



JUMP POINT

A ROBERTS SPACE INDUSTRIES PUBLICATION ISSUE 05.11

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GREETINGS, CITIZENS!

The end of the year is always an odd time around a major software developer. There's invariably a final objective or two that the team is passionately trying to accomplish, but there's also an awareness that you can't keep burning – you've got to take a break, recharge your energy, and reconnect with the rest of the world.



In some ways, as we approach the end of 2017, things are unexpectedly calm. Or at least they seem to be. Everyone is so focused on getting 3.0 out the door that there's little discussion about anything else, and even little discussion about 3.0 – the impression I have is that people are doing, not talking. Here's hoping that it will happen soon. I know that you want to see it, to experience it, and I know that the teams across the world are ready for a well-earned break.

Meanwhile, a quick note about printed **Jump Point Volume 3** (2015): it's still at the printers; I'm told a few more weeks, which is definitely better than a few more months. I hope we have more news for you by next issue.

Our Work In Progress article covers a really big ship – the Pioneer. Rather than taking you through a detailed step-by-step description of its development, we show you where it was at eight different stages, with commentary from Daniel Joustra, Senior Concept Artist, who was primary artist on this project.

The Portfolio highlights *Whitley's Guide*, which will be

your go-to guide for ratings – for ships, ship components, personal equipment, and much more. These guides have been supplying the facts to the far corners of the Empire for almost 100 years, and they'll soon be giving you the answers you need as you make your way in the 'verse.

In past Behind the Scenes discussions, we've talked about programming and designing characters, and we'll add to that in the future, but this issue we focus on the art process, from conception to three-dimensional mesh; we anticipate a discussion with the rigging and animation teams who take the mesh and bring it to life in the game in an upcoming issue.

"Min" appears to have been an accidental name for the system we profile in this month's Galactic Guide, but it is a thoroughly appropriate name. It's about the minimum a system can be, as you'll discover when you read the Guide.

And Dave Haddock turns his hand to writing a new Chronicle short story, complete in this issue. I started to say that I always enjoy his stories; but this time around, I'm not sure "enjoy" is the most appropriate word. Read it, and you'll see what I mean.

Hold on, it's gonna be a wild ride!

David

David.Ladyman@cloudimperiumgames.com

EDITOR: DAVID LADYMAN, INGAN MONKEY GOD STUDIOS

ROVING CORRESPONDENT: BEN LESNICK

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COVER:	OMAR AWEIDAH
PAGE 30:	JAVID KAZMI
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FROM THE HIGHPOINT

A CLOUD IMPERIUM GAMES PRODUCTION, A STAR CITIZEN NEWSLETTER.
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Pioneer



WORKING PRIORITIES

Initial Design Brief (starting point for the evolution of a concept)

AIMS

The Pioneer is an extremely modular ship for planting colonies in uninhabited locations. It is a space barge with a hollow bottom to construct and place the modular outposts.

AESTHETICS

Focused on functionality. Clean crisp silhouettes with asymmetric design. It should have a strong emphasis on "base-building," which lends itself to slower, heavier utilitarian forms.

From below, it creates the modular planetary structures that can be dropped off planet-side to construct impromptu outposts.

APPROXIMATE STATISTICS

Max Crew 8-14

- Captain
- Pilot
- Co-pilot
- Science
- Tactical
- Remote Gunner
- Security
- Engineer
- 4x Manned Turrets
- 2x extra Engineers

Length ~200 m

Width ~ 125 m

Height ~ 30 m

<i>Manufacturer</i>	Consolidated Outlands
<i>Entry Method</i>	Elevator at front and back, 4x side ladder hatches, 4x top EVA hatch
<i>Ejection Seats</i>	Yes (Escape Pods x20)
<i>Flight Speed</i>	85m/s
<i>Mass</i>	~35,600,000 kg
<i>Landing Gear</i>	Main ship: Struts
<i>Docking Ring</i>	Yes, on top
<i>Cargo Capacity</i>	600 (2x 300)
<i>Take-Off Method</i>	VTOL
<i>Radar Type</i>	2D
<i>Cargo Storage</i>	2x Cargo Bay (Internal)
<i>Role</i>	Colonizer
<i>Fitting Templates</i>	Starfarer Pilot Seat

Default Loadout

<i>Armor</i>	1x S3
<i>Seats</i>	8
<i>Stations (inc Seats)</i>	14
<i>Life Support</i>	3x S2
<i>Quantum Fuel Tank</i>	2x S3
<i>Fuel Tanks</i>	2x S3
<i>Fuel Ports</i>	1x S3
<i>Light</i>	1x S3
<i>Audio</i>	1x S3



WORK IN PROGRESS

APPROXIMATE STATISTICS (cont.)

Avionics

Landing System	1x S3
Computers	3x S2
Computer Blades	TBD
Scanner	1x S2
Radar	1x S3
Coolers	2x S3
Fuel Intakes	2x S3
Gravity Generator	1x S3
Modular Rooms	None
Batteries	6x S2
Shield Emitters	2x S3
Shield Generators	6x S3

Propulsion

Jump Drive	1x S3
Quantum Drive	1x S3
Power Plant	3x S3
Engine	4x S3

Thrusters

- 4x S3 Mains
- 8x S3 VTOL
- 8x S3 Retro
- 20x S3 Mav (6 left, 6 right, 8 top)

Weapons

Counter Measures	TBD
Turrets	2x Manned Turrets (2x S4 Flak Cannons) 2x Remote Turrets (2x S4 Flak Cannons)
Weapons	6x S4 Gimbal (6x S3 Distortion Cannons)
Ammo Box	TBD
Missiles	4x S3 TBD

CONSOLIDATED OUTLAND (CNOU) INTERIOR STYLE

CNOU's exterior styling features asymmetrical, slablike and utilitarian shapes, and that also applies to their interiors.

Interiors in General

Asymmetry plays a key role in distinguishing CNOU's vibe from other manufacturers in the 'verse. Bulkheads and room profiles should never be symmetrical. Large flat surfaces featuring harsh angles will include construction detail and multi-panel construction.

Engineering

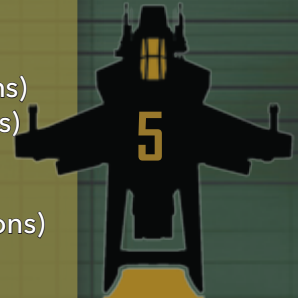
Engineering sections on CNOU's ships feature sturdy construction and display more of the guts of the ship. There is a great emphasis on the use of negative space and triangular construction frames. As always, the rooms and hallways feature an asymmetrical profile. CNOU is not afraid to show patches of greeb and gnarly construction, running the length of their interior walls like the run the sides of their ships.

Habitation/Medical

Habitation and medical areas feature less construction, but keep all the asymmetry.

Colors

Color coding in the interiors should be straightforward. There should be a single feature color that (if possible) flows through the environment. For example, the color of a walkway should flow into the bulkhead at the end of the walkway.



WORK IN PROGRESS

[comments by Daniel Joustra]

Stage 1 [pages 6-9]

When we started developing the Pioneer, we (Nathan Dearsley and I) decided this was a good time to update CNOU's visual styling and bring it in line with the quality of the other manufacturers. We decided to go for a heavy industrial look featuring bold graphics, asymmetry and big, non-aerodynamic shapes.

Considering the complex nature of this ship, we started the process off by sketching rough shapes in 3D.



WORKING IN PROGRESS





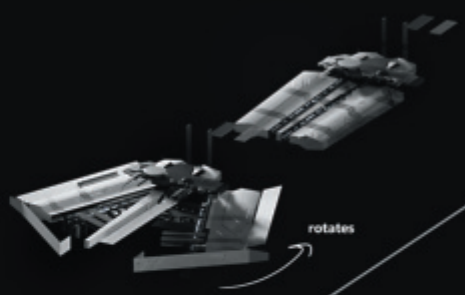
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WORKING PRIORITIES

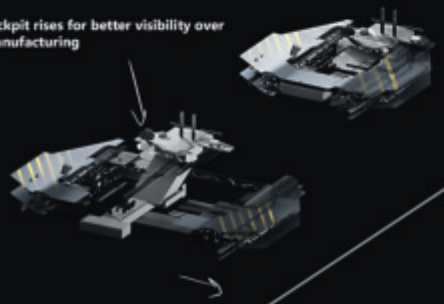


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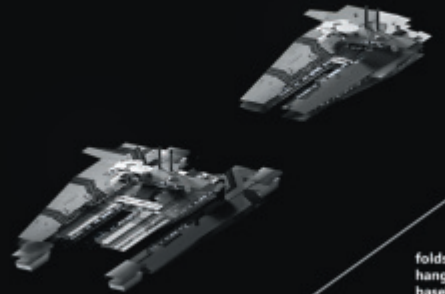


