

JUMP POINT

ISSUE: 07 08

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Editor: Ben Lesnick Copy Editor: Martin Driver
Layout: Michael Alder

FROM THE COCKPIT

GREETINGS, CITIZENS!

Welcome to another issue of **Jump Point**! This month, we're looking at some of the design work that's gone and is going into *Star Citizen's* law system. In some games, it's easy to decide what the player should and shouldn't do and determine a system for keeping everything in line. *Star Citizen* is a little more complex, because the law system and related mechanics aren't about telling the player what not to do, they're about determining the experiences of both law-abiding and criminal play styles. Since the addition of the Drake Cutlass just a few days into *Star Citizen's* original campaign, it's been clear that there are a huge number of players who are eager not to defeat the Vanduul or contribute to the UEE's economy, but to engage in piracy on the open space lanes. We spoke to several developers about what exactly law and order means in the 'verse and how black market gameplay will make lawbreaking a career choice for anyone who decides to live outside the law.

Once we've solved the age-old problem of good and evil, we take a look at the Nautilus minelayer and the array of tools at its disposal. Space mines have a long history in science fiction and gaming and *Star Citizen's* designers have gone out of their way to make sure

these new ones are going to be both interesting and fun. And in the process, they've built a pretty cool spaceship too! If you've been daydreaming about org-versus-org combat or being a space pirate hunting the well-traveled transit lanes, then I don't need to sell you on why area denial weapons like space mines are so exciting. So, jump in and read about how *Star Citizen's* designers and artists have crafted both the looks and the mechanics behind Aegis Dynamics' latest weapon of war.

On the lore front, we have a detailed look at the building of the Drake Vulture. We looked at how the "real" Vulture came to be back in June of this year and now you can find out how it happened in the 30th century. In our monthly lore feature, we learn about the Battle of Fabela, an engagement between the UEE and the Vanduul that happened a little over a century before the events of *Squadron 42*. I'd encourage anyone interested in preparing for their own battle with these alien invaders to take a look... you may learn something important!

Ben

JumpPoint@cloudimperiumgames.com



CRIME & PUNISHMENT

As the Stanton System has evolved, it's transitioned from a free-for-all Wild West to areas with rules that NPCs have started to enforce. *Star Citizen's* upcoming patches will continue to overhaul the law and black market, but these systems are much more complex than right and wrong, especially in a game where wrong can sometimes be the right choice for how to play. We talked to some of the developers working on the next iteration of the law and black market systems to find out how they're solving these challenges and what's coming in the future.

[BEGIN TRANSMISSION →](#)

JUMP POINT (JP): Thank you for taking the time to talk about these upcoming systems! Let us know who you are and what you've been working on.

DAVE POLLARD (DP): My name is Dave Pollard. I'm a senior gameplay programmer, responsible for the mission system, law and hostility, and a few other bits and bobs. As well as developing the new law system, I've been working hard on adapting the mission system to ensure it will work well with server-side object container streaming.

LUKE PRESSLEY (LP): I'm Luke Pressley, lead designer of *Star Citizen* Live. I manage various things which will certainly be redacted if I mention them.

JAKE MUEHLE (JM): Jake Muehle, systems designer. I work on the Persistent Universe's economy and economic simulation.

JP: Give us a high-level description of the new law system. What is it and what does it mean for how *Star Citizen* will be played in the future?

LP: The new law system introduces jurisdictions, new crimes and punishments, and security forces that require the player to stop their ship to be scanned. Crimes are split into less severe misdemeanors, which are enforced via fines, and serious felony offenses which will result in the player being engaged by hostile AI and bounty hunters. The player's crime-stat directly impacts the level of opposition and their pursuit style - the higher the crimestat, the more active and determined the pursuers.

Law is enforced by a jurisdiction system, with Stanton's main jurisdiction being the UEE, which tracks and enforces felony offenses. Regional jurisdiction is specific to a given area (such as Crusader, Hurston), with local police forces having their own misdemeanors, rules for substance control, and unique security forces. The rules and crimes for each region will be listed in the mobiGlas Journal for that jurisdiction and are updated as you move through the regions. However, GrimHex is a unique case that doesn't respect the authority of the UEE and doesn't report crimes to them. It also 'field dampens' the area around it to protect visitors.

Various security forces may also randomly approach the player as they move around the 'verse. If the player encounters these forces



DAVE POLLARD



LUKE PRESSLEY



JAKE MUEHLE



in a stolen ship or a ship owned by a felon, they will immediately be attacked. Law-abiding players will be requested to halt and submit to a scan via ship-to-ship comms. If the player fails to stop after repeated warnings, they will be given a crimestat and attacked. If they submit to a scan and are in possession of illegal goods, they will be fined and the goods removed. Stolen goods and illegal commodities can now only be sold at less-than-reputable locations, some of which may require investigation to locate.

JP: *We hear a lot about how a particular ship or environment is implemented in the game, but what kind of process is involved when a complex design write-up is turned into a functioning part of the game?*

DP: For the law system, there was a lot of back and forth between the design and code teams once we started adding laws into the game. Learning from the old, simpler criminality system, it was clear from the outset that the new system would need to be very flexible as

we'd need to be able to adapt laws and add new rules as the game develops. Once the underlying system was implemented, we added the game code hooks needed for each basic law type (such as a player being killed, a ship being rammed or destroyed, illegal parking, etc.). Finally, we moved onto the more complex behaviors of security patrols, which involved working with several other teams such as Ship AI for behavior, Vehicle Features for IFCS, Vehicles for scanning, and Live for black market goods and probability volume hooks. This last bit represented quite a logistical challenge and it's fair to say it had a few teething problems in the PTU!

JP: *How do you design a law system that accounts for the sometimes-murky vagaries of gameplay? How does the system differentiate an accidental bump on a landing pad from intentional acts and piracy?*

LP: When we don't have enough information to confidently determine intention, we err on the side of leniency where possible. To aid with

this, there are two distinct types of infractions: misdemeanors and felonies. Misdemeanors carry fines which range from inexpensive to eye-watering, and in this first implementation, they are taken directly from the player's account. However, we are working on a kiosk that allows players to pay fines in their own time, though it will be cheaper to pay it off quickly before it escalates. In the first implementation, security forces attack any player with even a single felony. In the future, security forces will demand criminal players surrender and their level of aggression will depend upon the length of the player's criminal record.

DP: It can be surprisingly difficult to determine whether someone has actually committed a crime – there's a good reason real-life laws and justice systems are so complex and lawyers can charge so much! We obviously can't take every decision to court, so have to have much simpler rules as to what constitutes a crime and try and be as consistent as possible to avoid the player feeling like they've been

unfairly prosecuted. As I was implementing the new law system, I was constantly checking little details with Luke, such as how particular laws should work or who is responsible if someone in a multi-crew ship turret-kills someone.

JP: *How will the system adapt to upcoming gameplay and exploits discovered by players in the future?*

DP: As the law system is in its first iteration, there will undoubtedly be some loopholes that players discover and there are things we know that aren't quite right yet. Real-life law and justice systems take decades to develop and are constantly evolving. While our law system is a much simpler prospect, we designed it with the future in mind, allowing us to easily adapt the rules as other gameplay systems are added or exploits are found.

LP: I'll give you an example: We found that players have been able



to grief each other by parking their ships directly above hangars or in front of garages, forcing the exiting player to bump them and incur a vehicle damage fine. So, we will be defining areas around hangars that are prohibited to linger in. We're also investigating making players with takeoff or landing rights exempt from vehicle damage infractions when they're within a landing zone.

JP: *Is the new law system a complete replacement of what was currently in the game or is it a continuation of that work? Will there be an impact on the existing rules for armistice zones?*

DP: From a code point of view, the new law system is a complete overhaul. We still have armistice zones as before, although the long-term intention is to remove them completely and have those areas handled by a strong law enforcement presence and strict laws. The plan is to begin this at GrimHex and assess its impact there before we consider rolling it out across the system.

LP: Gameplay-wise though, it's a continuation. Previously, the game knew exactly what laws you broke within a monitored zone in a very "gamey" fashion. Now things aren't so black and white and security can only know what they scan. Crimes committed by a ship are attributed to the owner of that ship as they are ultimately responsible for its use. However, we gave players a way to report their ships as stolen to protect them from receiving the crimes of their ship's thieves.

JP: *What kind of UI work is involved in the update? Will players be able to access the same information as the in-game police about their criminal records and infractions?*

