Shield Killer - (No afterburner) This is a highly specialized vessel which can produce a discharge which temporarily overloads the shield generators of a fighter and causes them to drop entirely for a short period of time. While marginally defended and relatively vulnerable to cannon fire, the vessel is saucer-like or spherical in configuration and capable of changing directions instantaneously, rendering it a very maneuverable and difficult target. As it is otherwise unarmed, this vessel almost always operates in conjunction with other fighters. (Similar to an AWACS. Stealthy.)
Regular attack pattern: Attempt to disable the player's shields so other fighters can take him out.
Regular Defense Pattern: Evade in all directions.

Intelligence: High

Possible maneuvers: Avoid and Launch, Random.

Weakness: Low armor.



MISSION SPECIFICATION: MISSION: B1

Mission Outline

Primary Objective: Provide secondary escort for the Marine shuttle to Nav 1, where it will dock with the Kilrathi CRUISER Provide cover while the marines search the CRUISER, then escort the shuttle back to the MIDWAY

1. Take-off from Midway, and be prompted (by your wingman) to hit "A" to Autopilot to first Nav point.
2. At Nav 1, Player will find numerous Kilrathi Capship hulks adrift, some still burning, some falling apart, and only one that is sending comms. This is where you need to escort Dekker's shuttle to.
3. If the Player decides to 'examine' the asteroid field (get within 10,000 klicks), the fighters hidden there will attack the Player.
4. Otherwise, the Player will patrol the nearby area, looking at the absolutely cool Kilrathi war-ship hulks floating in space here. These will be fantastic to fly around and cause the Player to be lulled into a false sense of security.
5. The Player will wait for Dekker's shuttle to dock with the Capship
6. When Dekker lands, Full-screen-Video of Marines on Capship will play. They'll tell the player they're picking up the Black Box and preparing to launch.
7. After Dekker movie, we will be able to ascer-tain where the Player is, and engage him with aliens screaming out of asteroid field. Comms from other patrols report engagements with enemy forces
8. The Player must fight off aliens and escort Dekker back to Midway.
9. Land and debrief back at Midway

Mission Win / Lose Effects
Eject: picked up by SAR, the "You don't ditch your craft" speech..
Killed: Funeral endgame.
Mission Won: Escort Marine shuttle to Kilrathi Cruiser and then back to MIDWAY: goto B2
Mission failed: Player Ejects at NAV1 goto B2

WINGMAN / SHIP SELECTION NOTES

Flights/Ships Assigned by CAG

Squadron:	Diamondbacks
Fighter:	Piranha
Flight Leader:	Player
Wingman:	Stiletto
Wingman:	Maestro
Squadron:	Marines
Marine Shuttle:	Dekker & Co

Nav Points
LAUNCH: Players Flight (3 Panther, 3 Piranha, 1 Marine Shuttle), Combat Air Patrol fighters (4 Panthers), Flights out-bound for other patrol routes (3,4 groups of 3 fighters, various mix), Midway .

NAV1: Kilrathi Cap-Ship, 10-15 dead/damaged Dralthi, Vaktoth, Strakha (or parts of) Asteroid field on far side of Kilrathi Cap Ship (w/hidden alien fighters: 9 [3 waves of 3] Alien Multi-role Fighters)

LANDING: Players Flight (or what's left), Combat Air Patrol fighters (4 Panthers), Flights in-bound from other patrol routes (3,4 groups of 3 fighters, various mix), Midway .

Communication Events
Launch: Standard Comms

Nav1:

Comm from Dekker: "Look at that ..."
Comm from Dekker: "Docking successful, We're going' in."
Comm from Dekker: "We've downloaded part of





Comm from Dekker: “We’re takin’ fire here!” - if attacked“I’m taking fire!! ...Cloak!!.. ..I AM cloaked!”“I can’t shake ‘em!
”Comm from Dekker: “Great shot kid, that was 1 in a million.”.. (or “good shooting’” or “not bad for a fly-boy”)
Comm : wingmen chatter about Cap Ship (after Dekker movie, or after aliens begin attacking)
Comm : combat chatter from Wingmen and other patrols “Holy shit! where’d they come from?” “Multiple Contacts, Approaching on attack vectors!”