rotates

cockpit rises for better visibility over manufacturing

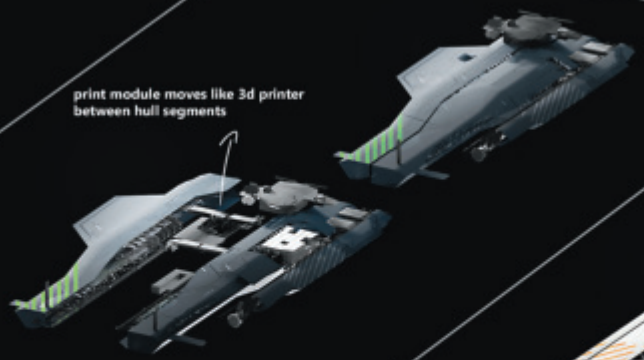


folds open to create overhang and protection for basebuilding



with the sides open players should be able to walk through the width of the ship

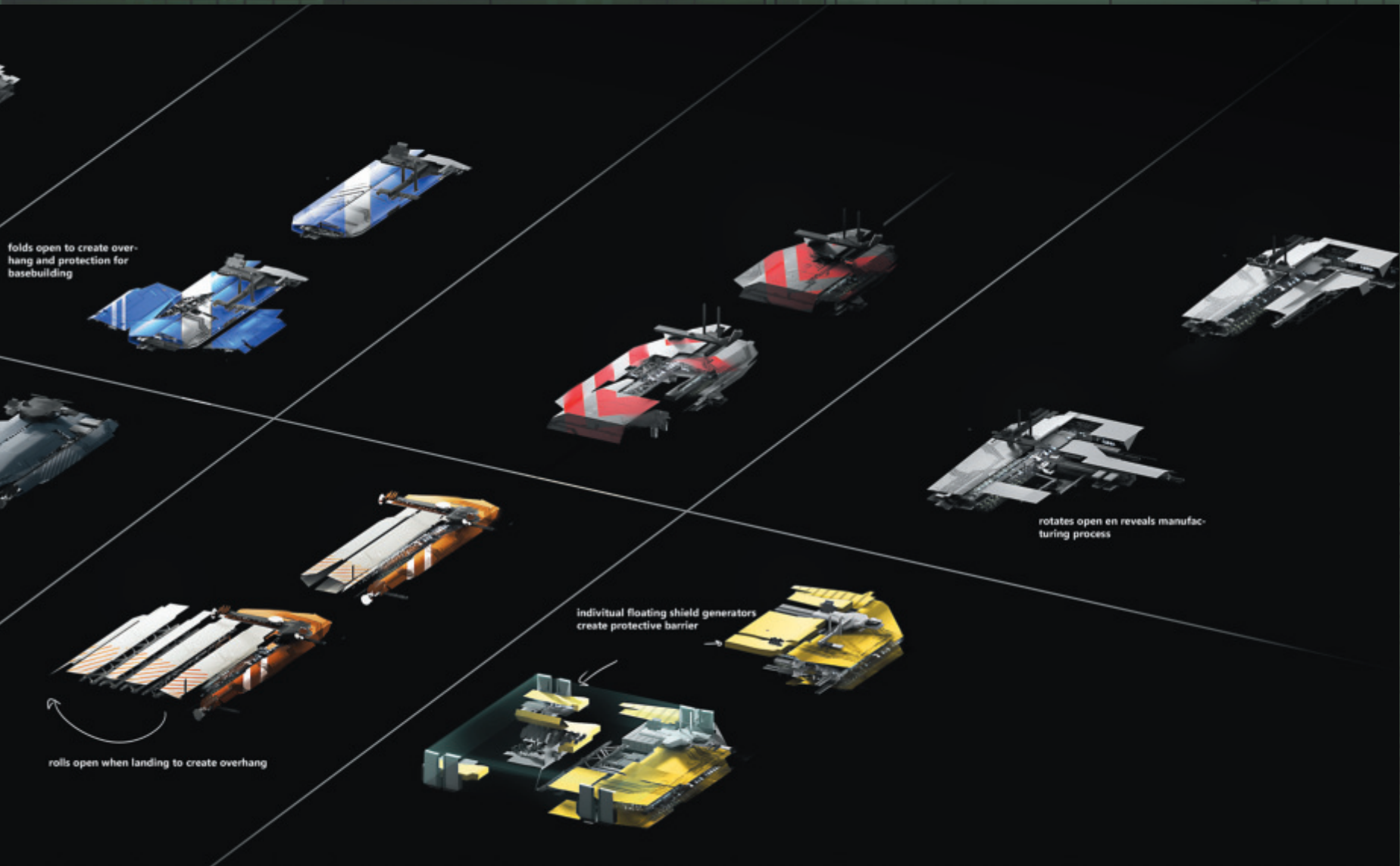
print module moves like 3d printer between hull segments



rolls open when landing to create



WORKING IN PROGRESS



folds open to create overhang and protection for basebuilding

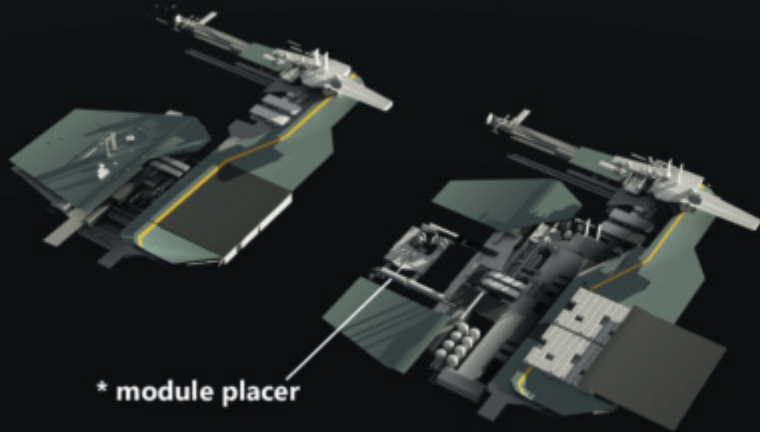
rotates open and reveals manufacturing process

individual floating shield generators create protective barrier

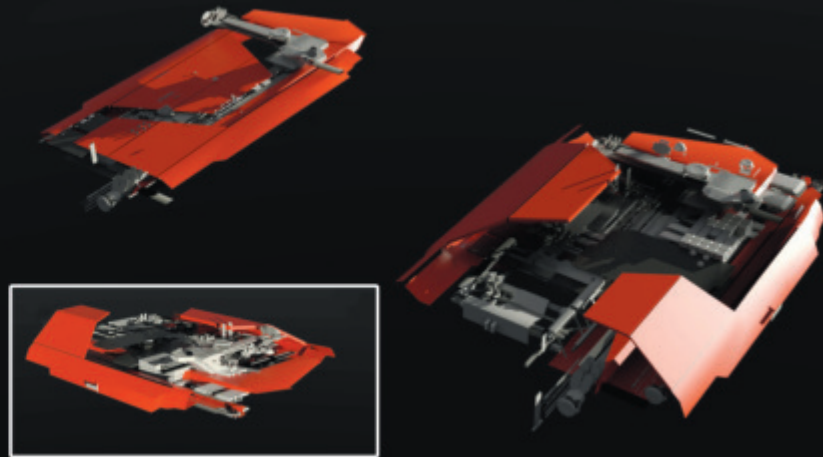
rolls open when landing to create overhang

Stage 2 [pages 10-11]

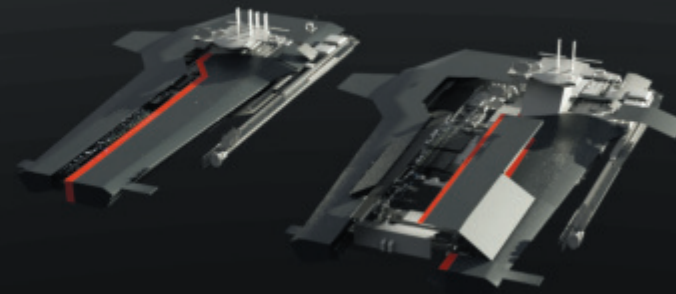
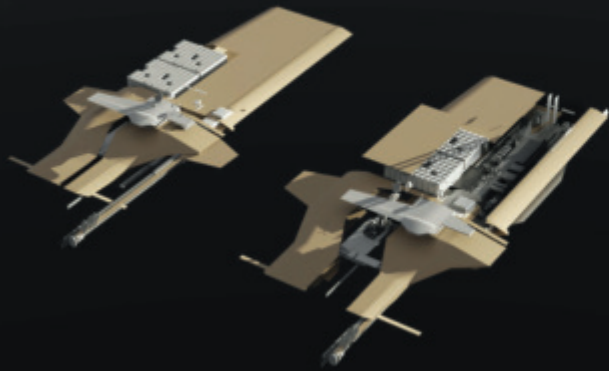
After establishing the themes and shapes in the first stage, we were beginning to have a clear idea of the direction we wanted to go in. We went through another round of sketching to expand on these ideas, and had CR weigh in on the design as well.