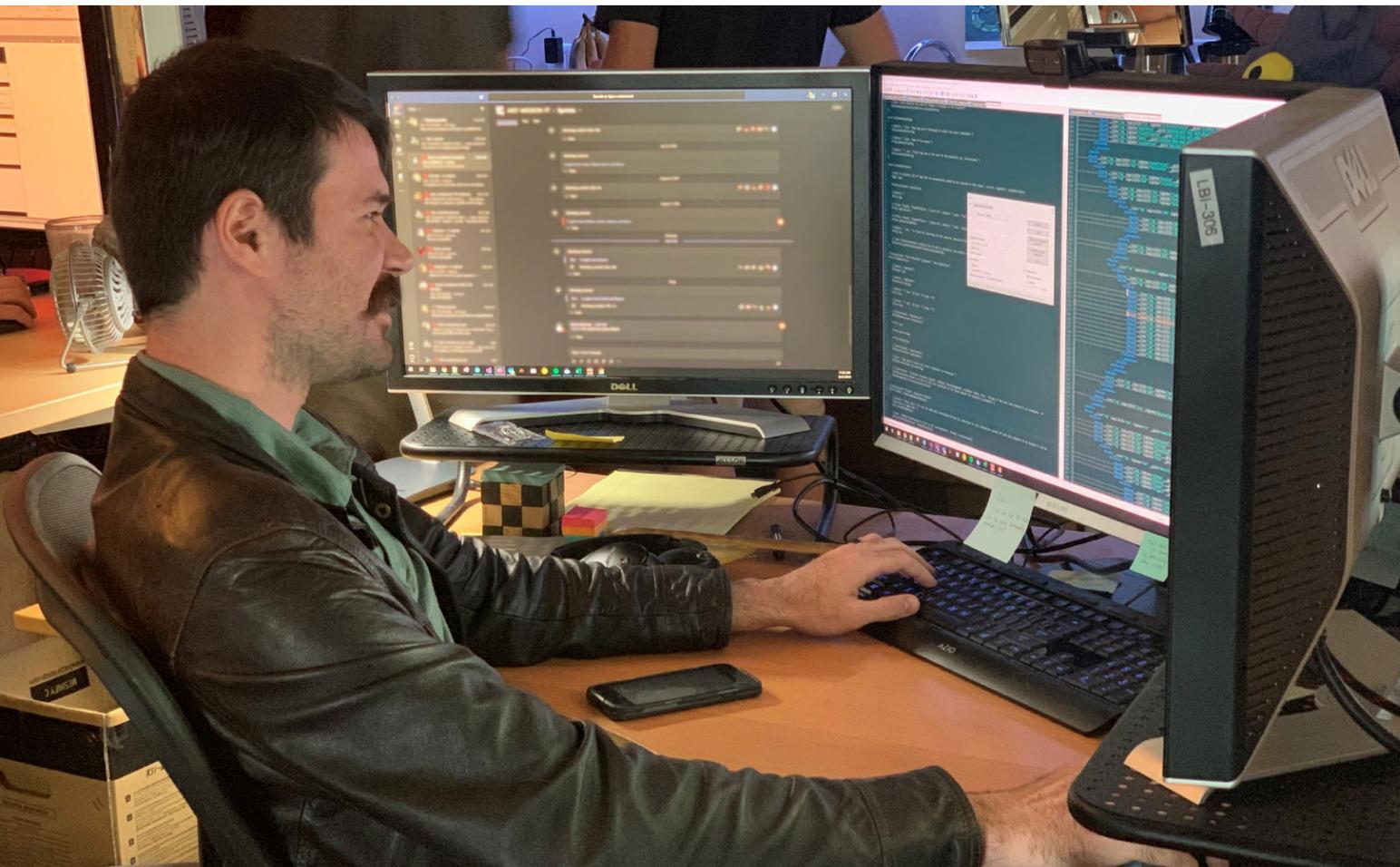
LP: The main UI work was on the comm array and criminal database screens and involved developing the Building Block system and an artist polish on the screen prototypes. Live Design is developing a law app which will allow players to check the laws and restrictions of all jurisdictions no matter where they are at the time. It will also show any active felonies and all the details you will need to track your fines and prioritize which to pay off first and where.

JP: *How are players punished when they break the law? Is there a system for clearing their record or putting them back in the law's good graces?*

LP: In the first iteration, players only lose their crimestat if they're killed by security forces (in future, they will be sent to jail) or if they hack a criminal database and clear their record. We plan on offering community-service-style options for players who have a low crimestat, so players accidentally committing a crime aren't made to go to prison unless they turn down the offer.

JP: *Do you view the law system as a way to directly police player actions or as a way to create different paths of gameplay? Is there a benefit to being on the wrong side of the law?*

LP: We don't see the law system as a way to punish players for actions that we deem to be griefing or game-breaking; these should be fixed via other means. The system's purpose is to provide a sense of security for law-abiding players and, on the flip-side, create lawlessness in specific locations. It also provides additional challenge and risk to those committing crimes whose legitimate gameplay



brings increased law presence, which causes a higher demand for munitions and combat supplies, leading to a change in what stores carry.

JP: Does the black market affect other gameplay outside the economy?

JM: Not yet, though again we're building toward it with the full economic simulation. We aim to have crime, police, and economic activity all be influenced by the kinds of transactions players engage in most.

JP: How do I avoid detection as a black market trader?

JM: Currently, it's best to avoid jurisdictions that have strict regulations concerning stolen and/or contraband goods. You probably want to avoid being scanned by local authorities and know exactly where you're heading before you take off.

JP: Will players be able to identify other black market traders?

JM: Work on NPCs is laying the groundwork for the tech behind scanning that will eventually be used in player-to-player interactions. We're still sorting out exactly how players will see cargo manifests and black market goods while scanning (and how a player goes about reporting someone to the authorities if they choose to).

JP: Is there a plan for smuggling?

JM: It might be a while, but smuggling is certainly something we'd all like to see implemented. Smuggling has a lot of dependencies, so we have to figure things out like player-to-player scanning, altered cargo manifests, advanced law interactions, and smuggling holes before we can start implementing it.

JP: How are these systems tested and integrated before they go live in the PTU?

LP: The Live Design Team has two embedded testers who perform checks as the feature is developed. Once the feature is deemed finished, a more formal testing request is made to general QA who provide a thorough and holistic test. While in the PTU, the developers use the Issue Council, check Spectrum, and watch streams to learn of issues and get feedback.

JM: For design feedback, large-scale economic changes like this typically use the Evocati and PTU for data-gathering and player feedback. For functionality, the design teams typically use a dedicated tester to verify interactions are functioning the way they intend.

JP: What are you most looking forward to seeing happen in the game when these new systems go online?

causes hardship for other players. The benefits of being on the wrong side of the law can be anything from shortcutting the usual bureaucracy to making more money than could be legitimately earned in a shorter time-frame. The downside is that players spend all their time on the run, which in the end, could be more effort than simply earning an honest living.

JP: What consequences can players expect from trading stolen goods?

JM: As long as they're not caught possessing stolen goods or contraband, they won't take a reputation hit. Your reputation will take a dive proportionate to the number of stolen goods and/or contraband you possess, but only if you're inspected by local authorities.

JP: How do I know if the goods I have are stolen?

JM: Stolen goods come from picking up the contents of destroyed ships and obtaining cargo when you haven't paid for it. In commodity kiosks, stolen goods are listed separately from your legally-obtained goods.

JP: If someone steals from me, how am I protected?

JM: Right now, the law system adds negative reputation to the perpetrator and they will eventually be hunted down and reprimanded.

JP: Who will buy my stolen goods? How can I find those people?

JM: A 'fence' is a person (or shop in our case) that doesn't ask questions about the legality of goods, though they typically buy at a fraction of the price in exchange for their flexibility. We're currently discussing adding quests that lead players to this shadier type of exchange, but right now, the idea is for players to work together to find these locations throughout the universe.

JP: How does the game differentiate between stolen goods and contraband?

JM: Stolen goods are anything that rightfully belongs to someone who isn't you. Contraband is material deemed illegal to possess in certain jurisdictions and changes from place to place. For example, Levski is more lax on drug regulations than Lorville, so possessing something like E'tam isn't that big a deal there.

JP: Do stores change inventory based on the amount of black market activity?

JM: Black market activity is relatively independent of normal market activity, but this is exactly what we're building toward. Eventually, the increase in black market activity will bring increased crime, which





JM: We're looking forward to dynamic interactions between players and seeing the follow-up from those interactions as stories on Spectrum.

JP: What's next after these systems come online? Will you continue to add to them or will you move on to focus on different mechanics?

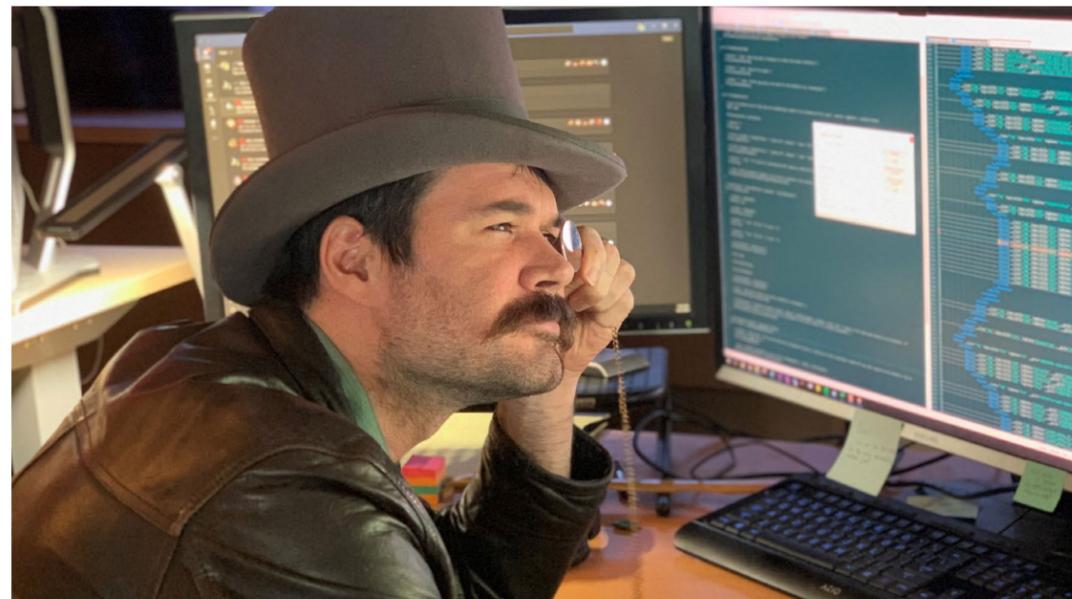
JM: The black market is the tip of the iceberg for tangible effects on the in-game world from player activity. We're going to continuously build on the idea of a well-maintained systemic simulation and build tools to let us do exciting things in the game.

JP: Do you have any special message for the Star Citizen community regarding these features?

JM: We regularly rely on your feedback for tuning issues in the Star Citizen economy. Don't be afraid to be vocal with things you love or hate about the way things are currently balanced. With the in-game economy, it's critical for us to get the full range of player experiences, so the more voices we hear the better!

DP: Stay out of trouble! F*ck the police (or something in between)!