MISSION SPECIFICATION: MISSION 16

This is the final mission of the game. Everything the player has learned (re-routing power to shields, defending shuttles, escorting in troops, etc.) will be put to task in this glorious mission.
This is the first time the player will have seen the impressive wormhole structure. Escorting the Marines in to have them turn off the shields will be a difficult task, due to the huge number of aliens defending the structure, to say nothing of the alien aces that will be gunning for the player and crew.
Each time the marines get a tower down, a new ace will launch for the player.
The player must not fly into the worm hole, as this will destroy him.
When the first six towers are knocked out (by the player), the player will be called off to engage with an additional Confed reinforcement group. This will be the turning point of the final mission.

The marines will be at the last tower attempting to shut down the final set of shields, as they are attacked by a group of aliens. They will manage to get the shield down, and warn the player that he only has 60 seconds to destroy the final tower, as there is an enormous attack group on its way through the worm hole. If the player fails to do this, the game’s over. However, if he is able to knock it out, he will view the winning endgame.

Primary Objectives:
The player will meet stiff resistance as he escorts the marine shuttles to the wormhole gate. The player must insure that the shuttles land safely. Once the marines have landed, Dekker reports via VDU that they are being met with alien resistance (guards/soldiers). Soon after Dekker will manage to lower all but the last tower’s shield and will also report that a massive alien armada is on their way through the gate. The player must destroy each tower soon after being instructed to do so. We will cut to a movie showing Dekker’s team getting all but annihilated as they finish off the aliens on board.

Mid-Flight Objective:
The player will be instructed by the Midway to withdraw to a nearby refueling ship. A group of Confed reinforcements will rendezvous with the player at this nav point and then proceed to the Gate to finish it off. The marines will get the last shield down as the reinforcements near the gate. Then marines will then send the “60 Second” message before being destroyed by the Warlord.



Confed reinforcements will rendezvous with the player at this nav point and then proceed to the Gate to finish it off. The marines will get the last shield down as the reinforcements near the gate. Then marines will then send the “60 Second” message before being destroyed by the Warlord.

The player must now destroy the last tower in 60 seconds.

When the player destroys the wormhole gate, the player will see a flick of the player just barely escaping its explosion. This is the start of the winning endgame.

Nav Points
LAUNCH: Midway, 4X Vampire (CAP), 4X Vampire (CAP), 4X Vampire(includes player), 2X Marine shuttle
Objective: Escort Marines to the Wormhole gate.

GATE: Gate command center and 7X stabilizing towers, constant enemy harassment which include aces.
Objective: Destroy stabilizing towers when instructed.
In-flight Objective: Withdraw to refueling ship at new nav point.

REFUELING SHIP (new nav point): Refueling ship
In-flight Objective: Wait for backup and then proceed to Wormhole gate

GATE: Gate command center and 1 stabilizing tower, enemy harassment which include aces TBD
Objective: Destroy the last tower when instructed and return to the Midway

LANDING: Midway, 4X Vampire (CAP), 4X Vampire (CAP), Player and remainder of group
Mission Win / Lose Effects

Success occurs when the player has destroyed the last of the 7 stabilizing towers on the wormhole gate command center.

Failure will occur if the player does not manage to destroy the 7 stabilizing towers in enough time.



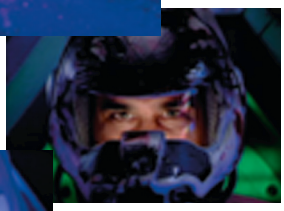
MULTI PLAYER SCENARIOS

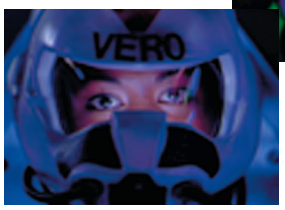
The Multi-Player game in Wing Commander Prophecy will be in the form of scenarios, as opposed to missions. The main difference being that a scenario is a stand alone arena, whereas a mission is a 'part' of a greater whole. These 'scenarios' will be quick to get into, have easy to understand objectives, and have the added benefit of allowing scores between players and teams to be calculated as well displayed for the players to see. Multi-player is broken down into three separate types of scenarios.



Scenario Generator and Random Scenario Generator
The Scenario Generator will allow the player to create his/her own Scenarios. They will be able to add enemies, nav points, AI levels, etc. It will be limited, but should serve the needs of the players that wish to make their own.



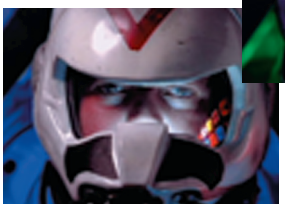




The Scenario Generator will have the ability to create random Scenarios if the players wish, simply by telling the generator what type of Scenario, # of players, difficulty, etc.