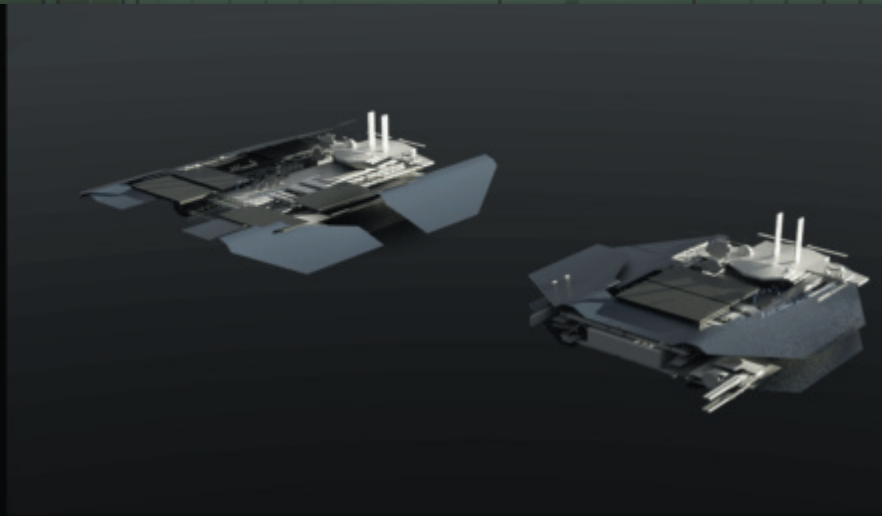
* module placer



* overhang for protection and floodlighting. could be interesting for gantries



WORKING IN PROGRESS



Surface Treatment

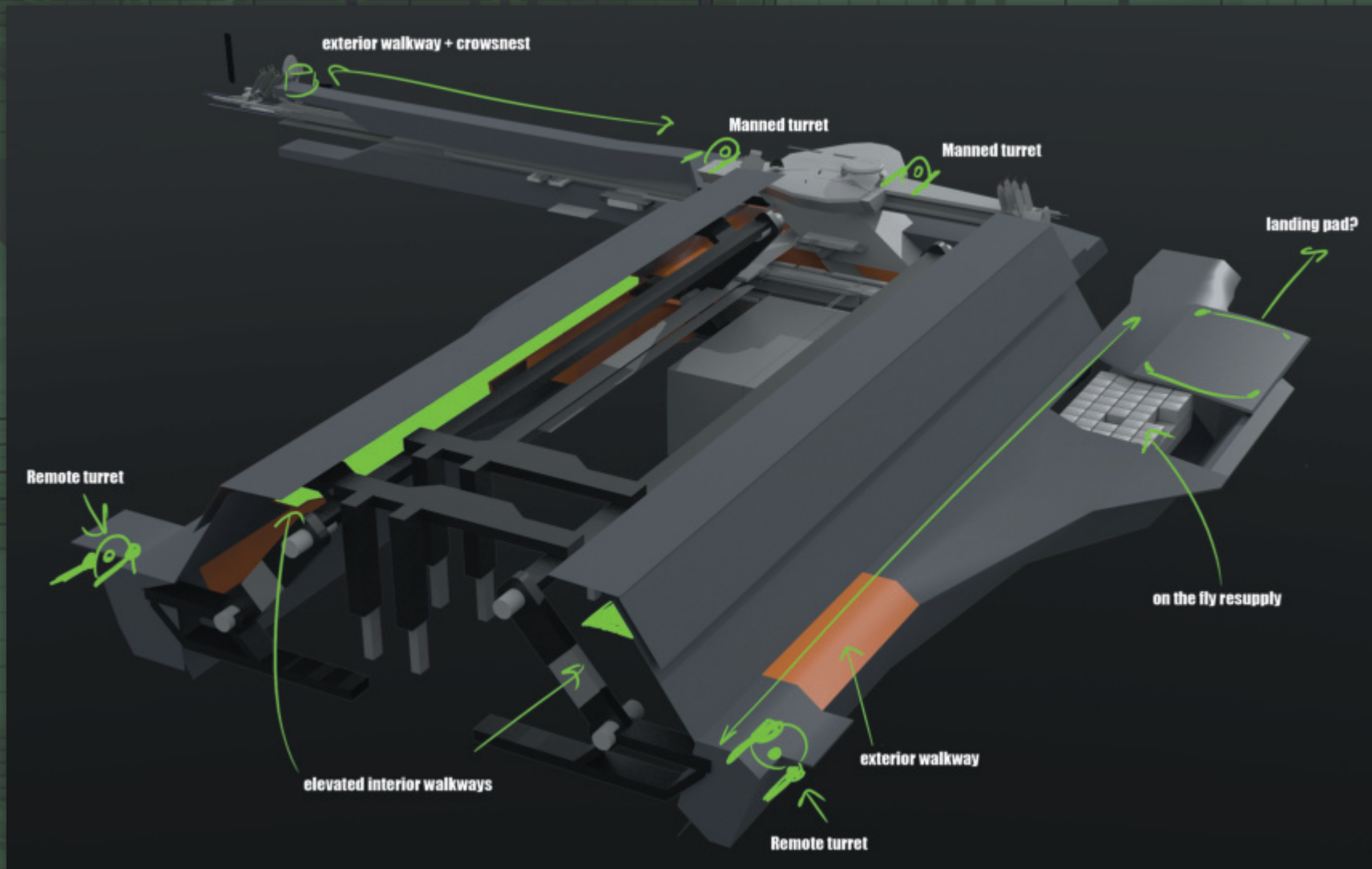
Large, flat surfaces allow for graphic treatment and banding. Module placers articulate across a series of arms, much like a 3D printer.

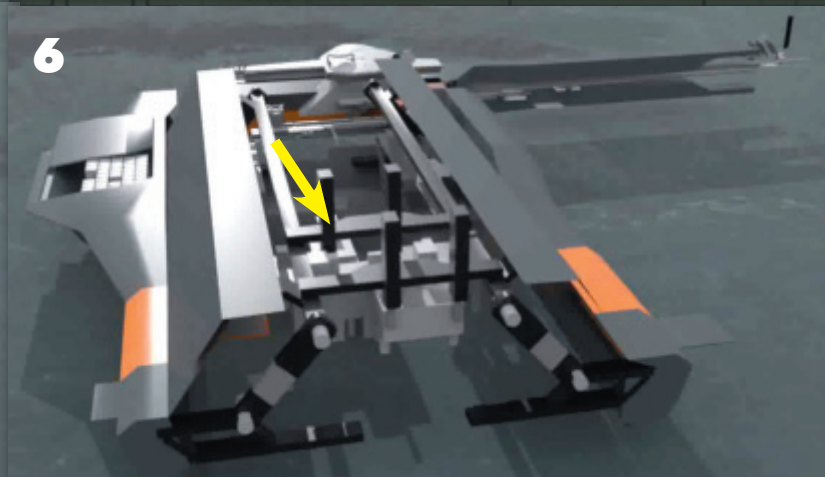
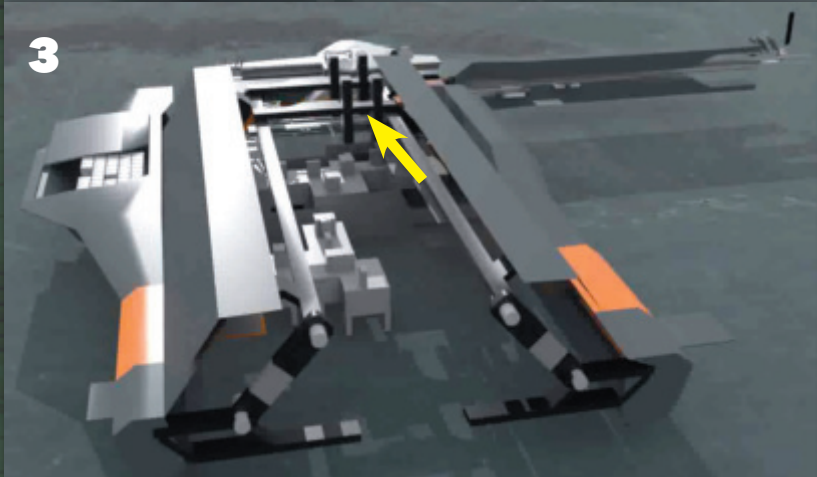
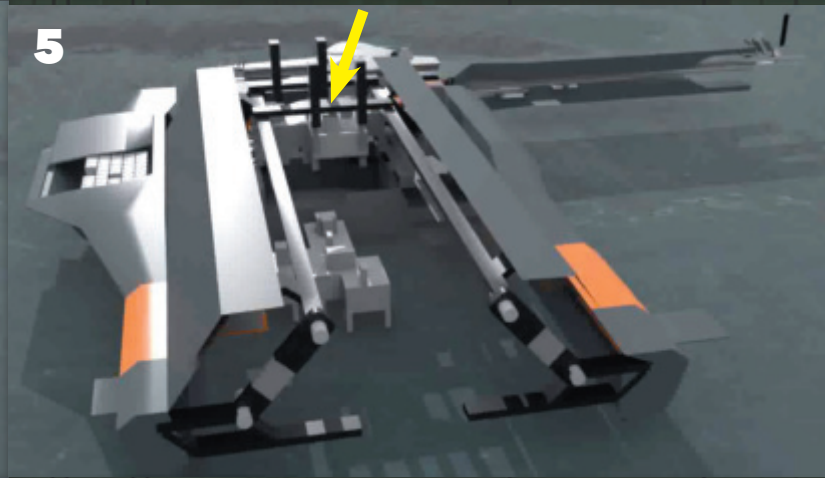
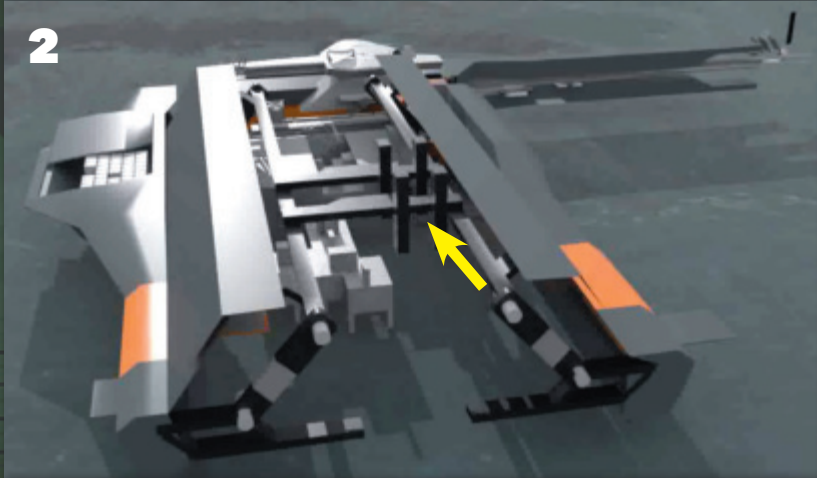
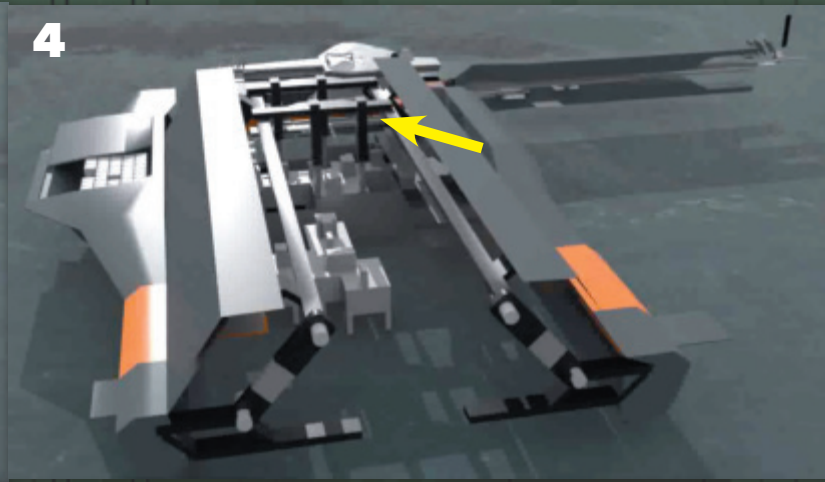
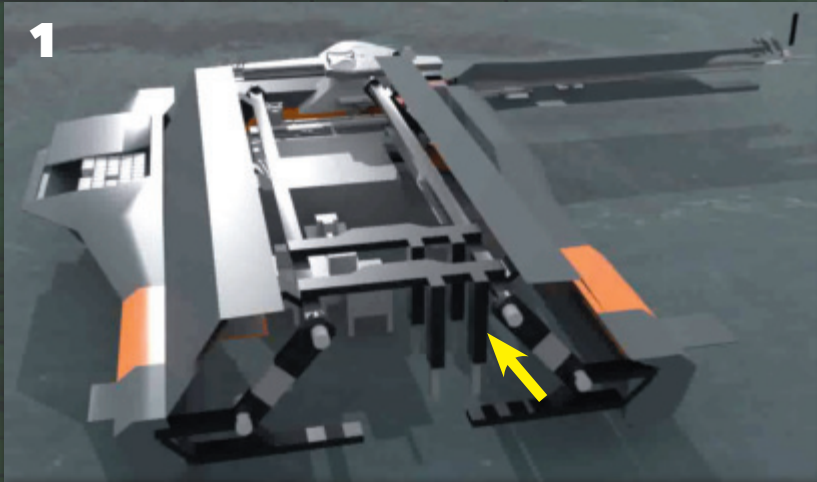
When deploying, the Pioneer's surfaces shift and open up to create overhang for floodlights.