END TRANSMISSION ←



WORK IN PROGRESS... AEGIS DYNAMICS NAUTILUS



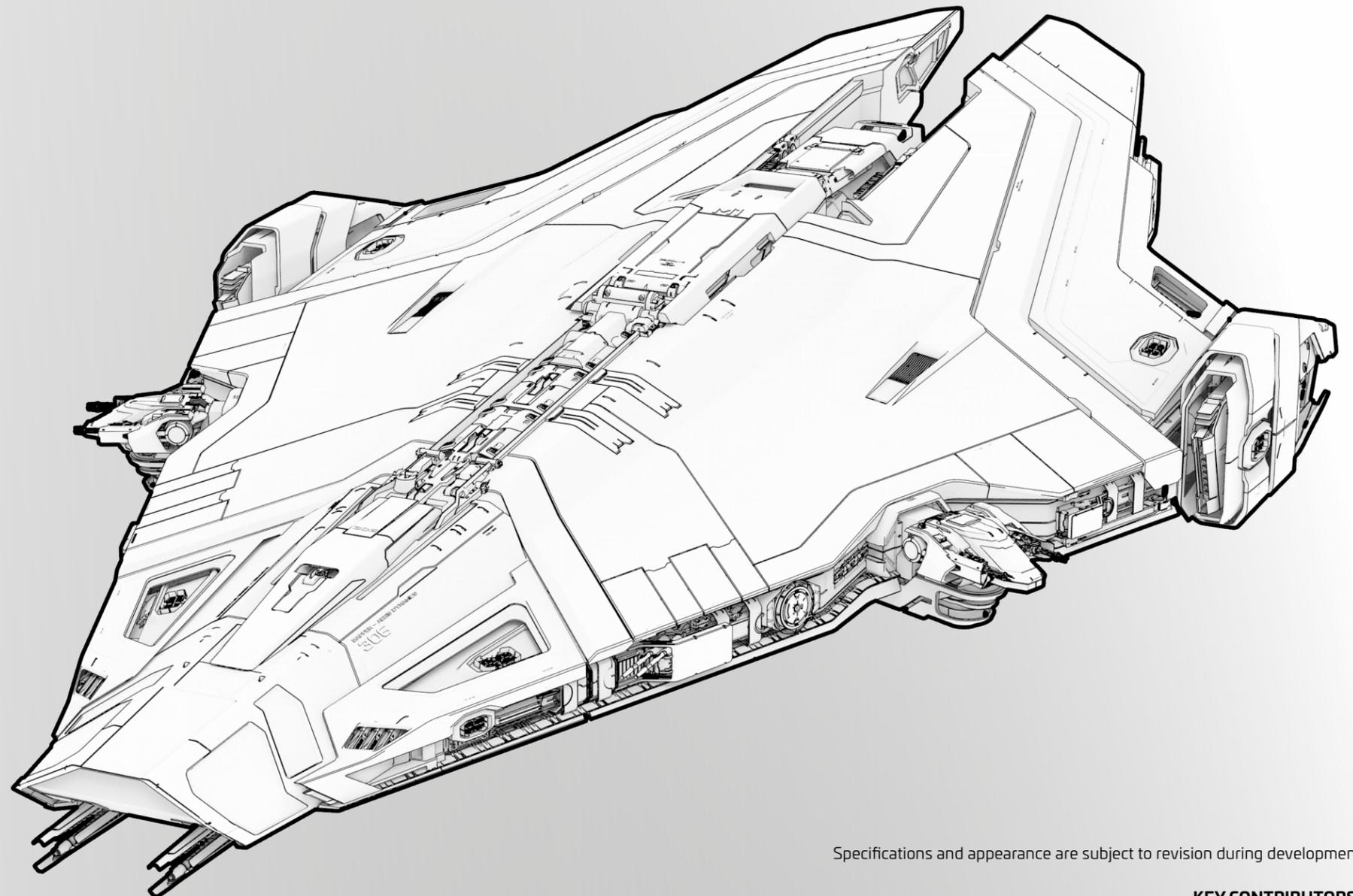
AIMS

- The AEGIS Nautilus is a multicrew mine laying combat ship. Designed to allow players to drop large style mines. As default it would come equipped with two different types of mines, Deployable Weapons Platforms and a proximity detonation mine. Perfect for blockading an enemy supply route or ambushing mid flight.

AESTHETIC

- Aegis Dynamics military style (Hammerhead, Idris) in a medium-sized multi-crew warship.

Length	125m
Width	72m
Height	21.6m
Max Crew	8
Utility Mounts	Drone x 1 (mine retrieval / disarmament)
System	1 x S7 - Mine / DWP system
Turrets	1 x Manned Turret with 2x S7 Guns 2 x Manned Turrets with 2x S3 Guns 1 x Manned Turret with 2x S3 Guns
Mounts	1 x S7 - Mine / DWP system
Counter Measures	2 x Flare/ Chaff Launchers
Cargo Capacity	64 SCU
Jump Drive	1 x Large
Quantum Drive	1 x Large
Power Plant	2 x Large
Shield Generators	3 x Large
Coolers	2 x Large
Life Support	1 x Large
Fuel Tanks	1 x Large
Quantum Fuel Tank	2 x Large



Specifications and appearance are subject to revision during development.

KEY CONTRIBUTORS :
LEAD DESIGNER: JOHN CREWE
CONCEPT ART: MICHAEL OBERSCNEIDER
ART DIRECTOR: PAUL JONES



DAMN THE TORPEDOES!

Mines lining space lanes have regularly featured in science fiction since at least the early 1950s, appearing in everything from pulp novels and the original *Star Trek* TV series to the *Star Wars* prequels and *Wing Commander*. Their prevalence is the result of a very common chain of thought and the literal development of outer space as what John F. Kennedy famously called “this new ocean”. Writers, filmmakers, and game developers have regularly viewed the future of space combat as a translation of naval warfare, with destroyers, cruisers, frigates, battleships, and aircraft carriers routinely elevated to the sea of stars. Along with them, they bring oceanic strategies, terminology, and weaponry like missiles, artillery broadsides, and... mines.

Naval mines date back hundreds of years, with the earliest examples appearing in 14th century China. The modern naval mine (then somewhat confusingly called the torpedo or infernal machine) premiered in 1854 during the Crimean War, when Russian forces deployed them en masse to blockade the Gulf of Finland. The deployment of these mines was quickly followed by the enlistment of makeshift minesweepers by the Royal Navy, which initially took the form of small, wooden rowboats that could safely navigate close to the explosives to allow their crews to disarm them directly. Soon after, the weapons would go on to play an important role in blockading coastal and river fortresses during the American Civil War.

The value of mines was immediately clear: they could be used to either

sink warships without risk to allied life, or they could be used to make locations untraversable and therefore force surface engagements to places of strategic choosing. By the 20th century, mines were being mass-produced and deployed in increasingly mechanized ways, with purpose-built warships efficiently placing and removing ordnance. As visions of a future in space began to take shape, it made sense that similar weapons would be deployed in the vacuum with the same strategic intent.

It comes as no surprise, then, that *Star Citizen's* arsenals would eventually grow to include space mines. In fact, they've been a long time coming, as they had been in the planning for *Squadron 42* since early in the project's development and expanding them into the Persistent Universe

was something long included on the designers' to-do lists. Players, they reasoned, would be eager to add a dash of asymmetrical warfare as the 'verse's organizations developed and player interactions became more complex. But what form would these weapons take? How would they be deployed and how would they be countered? The answer to those questions and more comes in the form of the brand-new Aegis Nautilus.

MAKE MINE MINES

The job of expanding *Star Citizen's* plan for mines and developing the specifications for what would become the Nautilus fell to John Crewe. “People play the PU for a variety of reasons,” he explains, “and players don't always need or want to solely use conventional projectile weapons.



Defense-based combat is a viable playstyle to consider and the Nautilus is just one of many ships that can provide a more defensive focus. Laying mines is the perfect way to provide a defensive perimeter to key assets, such as a base or resource, that doesn't require players or NPCs to maintain an active presence in the area. A minefield can also provide reliable coverage to a much larger area than a patrolling ship can."

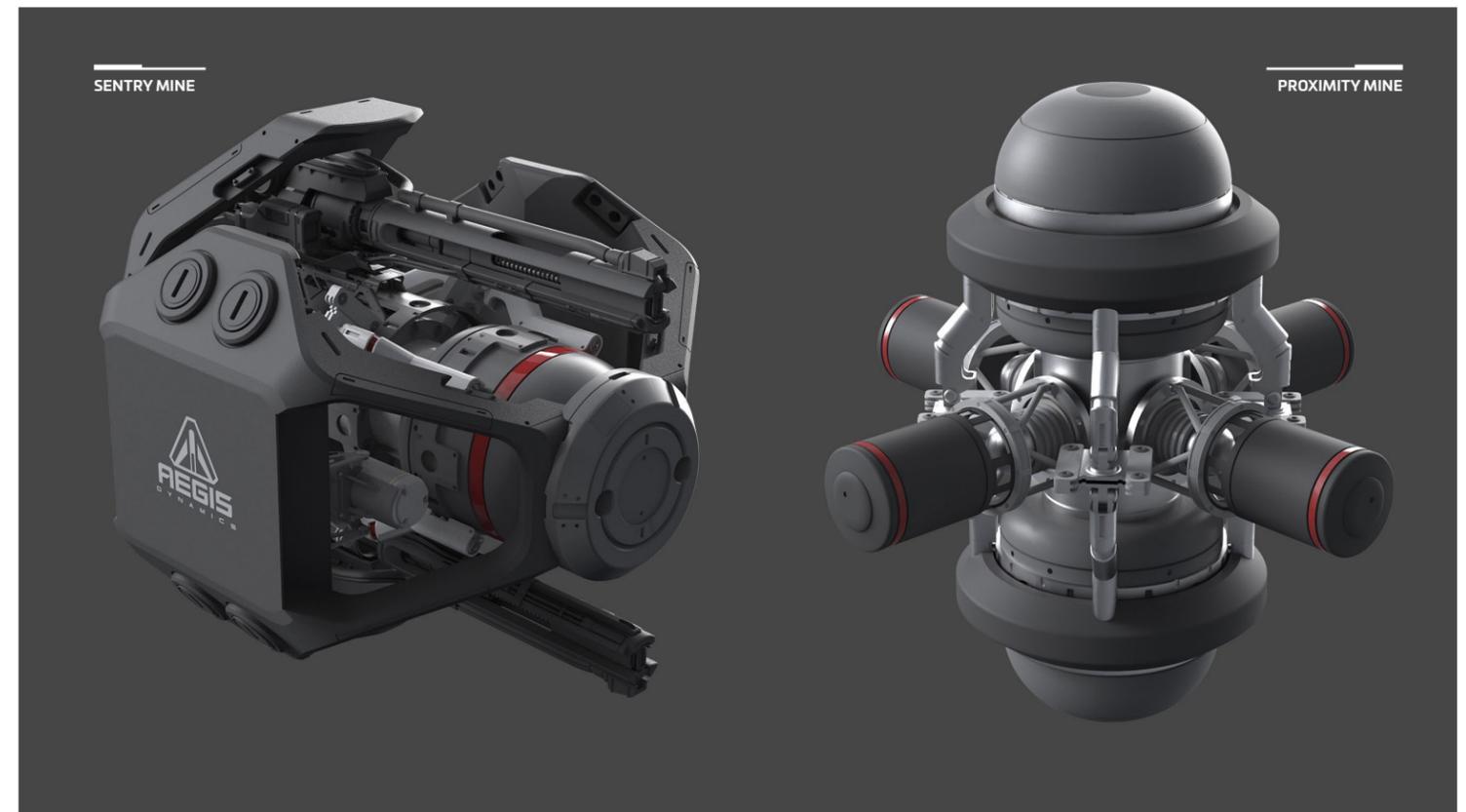
The first step in the process was to determine what kinds of mines players would have access to. "Both the homing-style proximity detonation mine and weapons platform are geared towards area denial. While we're not actively looking at more offensive options, we're not ruling it out. Minefields in *Star Citizen* are relatively sparse in comparison to real-world examples, partly for technical reasons and partly for gameplay reasons."