Designer-Scripted Scenarios
5-10 (or so) 'scripted' multi-player Scenarios. This is a Scenario that is built mainly around co-operative play and that goes through many nav points / levels.





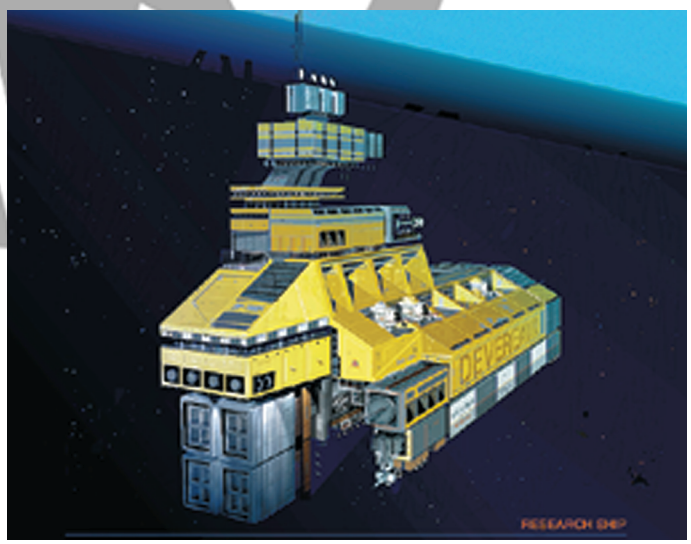
Scenario Theme Options
Options: Select how many 'restarts' you get. (1-10 or infinite)
Select power-ups on or off.
Select Timed or Non-Timed
(On Deathmatch) Select Teams or All-Battle Gauntlet

Additionally, the game will ship with a number of pre-generated scenarios for players to modify.



PHILOSOPHY OF NEW TECHNOLOGIES

Maverick Productions' goal is to build a clean, efficient, maintainable, portable, and extensible library of code that will enable project teams to create next-generation products that are superior to all other games in their class. The engine will be able to take advantage of new hardware and software technologies in a timely manner in order to remain cutting-edge, as well as provide a code base for further research and development into new areas. Wing Commander: Prophecy will take full advantage of this engine, delivering a smooth frame rate, and stunning visual and audio effects. Our new Mission Editor will allow designers to easily create fun and exciting missions, and the new Artificial Intelligence system will make the alien invaders come alive.



ACE ENGINE

3D RENDERING

In 1993, Maverick Productions released its revolutionary RealSpace rendering system in the game Strike Commander. Over the next three years, the RealSpace engine was incrementally improved and used in each of Maverick's releases through Wing Commander IV. However, with the recent appearance of newer, more advanced software rendering engines (such as id's Quake engine and Bethesda's Xngine) and inexpensive 3D accelerator hardware, it has become evident that the RealSpace engine has reached the end of its life.

In order to remain competitive, Maverick Productions has developed the next generation 3D rendering engine. The new engine is resolution independent, renders to 8, 16, and 24 bit buffers (only 8 and 16 bit with our software texture mapping), and takes full advantage of Microsoft's Direct Draw and Direct3D technology. Rendering can take place through a 3D accelerator card, or entirely in software with our own software rasterizers.

The engine has been written to be as flexible as possible with the ability to easily take advantage of future innovations. This is accomplished by encapsulating all rendering functions in DLL's. Currently DLL's have been written for Direct3D software and hardware rendering, 3Dfx native mode, Matrix Mystique native mode, Rendition PowerVR native mode, and for rendering using our own software rasterizer. The most exciting advantage to this implementation is the ability to easily write and release new DLLs to allow native mode support for future 3D accelerators, even after the game has already shipped.

The Direct3D DLL allows the engine to render using any 3D accelerator hardware that supports the Direct3D programming interface. The big advantage of this is that the engine immediately supports future 3D accelerators with no work on our part.

The native mode DLLs for 3D accelerators allow us to custom tailor for each piece of hardware. Although providing native support for individual 3D accelerator cards requires additional programming time, it results in much faster games since most cards run significantly faster in native mode, than they do when running through the Direct3D interface.