Some designs have easy access to resource containers, or panels open up to reveal them. This facilitates easy restocking, and could be a gameplay element.

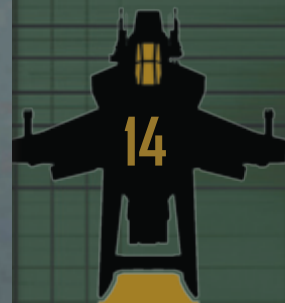
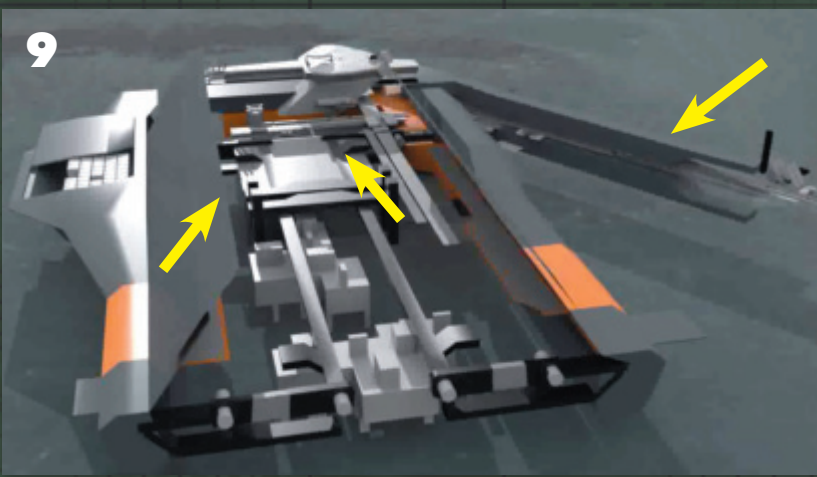
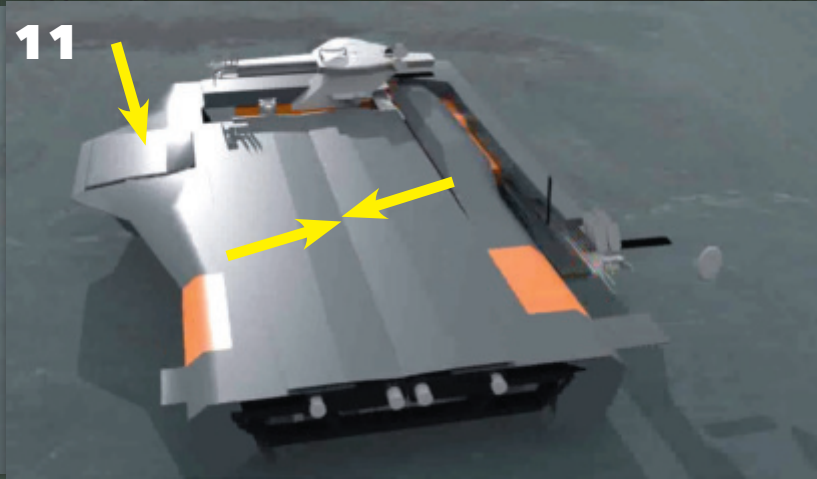
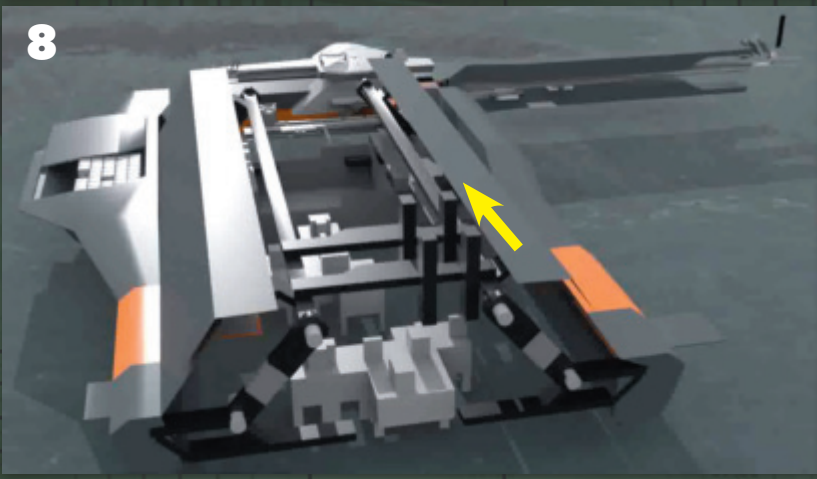
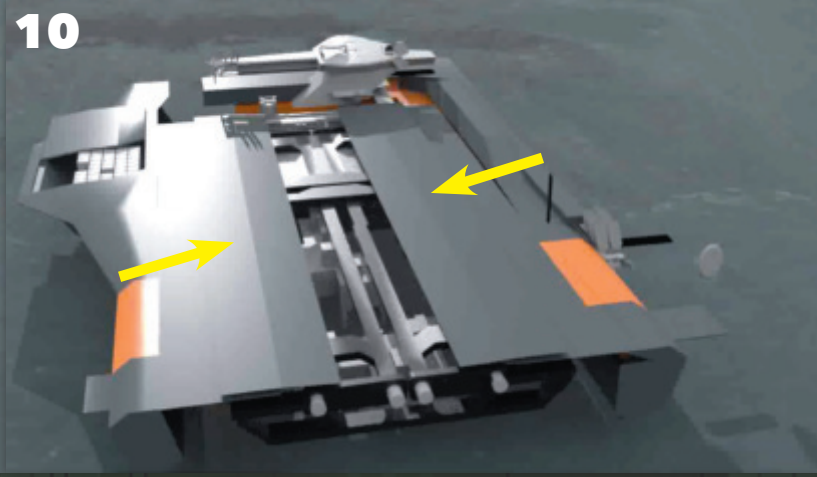
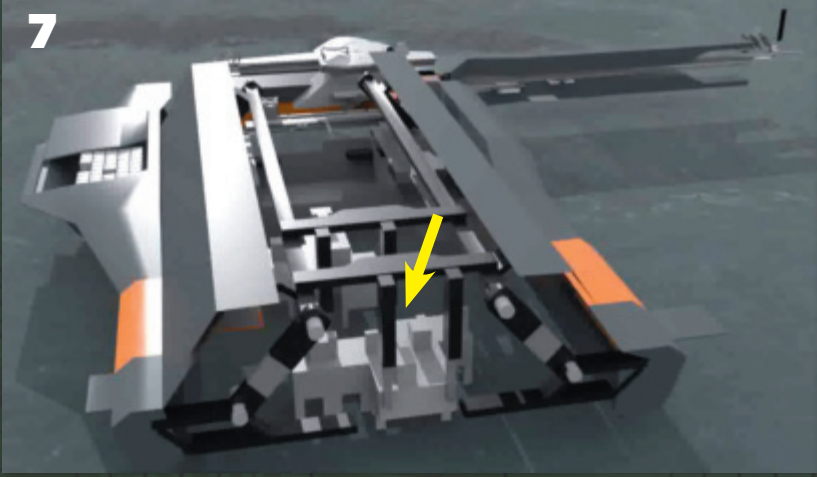
Stage 3 [pages 12-14]