Like energy and ballistic weapons, missiles, and torpedoes, the exact function of mines needed to be developed. Allowing explosive weapons that could exist permanently in space could be an issue both technically and in terms of player experience. And then there's the issue that space is very, very large. "Our homing mines have the luxury of thrusters and onboard power supplies that allow them to cover a significantly larger area than more traditional dumb mines," Crewe explains. "The lifetime of a mine is directly related to its power source. As this degrades, it

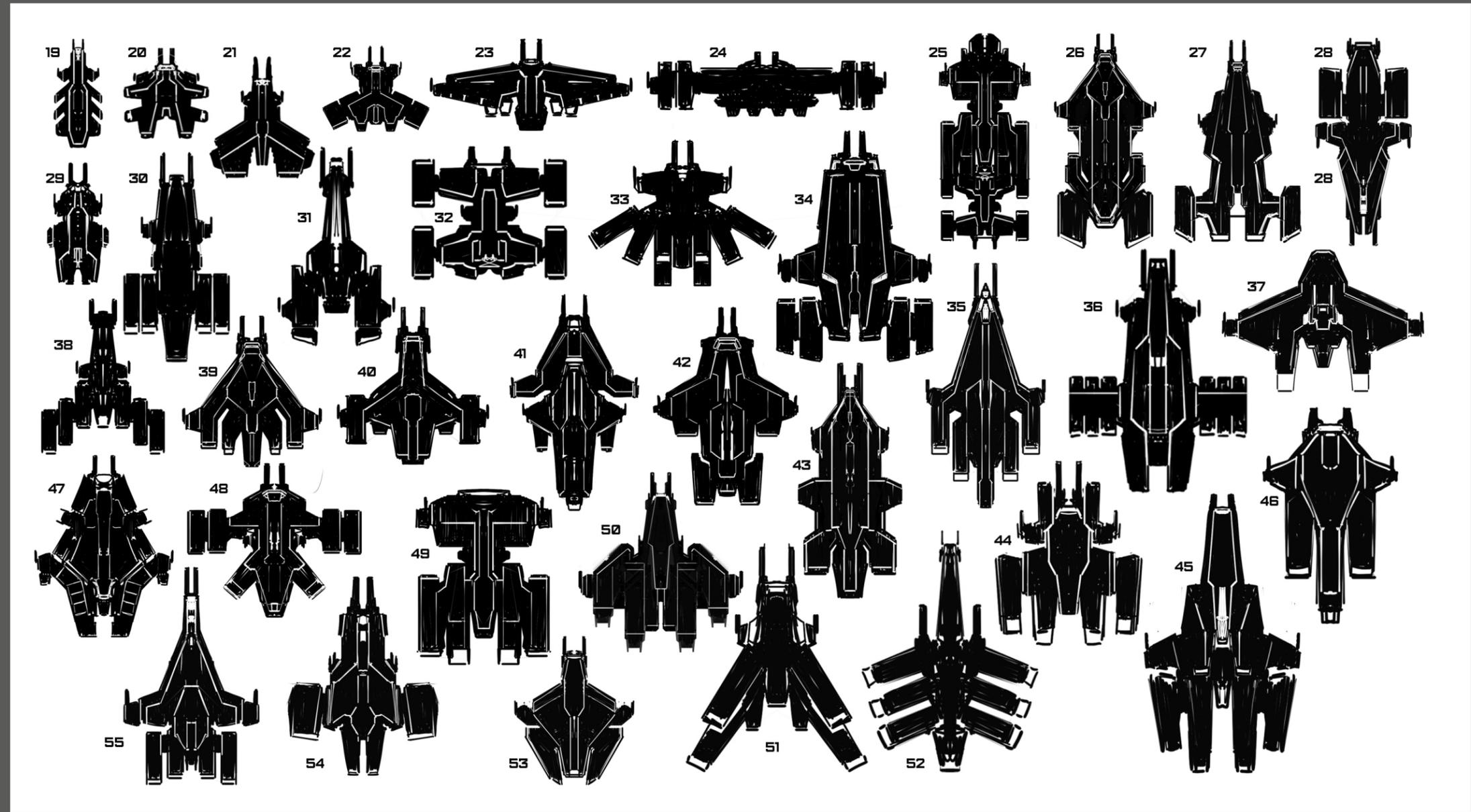
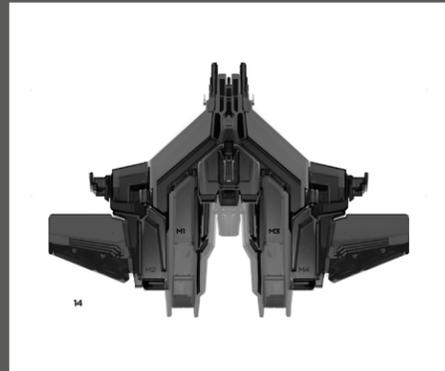
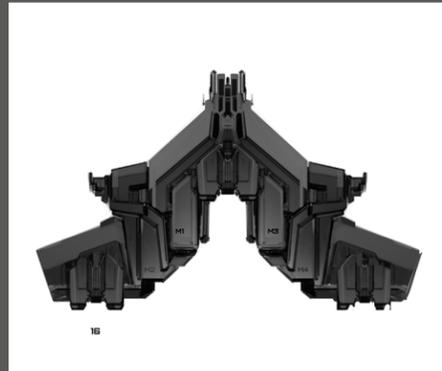
reduces the mine's functionality to a low enough level that it requires a maintenance visit. However, once deployed, there is very little direct control over them. Information is relayed back to the owner's ship to inform them about the mine's status or give a best estimate if they're outside direct communication range."

As with the Consolidated Outland Pioneer and colonization, the Nautilus was designed around minelaying, making it the flagship for the new mechanic. Crewe continues: "The main minelaying system takes over at least half the internal volume of the ship and doesn't leave a lot left to play with. While other ships in the future may be able to lay mines as part of a customized loadout, the Nautilus was built for it so excels at it." As is the case for many ships, the Nautilus represents the pure version of a particular job that other spacecraft will eventually be adapted to be able to touch in a 'jack of all trades, master of none' sense.

Designers also worked to determine exactly how minelaying would function to the end-user. Like other ordnance weapons in the game (missiles and torpedoes), the UI will provide feedback on key state changes such as locks and detonations. Additionally, mines will relay information on things like power level, friend/foe status, and degradation back to the Nautilus that deployed them. This will let players keep track of mines and minefields whenever they are within direct communication



1. OBERSCNEIDER BEGAN BY CONSIDERING OVER 50 OVERHEAD DESIGNS. "IT WAS A BLESSING AND A CURSE. THERE WERE SO MANY GREAT DIRECTIONS IT WAS DIFFICULT TO CHOOSE JUST ONE!" PAUL JONES



range. Outside of that range, such as when in another star system, those values are estimated based on the last data the Nautilus had available.

The ability to deploy minefields may be a gigantic addition for players, but it's only half the battle for designers. For such a major addition to gameplay to work properly, it needs a counter. Instead of delaying development by building a separate minesweeping ship, Crewe opted to let Nautilus crews play double duty. "The Nautilus itself comes with special drones designed to recover friendly mines and hack enemy ordnance. Minesweeping can take the form of targeting and destroying mines or by removing them via hacking and either leaving them in place or recovering them." That doesn't mean that players will absolutely need a Nautilus to counteract mines. The mines are component driven so are susceptible to EMPs and distortion-type weaponry, which cause them to be temporarily disabled.

The result of a spirited design process was what was then referred to as the Aegis Sapper, with *Star Citizen's* premiere military contractor chosen as the best representative of a new type of military technology. The Sapper would take the form of a mid-sized multi-crew ship with a variety of defensive systems but few options for direct attack.

ENEMY MINES

The next challenge was to design the look and physical functionality of the Sapper (which was soon renamed the Nautilus). Art Director Paul Jones was ready for the task. He chose Michael Oberscneider as the primary concept artist, who is known for several ships including the Anvil Hawk and Crusader Starlifter. Though he previously worked in-house, he was now assisting with individual ships as a contractor.

One issue became immediately clear during the pre-visualization stage - while transporting other types of warships into the stars meant taking unique physical features and adapting them for space (such as the flight deck of an aircraft carrier or the deck guns of a battleship), there was no single unique look for a minelayer. Modern minelayers and minesweepers look extremely similar to transporters and freighters rather than sharpened weapons of war. As a result, the only real-world reference that would kick off the process would be smaller mine deployment mechanisms and the sense of movement they suggest

about the ordnance. Oberscneider would instead need to focus on the unique three-dimensional nature of the mines themselves and reference existing Aegis designs to develop the ship's exterior lines.