A game must run smoothly on all target machines, including those without 3D accelerators. The new engine accomplishes this with its blazing fast software rasterizer. This software rasterizer can render around 5.7 million perspective correct textured, perspective correct Gouraud shaded, 16 bit color pixels per second on a 90 MHz Pentium machine. In other words, if the game is running in a 640 x 480 x 16 bit color video mode, the engine can perspective texture map and perspective Gouraud shade every pixel on the screen at slightly over 18.5 frames per second.Wing Commander: Prophecy is designed to run at a resolution of 640 x 480 in 16 bit color.

Networking

From the very beginning of the project, the engine has been written with multi-player game play in mind. Care has been taken to ensure that all game commands occur in one location, rather than being strewn around the code. By doing so, it is easy to send control packets from one machine to another (as well as provide a VCR playback function for the game).

Wing Commander: Prophecy assumes that any network connections will be low latency. In other words, the game will run in networked mode over a local area network (LAN), or a modem connection (9600 baud minimum).

Audio

Music playback for Wing Commander: Prophecy will be implemented with streamed digital audio.

The music will be digitized as 16 bit, 22 KHz, stereo. The file system will allow the loading of data files, sound effects, as well as streamed inflight communications video without causing a jarring skip in the music playback.

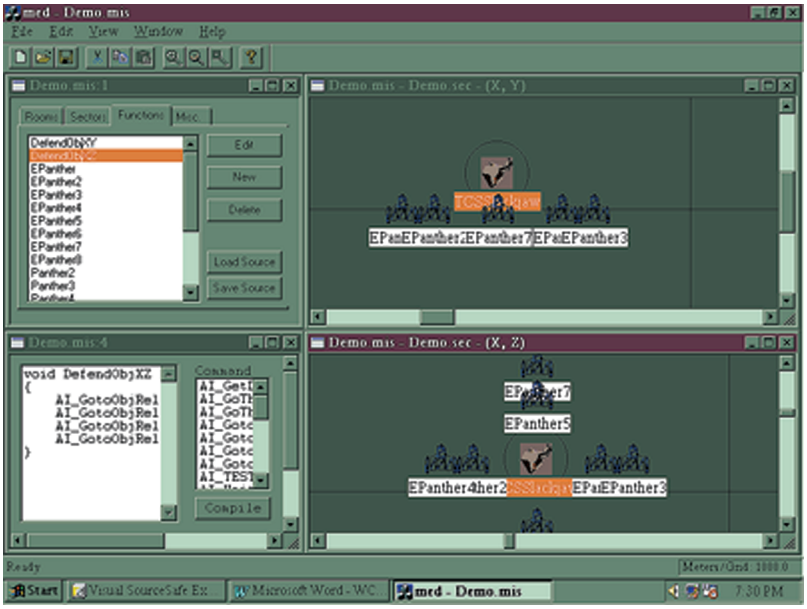
All essential sound effects (missile launch, gun firings, etc.) will be loaded at the start of the mission and will remain in memory until the mission has completed. All other sound effects will be loaded on demand. These on demand sound effects will

be kept in a cache in order to reduce redundant loading.

Sound effects will be sampled at the lowest rate that provides a high enough quality sound.

Video

Video playback will be provided by Xan, the movie player that was used in Wing Commander IV. Xan provides high quality video, even in high motion situations, at a reasonable data rate. Additionally, for speed critical applications, Xan is able to play back partially decompressed video at a faster rate with an acceptable loss in visual quality. By using Xan, we should be able to fit around 45 to 50 minutes of full motion video on a single CD (in addition to all other game data and the executable).



MISSION EDITOR

Flexible Design

The mission editor has not only been written to provide exciting missions just for Wing Commander: Prophecy, but for future games as well. It is an extremely flexible editing program that allows a designer to easily position game 'objects' in the world and assign properties and program scripts to them.

The editor remains game independent by separating game specific objects, commands, and scripting languages into individual configuration files. This way, the editor is not just limited to positioning space ships, jump buoys, or hot spots.

Mission Scripting

The mission file is the most basic element of the mission system. It consists of a spaceflight component and a gameflow component. A designer creates the spaceflight portion of the mission by selecting a Sector file. Game objects are positioned in the world by selecting the desired object type and clicking the mouse cursor where the objects should go. By right clicking on the positioned object, the designer can then alter the object's characteristics. In addition, mission programs game be attached to the objects. These mission programs are what tell the objects what to do in the game.