Since the Pioneer's hull geometry is going to largely depend on the base manufacturing plant inside, it was time to work out how and in what way we were going to achieve this. After speaking with every department involved, I came up with a solution that is efficient, ticks all the required boxes, looks good and is achievable within the boundaries of the game's systems. To make sure and to ease communication, I created animation with mock geometry to display the system. [shown by the images numbered 1 - 11 on the next two pages]





WORK IN PROGRESS



WORKING PRIORITIES

Stage 4 [pages 15-16]

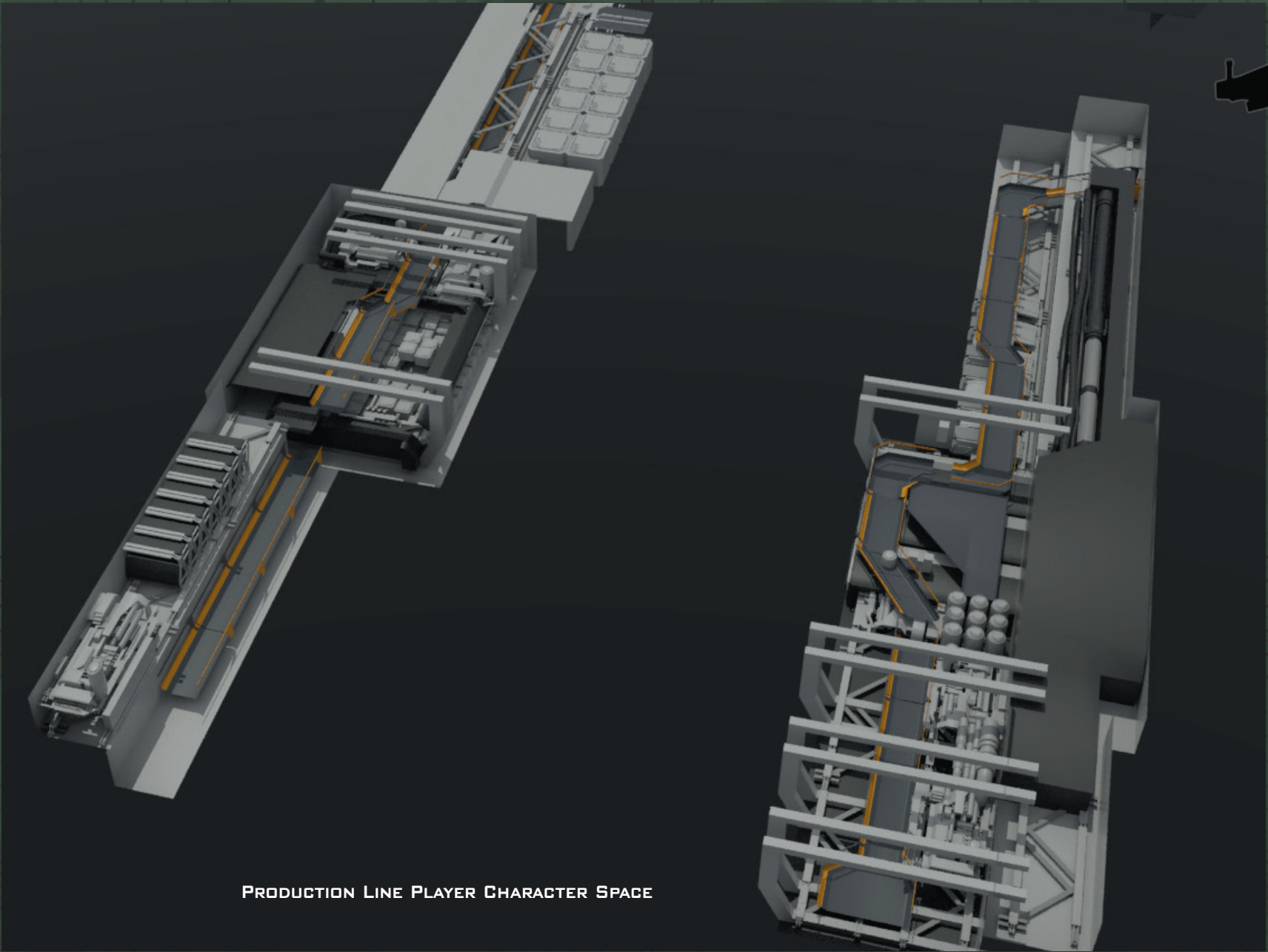
With all the tricky parts of the ship mostly figured out, it was time to further refine its style and shape. A basic hull shape was formed over the internal layout and I took the first steps towards fleshing out the production line.



WORKING IN PROGRESS



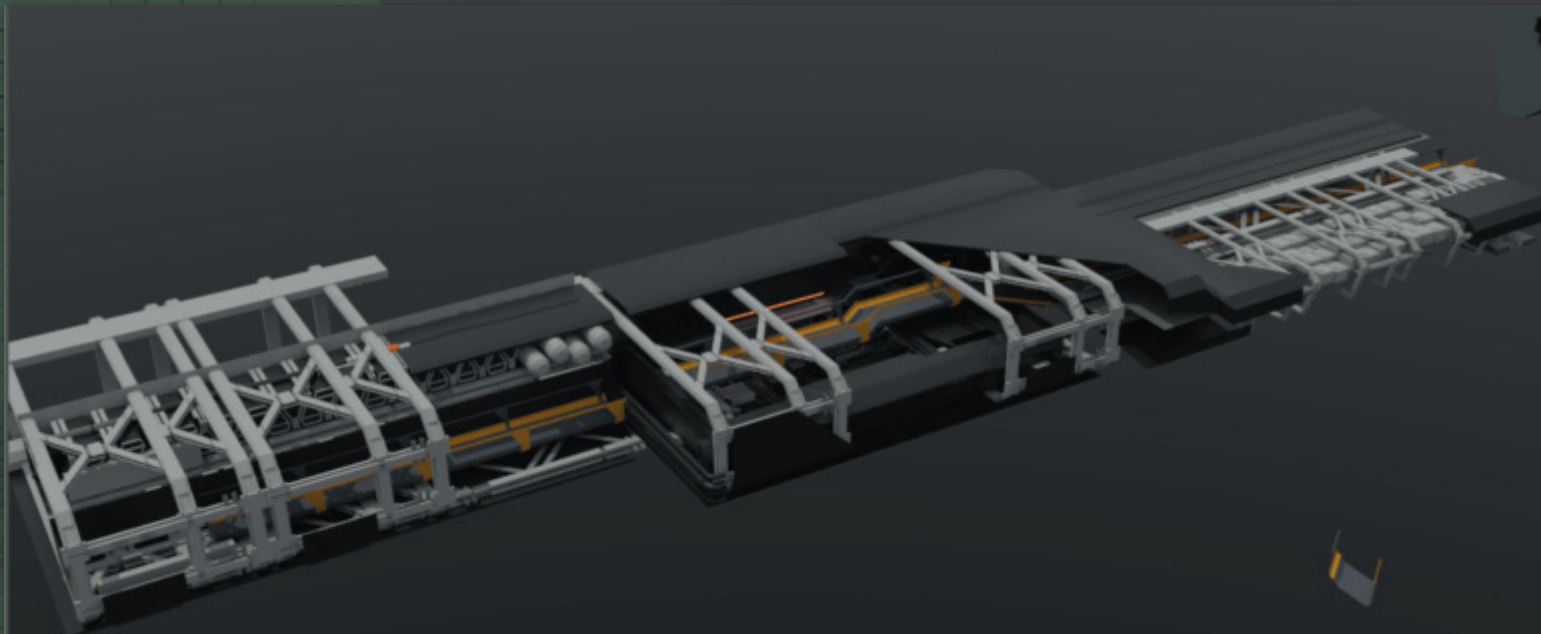
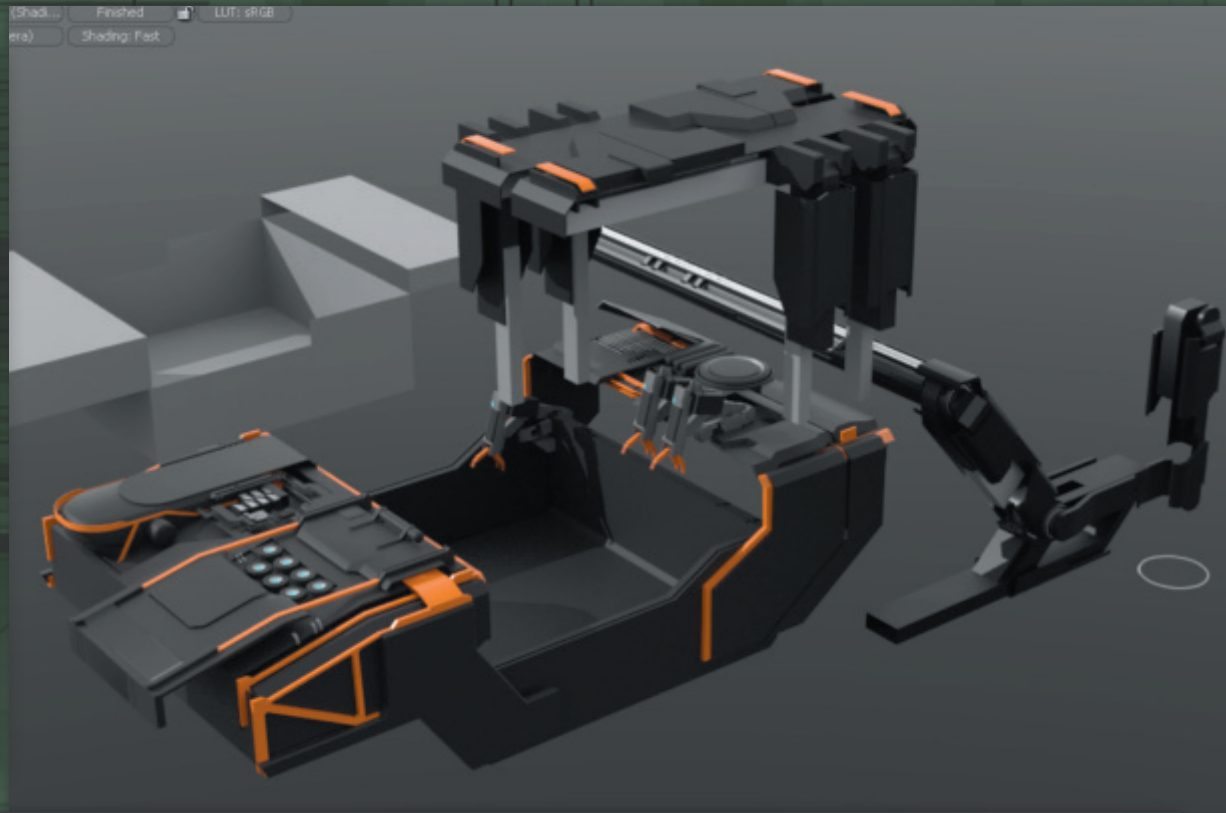
WORK IN PROGRESS