Development of the Nautilus concept would begin during February 2019 and last roughly four months. Jones notes that while that might seem like a long time, it's necessary for such a large ship, particularly one that's built around a completely new design mechanic. History has shown

that getting things like animations, player visibility, and internal layouts right at the concept stage ultimately save an incredible amount of time during implementation; an extra day getting a launch mechanism right at concept can save weeks of rework at the later stages.

To present for the first pass review, Jones and Oberscneider put together a series of beauty renders that showed materials, a collection of ambient occlusions, and some rough internal layouts.

2. JONES CHOSE THREE DESIGNS TO BE DEVELOPED IN 3D FOR FURTHER REVIEW. VARIATION 47 WAS WIDELY CONSIDERED THE FAVORITE.

VARIATION 16



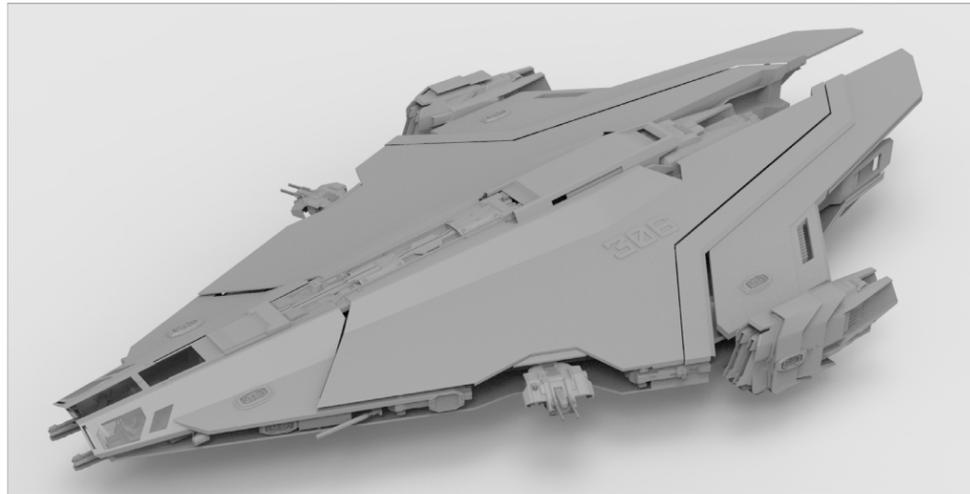
VARIATION 73

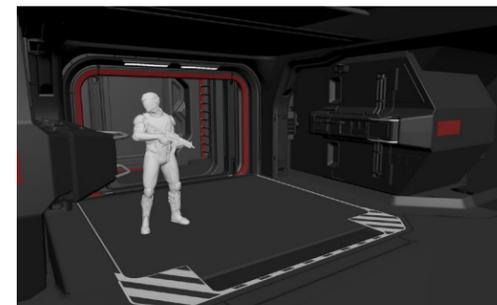
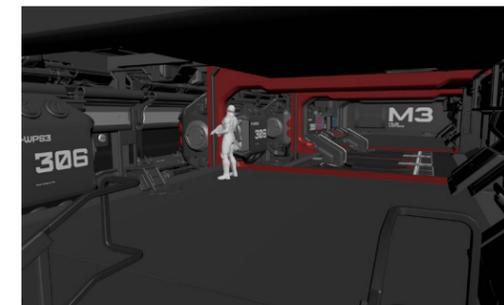
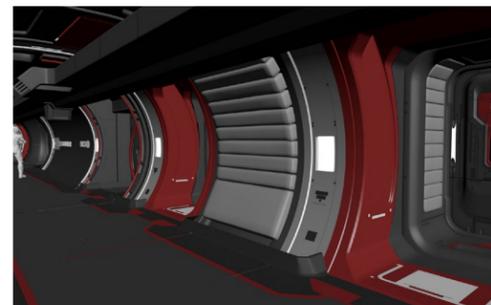
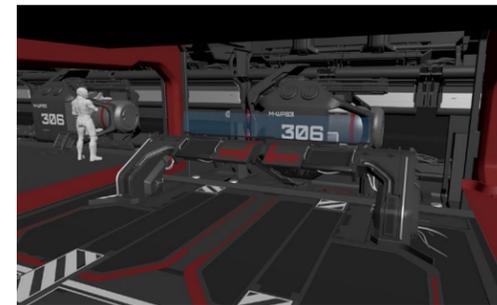
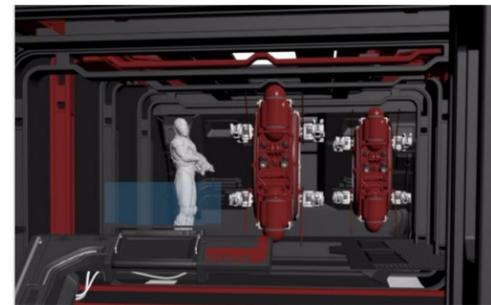
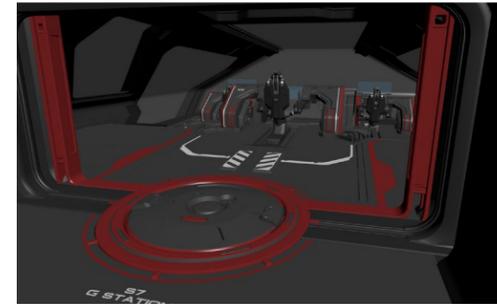
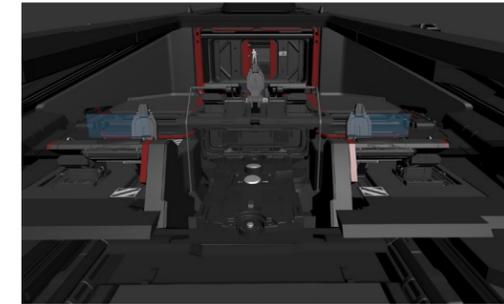
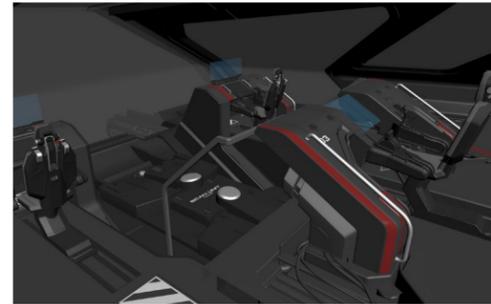
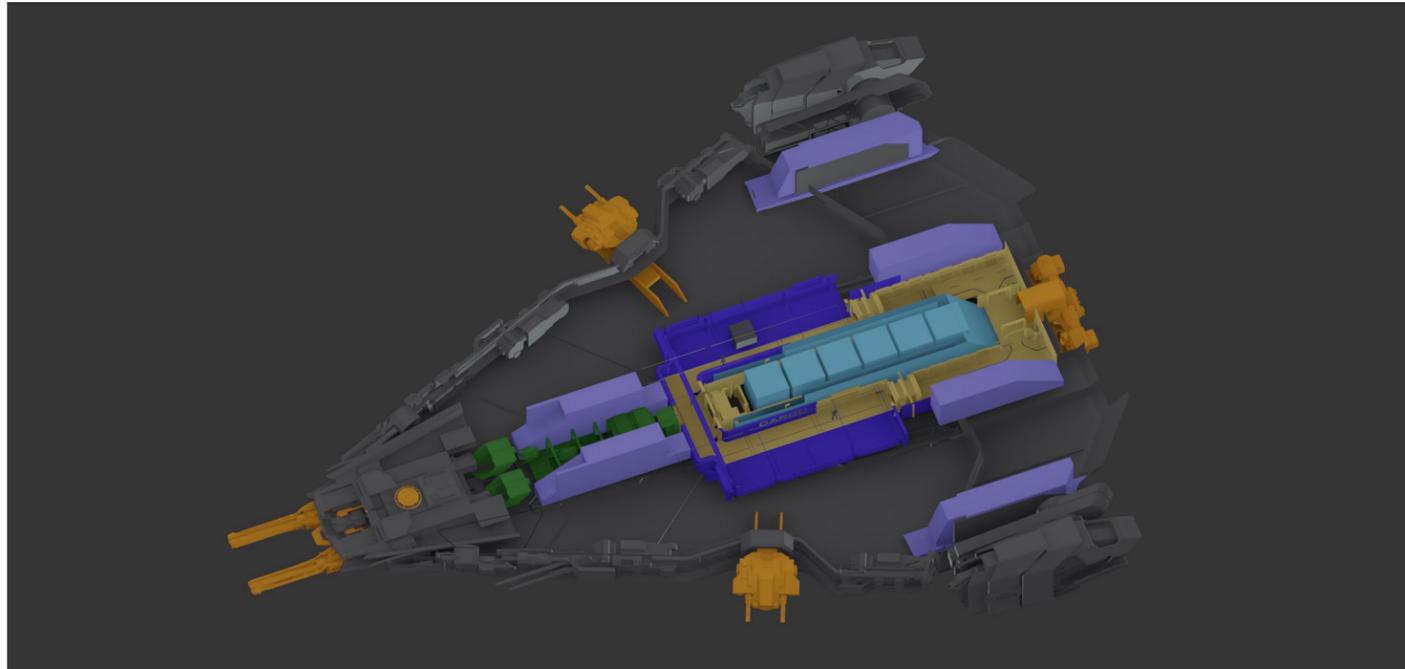
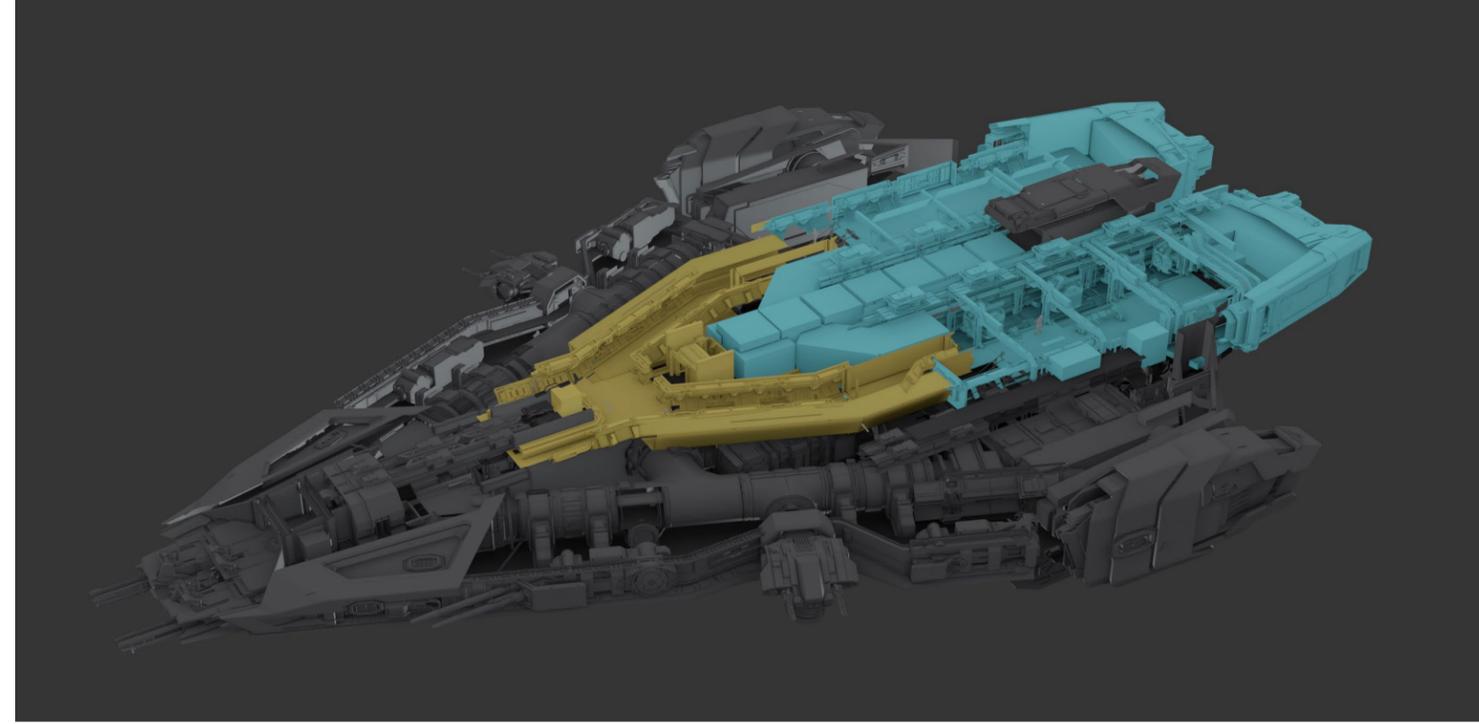
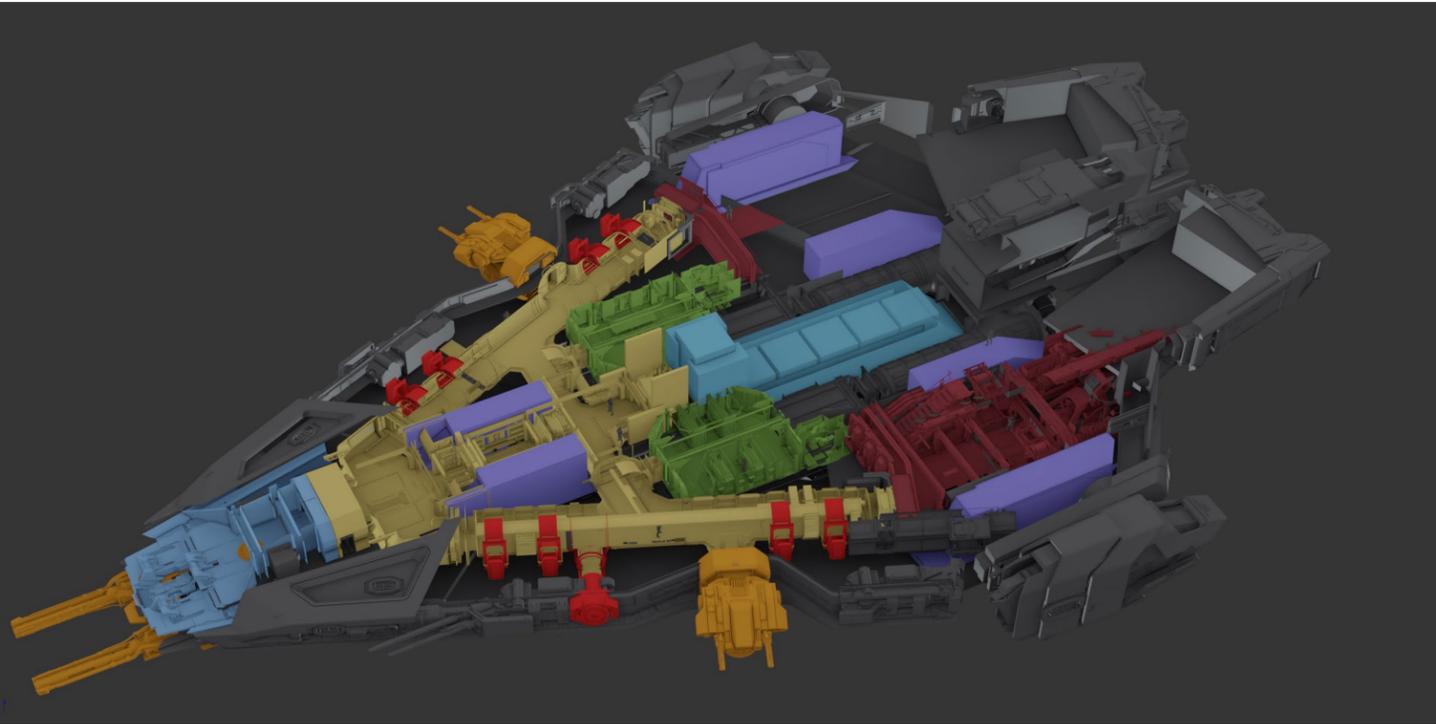