The gameflow portion consists of creating Rooms for the player to click through, animated sprites, and defining hot spots. Sprites are created in exactly the same manner as the spaceflight objects (they are identical as far as the editor is concerned). Hot spots are created by clicking the mouse cursor at various points to build a polygon (the game engine can handle n-sided concave and convex hot spots). Also, programs can be assigned to the gameflow objects to allow the game to perform different actions based on the mouse cursor location.

Series Scripting

The Series file is what connects the individual mission files together into one contiguous path. It controls the flow of the game. The Series file is scripted in exactly the same manner as the gameflow and spaceflight programs (FLO coding).The designers make use of a series of global variables and flags that they can set inside the mission files

according to the players actions. By referring to these flags, the designers can script the series file so that it chooses the proper mission file to load.

FLO Code

All mission programs are written in FLO (FLexible Opcodes) code. Most of the FLO commands are not native to the compiler. Native commands are simple ones like conditionals, looping structures, and branching. All game specific commands are



listed in an external configuration file. This way, the compiler does not become unnecessarily tied to a specific game. These game specific commands get compiled down into 32 bit CRCs. These are just ordinary 32 bit numbers to the compiler, but to the game for which it is compiled, it is a game specific command.

FLO source code has been designed to look very similar to the 'C' language. It is much easier to read and understand than the mission code for the previous two Wing Commander games. This allows the designers to code much more easily, and easier programming leads to better missions.

Current state of the editor

Currently, the editor is fully functional. Designers are able to create the Series program, as well as both the spaceflight and gameflow portions of the mission file. Objects are placed using a simple point and click interface. A simple editor is available for writing FLO scripts, along with an easy access 'compile' button for compiling the source. The designers have already mocked up several of the game missions.

ARTIFICIAL INTELLIGENCE

AI Scheduler

Wing Commander III and IV wasted a great deal of time by calling each object's AI update routine every frame. Since it is only necessary to call the update routine around 10 or 20 times a second, we can save a great deal of time by staggering the objects' updates across each second. That way, you do less AI updates each world update. Wing Commander: Prophecy accomplishes this by implementing an AI scheduler. Each AI update routine is assigned an update rate. The object is inserted into the AI scheduler which chooses an appropriate place in the schedule for it to update.

Pilot Profiles

The pilot profiles are what determine the personality of each AI object. The profiles tell the game how accurate a shooter the pilot is, or how likely he is to run away, or how easily he is angered by taunts. By varying the profiles of the various objects, the designers can give each pilot a unique personality and flying style. Additionally, the profiles can be modified by the game engine in order to implement different levels of playing difficulty.

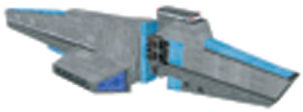
Maneuver System

The maneuver system is what will make the spaceflight combat challenging and fun. Ships will have a list of maneuvers they can select from in order to get on the player's tail, or to evade the players fire. Depending on the skill level of the pilot (specified in the pilot profiles), the ship will have access to certain subsets of the maneuver list, allowing the player to guess the pilot's skill level by noting which maneuvers are chosen.The least complex maneuvers are the single ship maneuvers. These maneuvers depend rely only on the ship carrying out the maneuver. Examples are the 'evade' maneuver or the 'get on my target's tail maneuver.

The alien craft in Wing Commander: Prophecy employ multi-ship tactics. These type of maneuvers rely on ships in addition to the one initiating the maneuver. These maneuvers consist of several objects forming together into clumps, or teaming up against a single ship.

CHALLENGES

Capital Ships



Capital ships are large, and take up a great deal of the screen. So far, with the test meshes we have, this has not been a problem. However, depending on how non-convex the actual game capital ships are, we may need to research some forms of visible surface determination.

Currently, Jeff Grills has already implemented a beam tree system to eliminate screen overdraw. If this turns out to not be a satisfactory solution, we can have David Wu research further techniques.

Child Object Rendering

Currently, all of the objects in the render system have their own BSP trees for sorting the object's faces with respect to one another. Any child objects must fit within an empty node of the parent object's BSP tree. The difficulty is that the child object must render during the render for the parent object. This presents a problem since all of the camera's variables are currently static.

First, we must implement a way for the parent object to know when it needs to render the child object. Next, we must rework how the camera stores its internal variables. Although the solution is relatively straight forward, it isn't trivial to change.