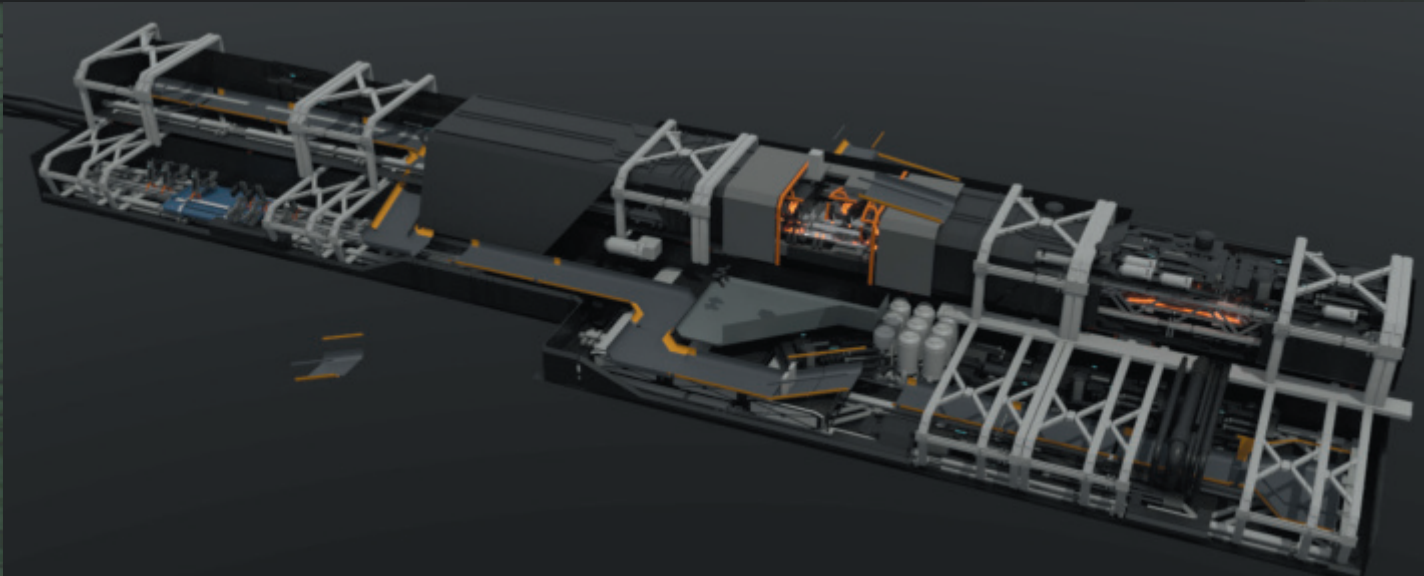
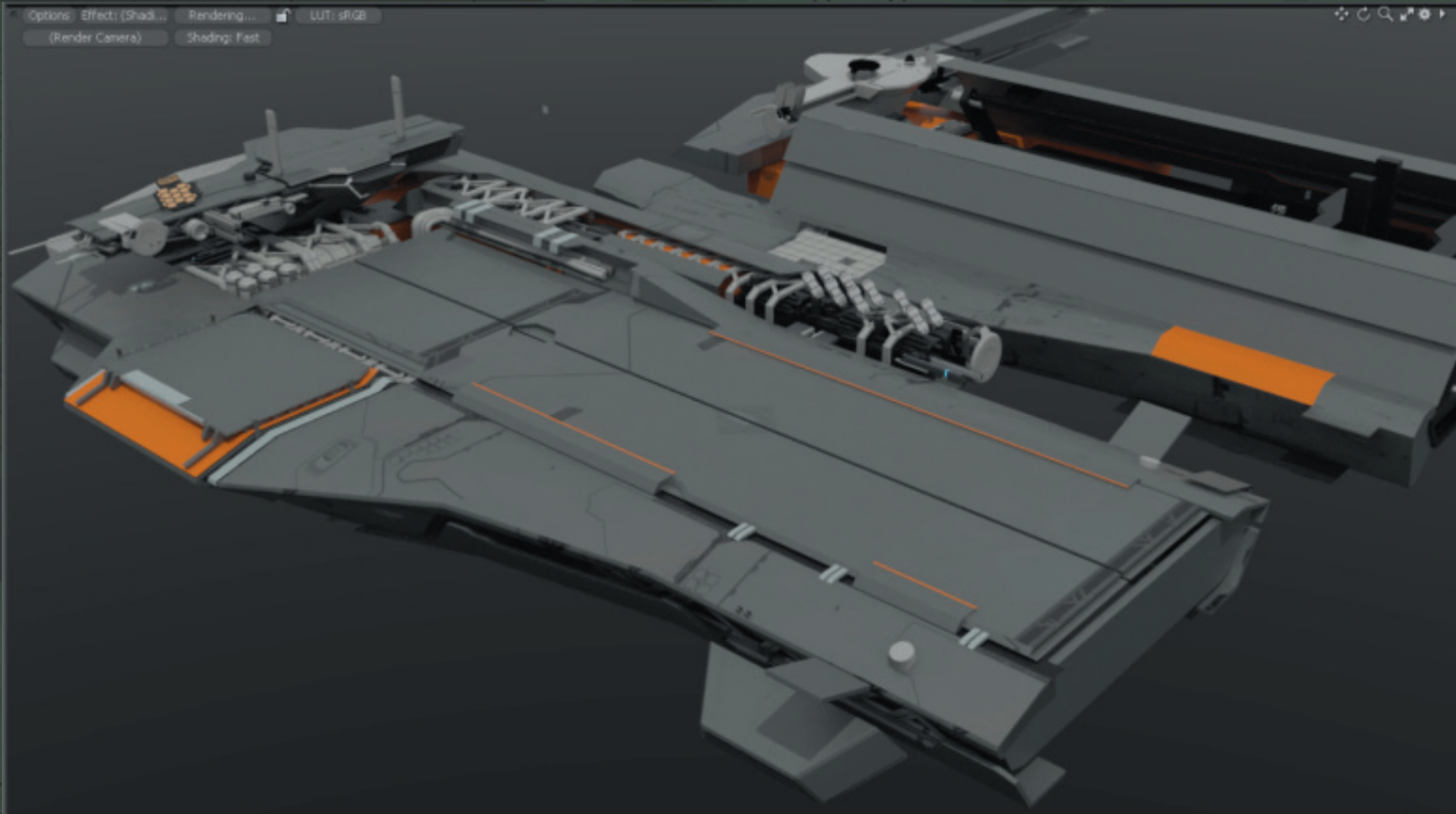
PRODUCTION LINE PLAYER CHARACTER SPACE

Stage 5 [pages 17-18]

Further refining. I was trying to get a feel for how complex to make the assembly line and how functional and simple to make the hull, whilst getting the scale to read right. I also spent some time developing the way characters will walk through the assembly line from start to finish on both sides, and how this can be tracked from the cockpit.