VARIATION 47



3. THE SHIP BECAME MORE REFINED AS THE FAMILIAR AEGIS DESIGN CUES AND DETAILS WERE ADDED.

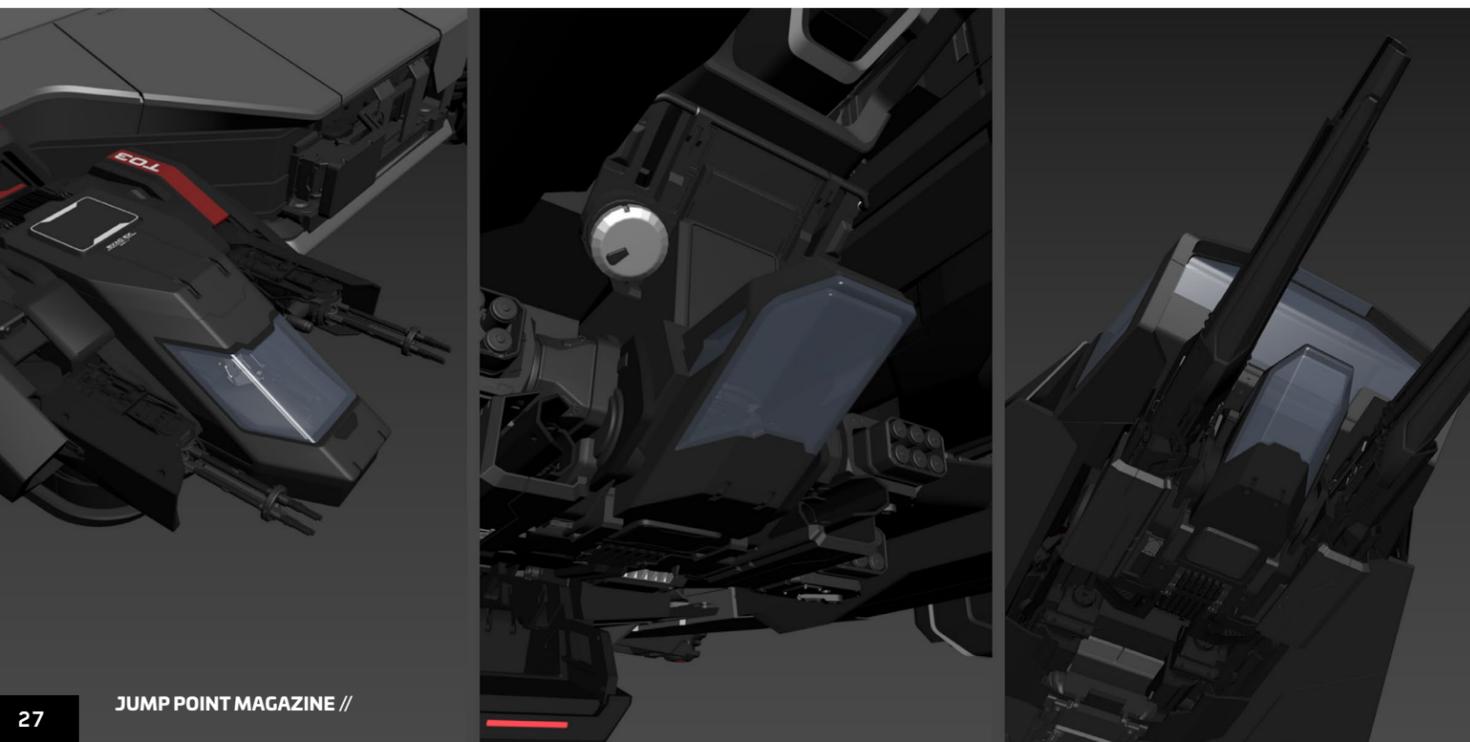
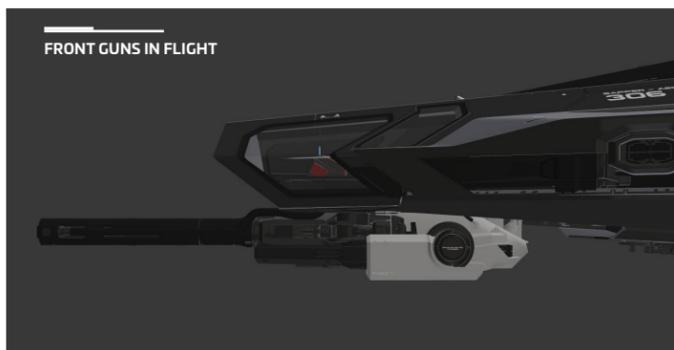
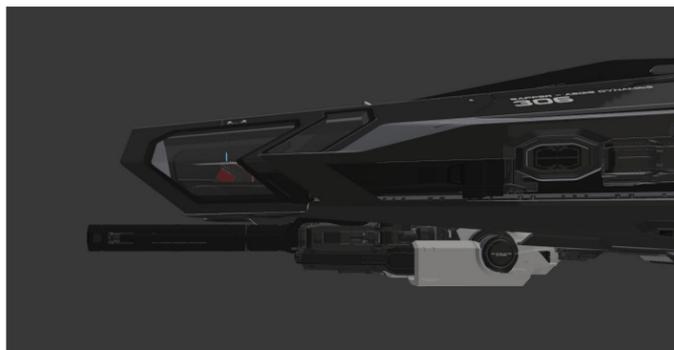




MINE, MINE, MINE!