Network Integration

Although network game play has been a consideration in the development of the game from the very beginning, there are still some issues that must be resolved. The biggest issue is that of synchronous packet trading versus asynchronous trading. With synchronous packet trading, it is guaranteed that the state of the world is identical on all machines. This is nice because it means that a collision that occurs on one machine also occurs on all the others. The bad side is that synchronous packet trading forces all machines to update at the rate of the slowest machine.

Asynchronous packet trading allows each machine to update as fast as it can. Unfortunately, that also means that each machine has a different view of the current state of the world. In order to resolve that, each machine would need to keep an internal estimate of the locations and orientation of all the remote objects. Periodically, each machine would send out an update packet that contains that player's exact location and orientation. This update packet would be used to reposition and reorient that player's object on the remote systems.



File / Music Streaming

This is a task that has a known solution, but it still presents difficulty in implementation. Basically, we want to have digital music streaming from the CD at all times. During music playback, we also want to be able to load files, and stream inflight comms. Since a quad speed CD-ROM drive is required for Wing Commander: Prophecy, it is very likely that we shouldn't have trouble loading small files while streaming digital audio.

Inflight comms are a slightly different issue. The current idea is to limit the inflight video to a series of frames that can be stored in memory, allowing us to only stream the audio for the comm. Additionally, the communications audio is designed to be very short in duration, so it should be possible to buffer enough digital music to last while the inflight comm audio is streamed.

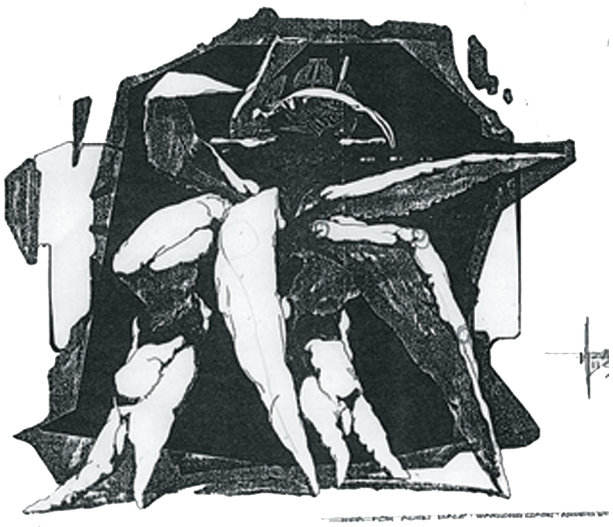


MOVIE PRODUCTION AND CINEMATICS

Art and Live Action have established a closer working relationship in the development process of Prophecy. This relationship will extend through the preproduction planning stage, into production and culminate in post; delivering an effective, coordinated result through the marriage of these mediums .

- Streamlined, manageable production built around delivering a cohesive progression of story; providing a rich context for missions
- Highly stylized and dynamic direction intended to deliver high impact
- "Raising the bar" in animated effects and com positing with live action through development of CG aliens rather than animatronics.

This is a road well traveled by this particular production staff. We have identified many of the pitfalls of past efforts and are focused on a dynamic and content heavy production style. Pacing and action are key features in our proposed effort, no epic soliloquies. This latest video shoot will feature fewer sets, and take advantage of our ability to composite with CG environments. The introduction of character animation combined with live action will push our compositing skills to a new level.



Wing Commander: Prophecy

STORY DEVELOPMENT

Overview

The story of Wing Commander: Prophecy has been developed to provide context for the mission scenarios and to give them more meaning to the player. Success and failure of mission objectives, as well as important discoveries and the progress of the war are reflected in the cinematics, comms and dialogue segments.

Wing Commander Prophecy Story:

Amongst the ruins of the Kilrah, a wormhole opens and a new and unknown force enters our universe, devastating surrounding systems. The TCS Midway, Confed's new super-carrier, is on a routine mission when it is called into action. As the situation unfolds and the aliens advance, crushing their opposition with powerful ships and weapons, finally, it is the Midway that stands between the alien front and the subjugation and destruction of the Earth. The Midway engages the enemy and fights its way deeper and deeper into alien held territory climaxing with the final battle for the alien stronghold.

Production:

Wing Commander: Prophecy is designed to deliver hard-hitting action with a gripping storyline. The live action portion will improve upon techniques that we have learned from Wing Commander 3 and 4, while delivering the punch of a more succinct and dynamic conveyance of story.

SET LIST

RECROOM...



READY ROOM...

BRIEFING...

...FLIGHTDECK