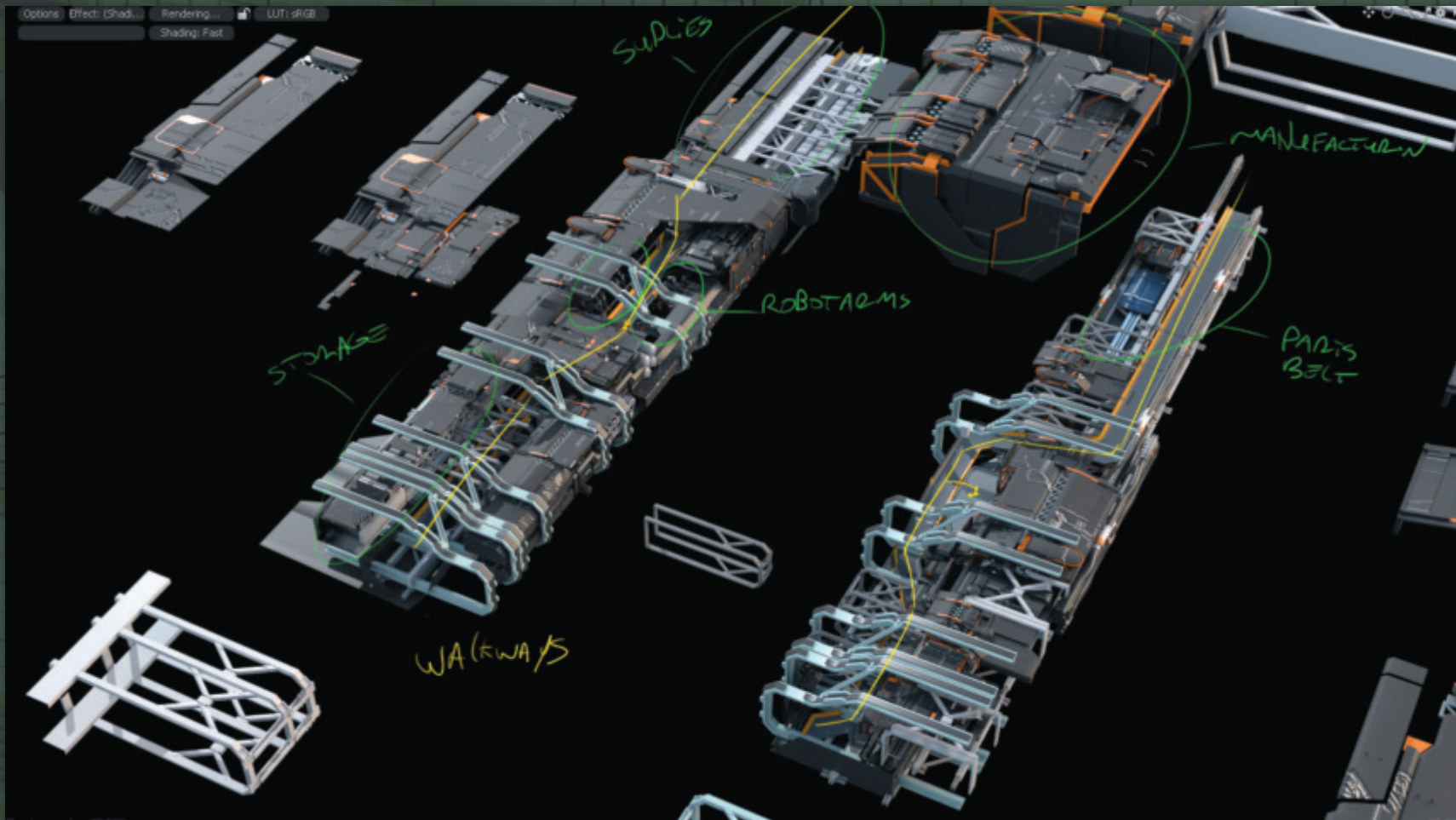
WORKING IN PROGRESS



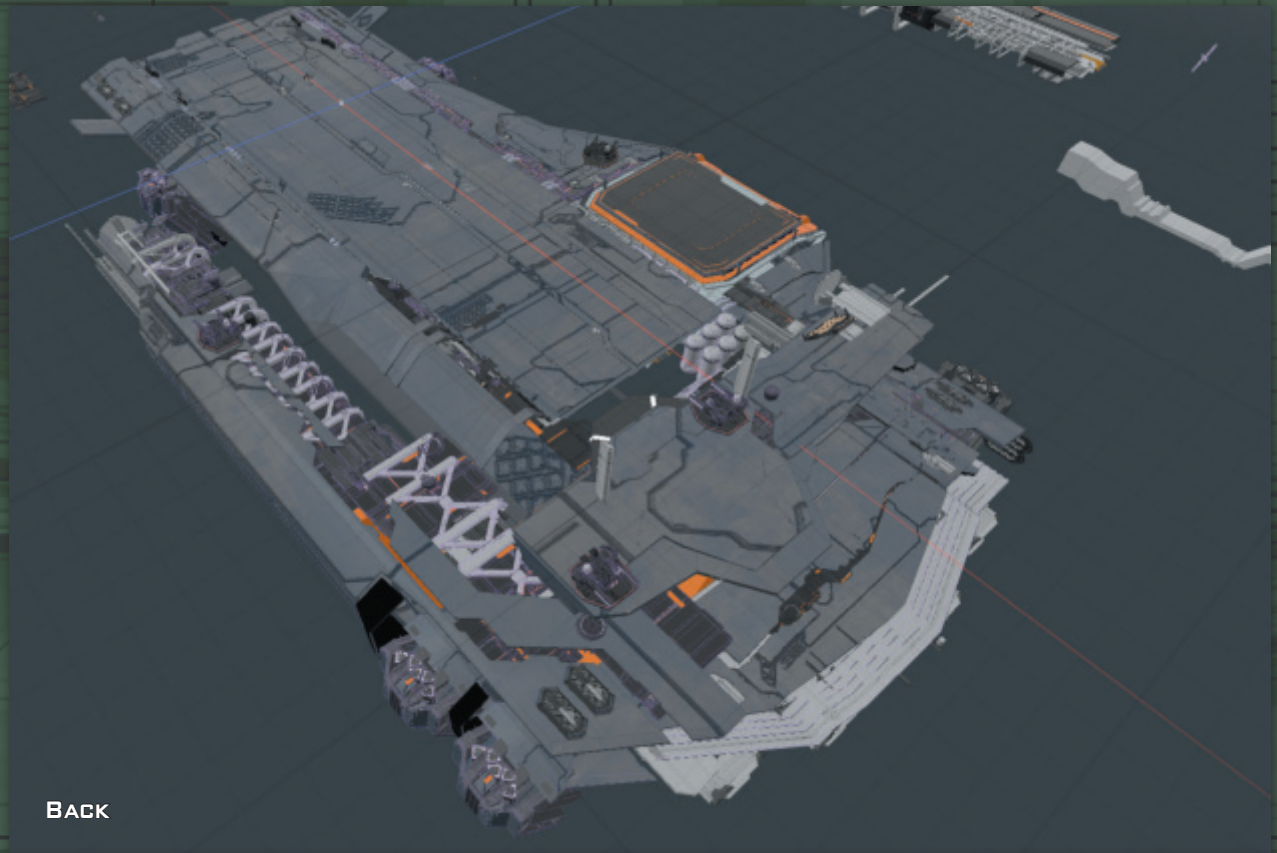
WORKING IN PROGRESS

Stage 6 [pages 19-21]

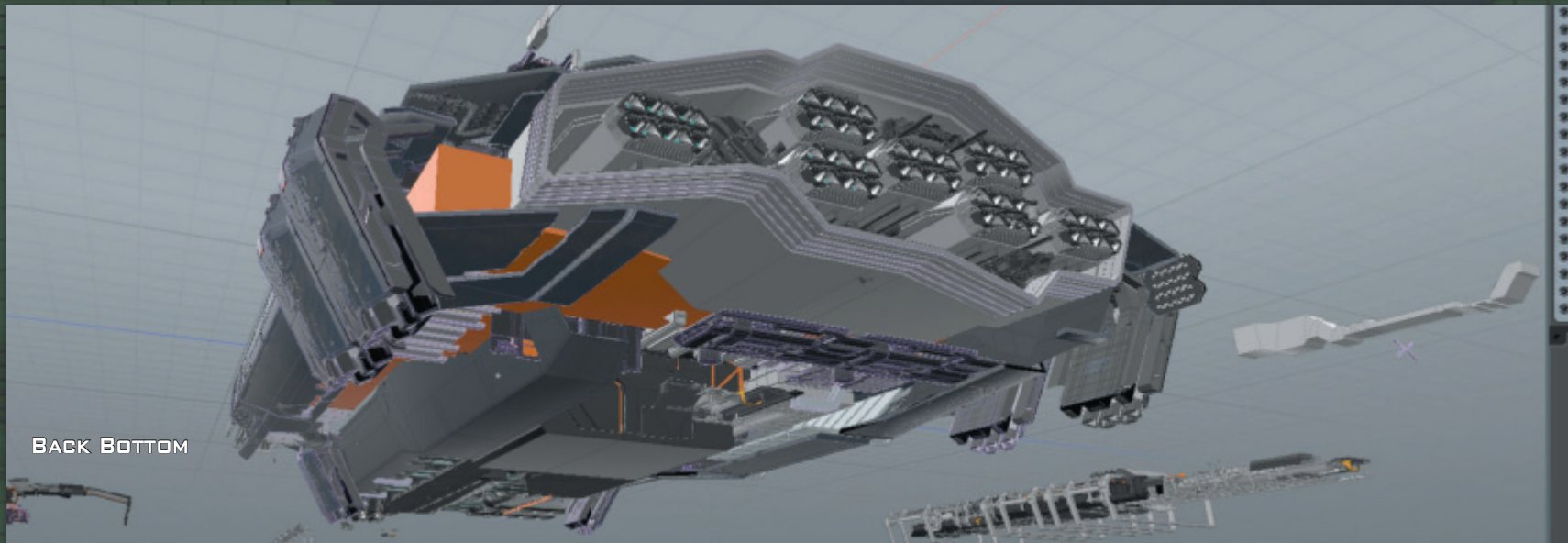
Fleshing out the assembly line some more. It would still need another pass to improve visibility and readability from the cockpit's view, but the basic layout was complete. Aside from further refinements, I started looking at paneling and surface treatment to get the scale on the hull to read right.