The Nautilus' first review went extremely well and focused largely on concepts to explore. Chris Roberts requested that the main engines turn for use as VTOLs on the ground and the team was further asked to explore how mines were collected. Additional work was also needed for the interior, which was overly symmetrical in a way that could be confusing to players. Oberscneider went on to rework it to be more efficient, considering a military ship would allow its crew to reach action stations as quickly as possible.

With additional time already scheduled, getting other aspects of the Nautilus right came next. How, for example, would players get in and out of the turret? The main defensive turret was deemed too large, with the body dwarfing the guns, so it slowly shrank as the process continued. For the interior, Oberscneider initially developed new styling but was ultimately asked to adapt the kit used for the Idris and Hammerhead to make it consistent with the rest of the active Aegis fleet. Further review passes identified other internal needs: a bay for drones, an operator room, a mess hall, and a central lift shaft to simplify navigation.



As work continued, Jones produced a number of animations that would help the team implement the concept's ideas in the future. The more of these that were created, the easier it would be for other developers to understand the intent behind the design. Jones created animations showing how mine loading works, how deploying the weapons functions, how the landing gear releases, engines fire, turrets move, where ordinance

is stored, and more. Additional work on the underside of the ship slightly tweaked the shape and the landing gear doors, made sure the thrusters were in the right place, and ensured missiles and manned turrets had adequate clearance.

As the team began to develop the marketing shots that would be released to the community at a special Concierge event in August 2019,

they had one last realization - they'd forgotten to make space for a captain's room. Luckily, the versatility of the initial design saved the day once more and the room was added to the existing layout without significant change to the deck plans that had been so carefully developed. As the Nautilus began to take its first steps into the 'verse, it already had a reputation as being a well put together and somewhat lucky ship design.



AEGIS NAUTILUS CONCEPT PAGE

<https://robertsspaceindustries.com/comm-link/transmission/17203-Aegis-Nautilus>

AEGIS NAUTILUS SHIP PAGE

<https://robertsspaceindustries.com/pledge/Standalone-Ships/Aegis-Nautilus>

AEGIS NAUTILUS BROCHURE

<https://media.robertsspaceindustries.com/k23sqf6gnlqpb/source.pdf>



THE HUNT

Most spacecraft have a common point of origin - they're developed to military specification or they're designed to fill a market need for civilians or corporate groups. The Drake Interplanetary Vulture has a different story - its development originates from a rush to complete a treasure hunt. On the 9th of August 2895, the Terra-flagged freighter Empire Slipper suffered what was later determined to be an unlikely cascade of system failures which resulted in the bridge terminals receiving a completely incorrect set of navigation overlays. The error caused Slipper's navigation officer to chart a course into a dense asteroid belt within close proximity to the danger zone of a red giant's corona. A debris strike subsequently disabled the aging freighter's shield generators and unfortunately delivered a dose of fatal radiation to the crew. Empire Slipper was left adrift, its specific location unknown. As the freighter was known to be carrying a wealth of precious metals and a consignment of rare artwork, intense media interest and a massive search and recovery operation followed. After eight months of searches, a UEEN picket ship identified the wreckage of the Slipper adrift in the irradiated debris belt, putting an end to conspiracy theories that the freighter had been hijacked. However, it quickly became clear that the region was practically inaccessible to any

dedicated salvage ship with enough protection to survive the operation. MISC, the transport's builder, offered a ten million credit bounty to anyone capable of recovering the black box data recorder in an effort to explain what had happened.

Unexpectedly, upstart spacecraft manufacturer Drake Interplanetary came to the rescue. Seeking both the bounty and the salvage rights to the Slipper's cargo, an elite team convened on Borea to create a makeshift spacecraft capable of solving this peculiar problem. The basis for this one-off construction was an existing AS-1 Cutlass prototype, Vertical Landing Test 3 (VLT-3). With all testing equipment removed, VLT-3 quickly became a specialized platform intended to reach the Empire Slipper and recover its cargo. Heavy shield generators replaced much of the prototype ship's standard cargo capacity and a pair of versatile remote manipulator arms were bolted to the prow. The result was something unlike any other spacecraft currently flying: an over-shielded, underpowered amalgamation that was small enough to navigate the debris field while keeping its crew of two safe. What's more, VLT-3 could engage in the necessary salvage operations using its external arms without requiring

DEVELOPMENT HISTORY



EVA, which was made impossible by the amount of radiation involved.

Fourteen months after the Empire Slipper disappeared, Drake's test crew began salvage operations from a hastily established modular space station positioned just outside the danger zone. Over the course of thirty-six perilous expeditions, VLT-3 repeatedly entered the debris field and carefully removed the Slipper's flight recorders and then, one by one, the valuable cargo containers. Drake claimed and received salvage rights for the valuable cargo and promptly delivered the recovered flight recorders to MISC. However, the promised ten million credits did not materialize as Drake executives were ultimately taken to court over the bounty when it was discovered that they had covertly opened and copied the flight data aboard a runner ship before passing it along.

PRODUCTION MODELS

The success of VLT-3's mission wasn't only beneficial to Drake's bottom line. Public fascination with the lost freighter gave the company's recovery mission significant airplay and was seen as a positive reprieve for the corporation, which was battling accusations of profiting from piracy. For a time, Drake was seen as a positive if rough force just as the small personal spacecraft market was beginning to heat up. To play off this success, the company sent VLT-3, its paint seared off and hull covered with micrometeoroid impacts, on a nine system PR tour to be displayed at aerospace shows and museum exhibits.

Excitement over the feat faded and Drake soon found itself again mired in controversy. VLT-3 was put back into storage just as the corporation was again accused of supporting piracy following the coordinated destruction of a MISC Hull-D by four unmarked Cutlasses. The company seemed to have little interest in the formal development of a salvage ship and instead moved its focus to the Caterpillar command ship concept.

In 2932, an Aegis Dynamics Reclaimer, the General Dogsboddy, made history with the single most profitable salvage mission in human history when it discovered and recovered a failed 22nd-century colony ship adrift in deep space. The ship's crew became millionaires and minor celebrities overnight and the event prompted much greater interest in the previously uncelebrated task of space salvage. As interest in salvage boomed and crews began pooling money to purchase their own Reclaimer platforms, Drake executives realized they already had a more appealing option in their back pocket.

A team of aerospace engineers led by Drake's in-house designer Sod Perkins began work on developing the VLT-3 concept into a standalone salvage spacecraft. While the new design would be built from the ground up and wouldn't need the heavy shielding of the original, the overall layout and functionality would remain surprisingly similar to the prototype. The early manipulator arms were replaced with what Drake would ultimately call Rippers - stand-alone salvage booms supported by a Lariot tractor

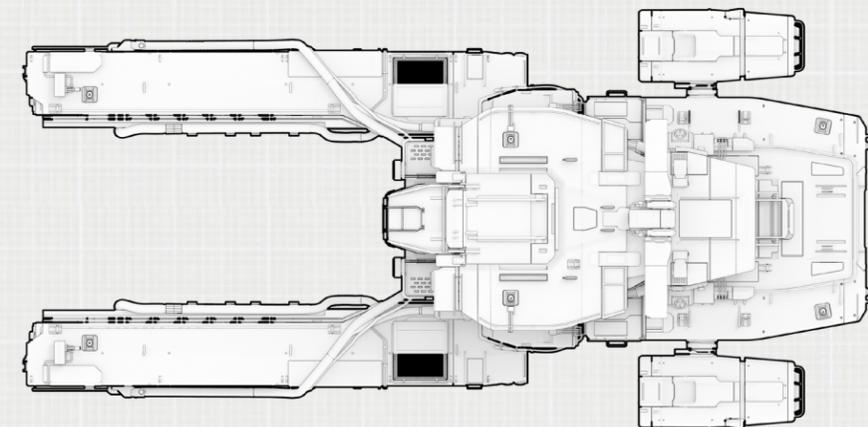
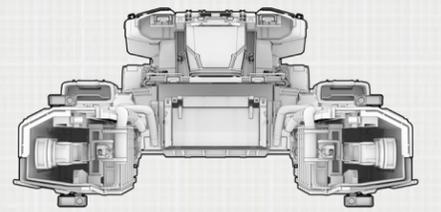
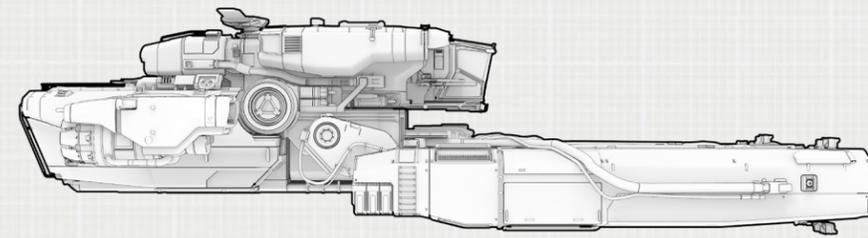
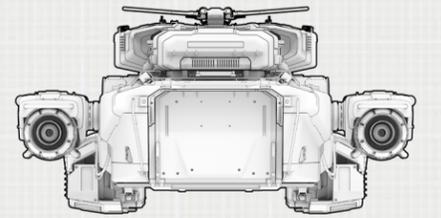
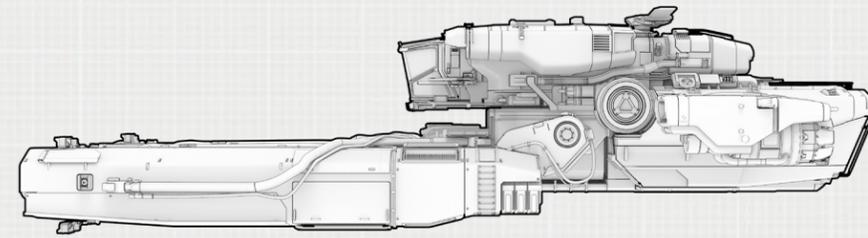


beam and Tomium scraper rig. These booms would allow the craft (soon named the Vulture) to identify, move, and cut space salvage and then store it in the ship's rear bay. Like VLT-3, the production Vulture was oriented around shipboard controls rather than EVA support. The crew capacity was reduced from two to one, reinforcing the idea that a single pilot could operate a Vulture and potentially make their fortune the same way the Dogsboddy crew had. A small rear living section would allow the solo operator to endure long voyages as salvage sites were rarely close to well-traveled spacelanes. Finally, the Vulture would feature maneuvering thrusters and an oversized shield generator to enable it to make careful movements not possible with larger ships like the Reclaimer.

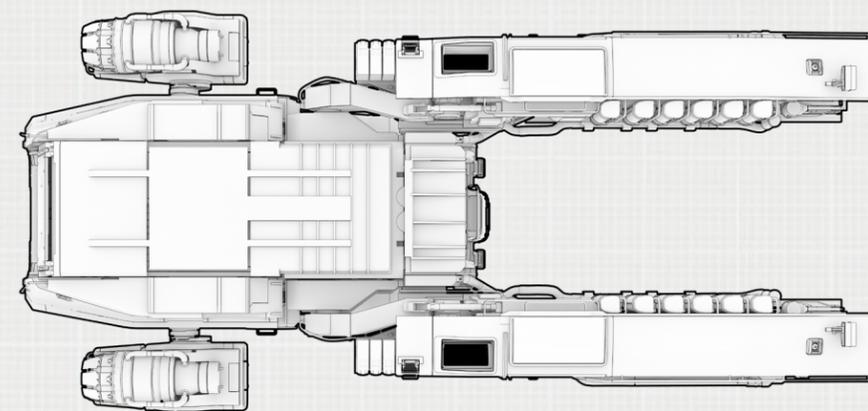
Drake premiered the Vulture in 2938 with marketing that called back to the success of VLT-3, including stylizing the spacecraft's name as VuLTur3 in some advertising. Public interest in salvage and personal fortune-seeking continued and orders quickly outpaced the production capacity at Borea. Within eight months, Drake was forced to open two remote factories to meet demand. While the company was roundly accused of over-promising inexperienced captains the chance to turn incredible profits by competing manufacturers, Vultures immediately found success with the discovery and parting of several high-profile hulls. These included a Genesis Starliner long thought destroyed and two

Hull-As that had collided and spun away from their planned routes in an unexpected manner. These stories were major news and prompted continued interest in the Vulture.

In 2941, Drake launched the first updated model of the Vulture. While the first civilian release had been completely unarmed, the 2941 model added a pair of size one weapons mounts, which appealed to pilots who would be flying the ships in unsafe and unexplored areas of the galaxy. In 2943, the United Empire of Earth Navy requisitioned 300 Vultures for battlefield support operations. The military versions weren't hardened and didn't feature additional weapons as they were never intended for use in combat. Delivery of these ships began the following year where they immediately saw service with the fleet support arm, clearing destroyed spacecraft in the wake of ever-increasing battles with the Vanduul. Drake has continued to develop the government version of the Vulture, as the expectation is large-scale naval battles will only increase in frequency and furor in the years to come. The most recent civilian update was made for the 2949 model year, with the launch of the now-standard extended cab, which ups internal cargo capacity from 8 to 12 SCU. Drake currently offers a low-cost dealer upgrade for earlier Vultures to convert them to roughly the same capacity - a similar process has been made available for adding weapons mounts to the initial 2938 version.



VULTURE	
MANUFACTURER	DRAKE INTERPLANETARY
MAXIMUM CREW	1
MASS	114,591KG
LENGTH	33M
HEIGHT	9M
WIDTH	16M
ROLE	LIGHT SALVAGE





BATTLE OF FABELA

On August 15, 2825, a Vanduul clan attacked the Caliban settlement of Fabela. The public believed the subsequent battle was a victory for the UEE due to sensational news coverage, such as the Terra Gazette's headline "Marine Single-Handedly Stops Vanduul Attack." When Newsorgs flocked to the remote, long-forgotten mining settlement, all they showed were shots of smoldering rubble and interviews with residents who were utterly resolute on their plans to rebuild. Meanwhile, government officials appeared on spectrum crediting their strategic policy shift for the repelled Vanduul threat.

The Battle of Fabela came at an opportune time for the UEE. Less than a century earlier, millions had fled Orion, Tiber, and Virgil as the

Vanduul ruthlessly conquered territory and killed anyone in their way. Following the overthrow of the Messers, Imperator Toi and the Senate turned the military's focus away from silencing political dissidents to increasing defense along the Vanduul border. Marine outposts and advanced military equipment soon appeared in cities and settlements across Caliban, Elysium, and Vega. These assets aided in the defense of Fabela, but the public version of the story spun around the battle didn't match the facts on the ground.

Caught between the public perception and reality was Paul Barlow, the only Marine in his squad to survive. Barlow became a hero and was paraded across the Empire. As the years passed, the Battle of Fabela

faded from public consciousness and into legend. When the press tracked down Barlow for a comment following the Fall of Caliban in 2884, the Marine's most famous living hero made a stunning confession — that he lied about the Battle of Fabela under pressure from superior officers. In an explosive interview in the New United, Barlow described himself as "no damn hero, just a survivor struggling to live in my own shadow".

A GOOD LIE

The widely reported "official" story began with Barlow miraculously surviving the initial Vanduul bombing run. He freed himself from under the rubble and raced to an Anvil Ballista to send a distress comm. As the

Vanduul bombers circled for another approach, Barlow used the Ballista to destroy several targets. Barlow managed to survive the second assault, so when the remaining Vanduul ships returned from a different direction, they met a similar fate. UEE reinforcements arrived shortly thereafter and reported that one Marine defeated an entire Vanduul squadron. Embedded reporters quickly spread this version of the story, each eager to have the exclusive account of the events.

Following his confession decades later, Barlow worked with journalist Melania Andrieux on a book that juxtaposed the "official" account with his version of events. In 'A Good Lie', Barlow laid bare the truth that had haunted him for decades. He claimed that the night of the attack



began like any other. Most of his squad had been relieved by the third watch and had gathered in the barracks to drink and play Trigger. As the lowest ranking Marine, Barlow was ordered on a beer run. He drunkenly stumbled toward the settlement's small general store when a frightful sound pierced the night sky. Seconds later, Vanduul bombers reduced Fabela's spaceport and supporting military infrastructure to rubble.

Barlow freed himself from under some wreckage, as swirling dust and debris made him cough ferociously. The official story spun this as the moment Barlow realized that only he could save the settlement. In reality, Barlow fled in fear towards the mine, hoping to hide inside until the attack ended. Barlow ran until he entered a small clearing by the mine, where he found Ignacio Assaf, the man Barlow considered the true hero of the Battle of Fabela.

THE FORGOTTEN HERO

A former miner that made a living salvaging old equipment, Assaf had been wounded by shrapnel during the initial Vanduul bombing run but was determined to do everything he could to stop the invaders. He had been formulating a plan when the drunk, dirty, and shell-shocked Barlow arrived looking for a place to hide. Assaf calmed down Barlow and convinced him to use his military clearance to access a nearby Ballista that had been awaiting maintenance. Stored away from the main depot, it was one of the only pieces of military equipment not destroyed during the attack. The two climbed inside; Barlow jumped in the driver's seat to send a distress comm, while Assaf took the gunner's seat. On the Vanduul's next approach, Assaf severely crippled the Void bomber that had caused most of the devastation. The remaining Vanduul split up and changed tactics, staggering their attack from different directions. Assaf

fired off shots as fast as possible, downing the other bomber and two Scythes before the Ballista ran out of missiles.

With munitions spent, Barlow hustled the hurt Assaf out of the Ballista and toward the mine, certain that the Vanduul would destroy it on their next flyby. They were between the Ballista and the mine when the sound of approaching ships filled the sky. Barlow believed they were dead, but instead was shocked and relieved to see a Navy squadron intercepting the attackers.

That's when reinforcements reported seeing destroyed Vanduul ships spread across the battlefield and a Marine waving them down. Sadly, their arrival was too late for Assaf, who succumbed to the wounds caused by shrapnel. It was only once Barlow had been fully debriefed that his superiors became aware of what occurred. As opposed to issuing a correction to the various news organizations, they decided to have his account match the sensational headlines. The Marines urged him to streamline events and avoid embarrassing details or face a possible court-martial. The young Marine agreed to their plan, believing it to be a "good lie" and in the best interest of the Empire - a decision that haunted him for the rest of his life.

Today, a fog of war exists around the Battle of Fabela. Barlow's revelations briefly stunned the empire, but never replaced the story ingrained in the public consciousness. The Marines stood by their version of events and refused to comment on his allegations. An official investigation into his claims never occurred. Meanwhile, Barlow dedicated the rest of his life to helping veterans suffering from PTSD. Assaf's family received all proceeds from his book, which included the following dedication, "Though history may forget you, I never will."

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