WORKING DRAFTS



BACK

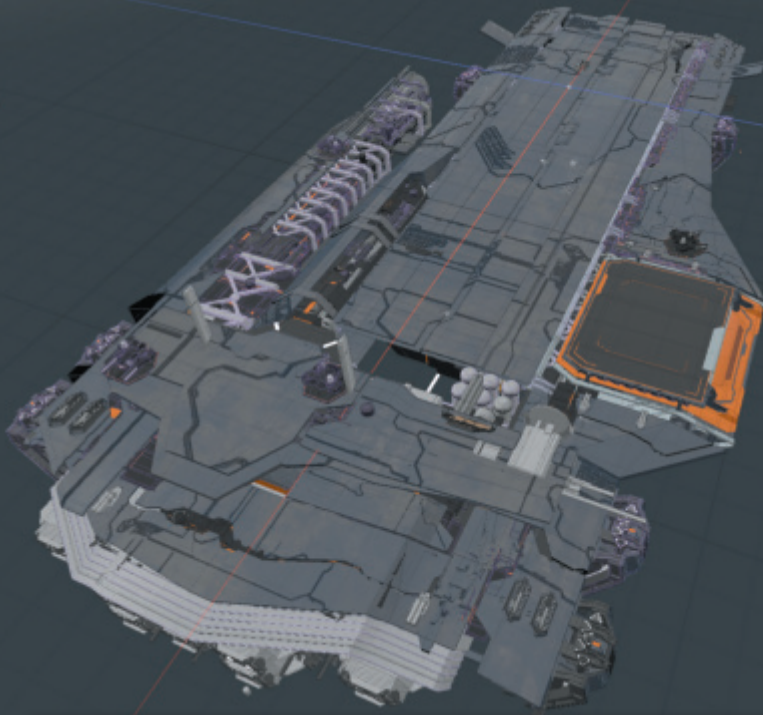


BACK BOTTOM

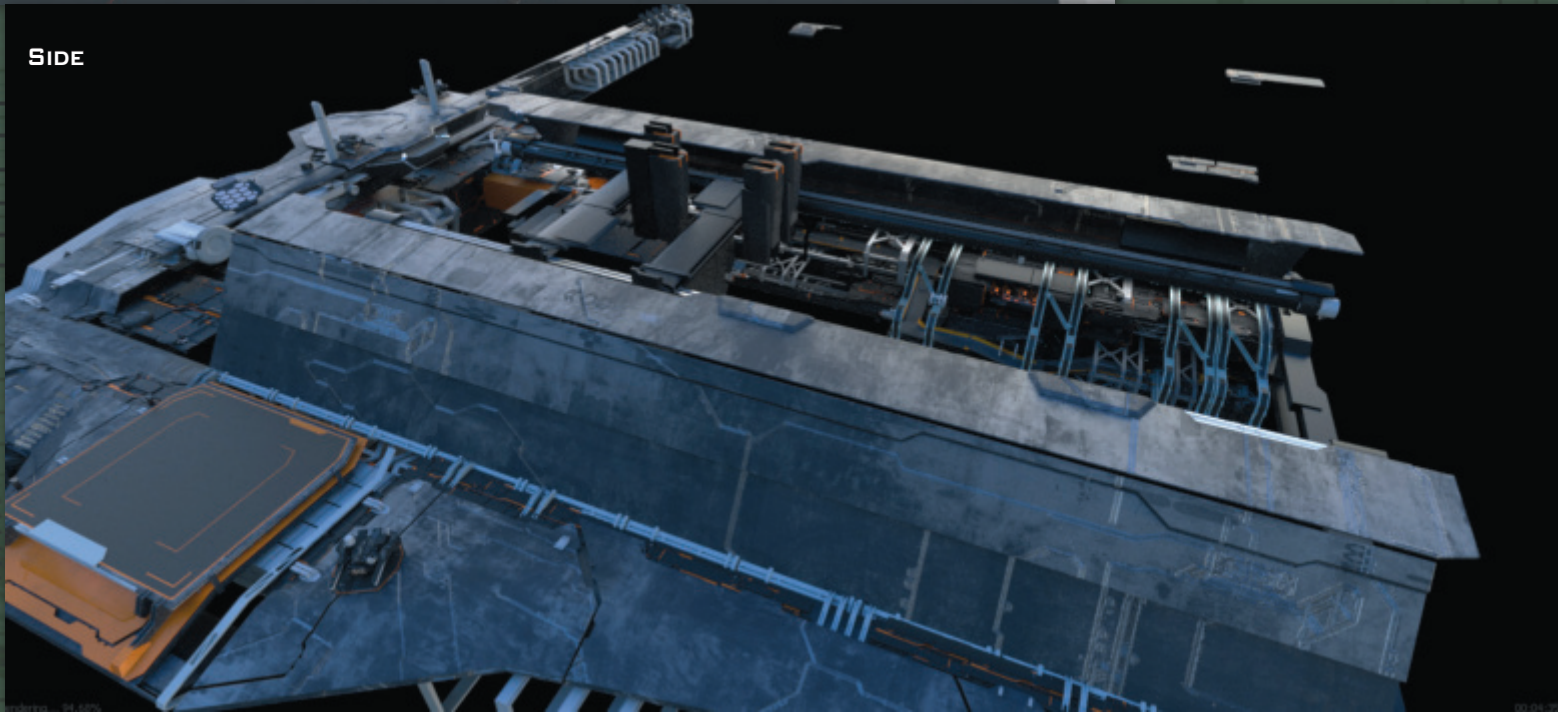


WORKING PRIORITIES

TOP



SIDE



WORK IN PROGRESS

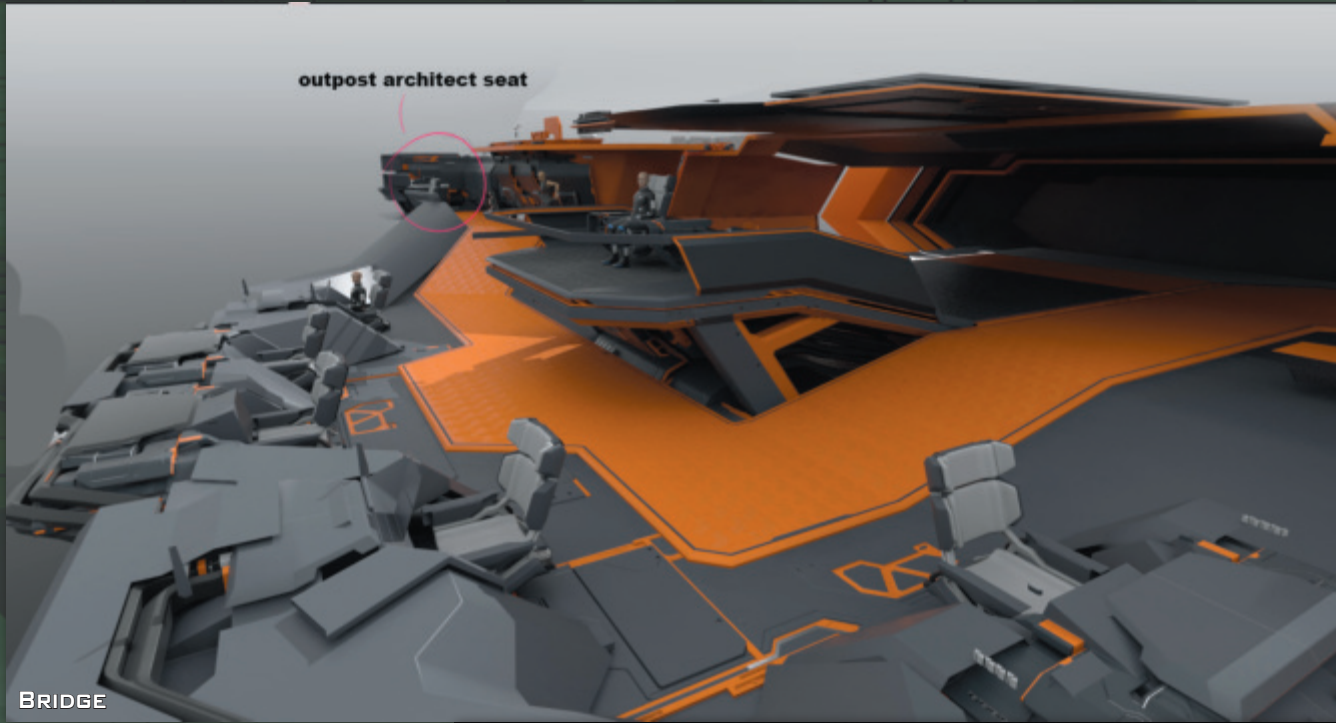
Stage 7 [pages 22-24]

Since the exterior was in a safe state now, I started looking at the interiors. Since this ship's role is to go into uncharted territory and create colonies for mankind, it just made sense to adopt a durable, strong and industrial look. We maintained asymmetry to reflect the exterior and went for a bit more of a future industrial look to set it apart from Drake, for example.

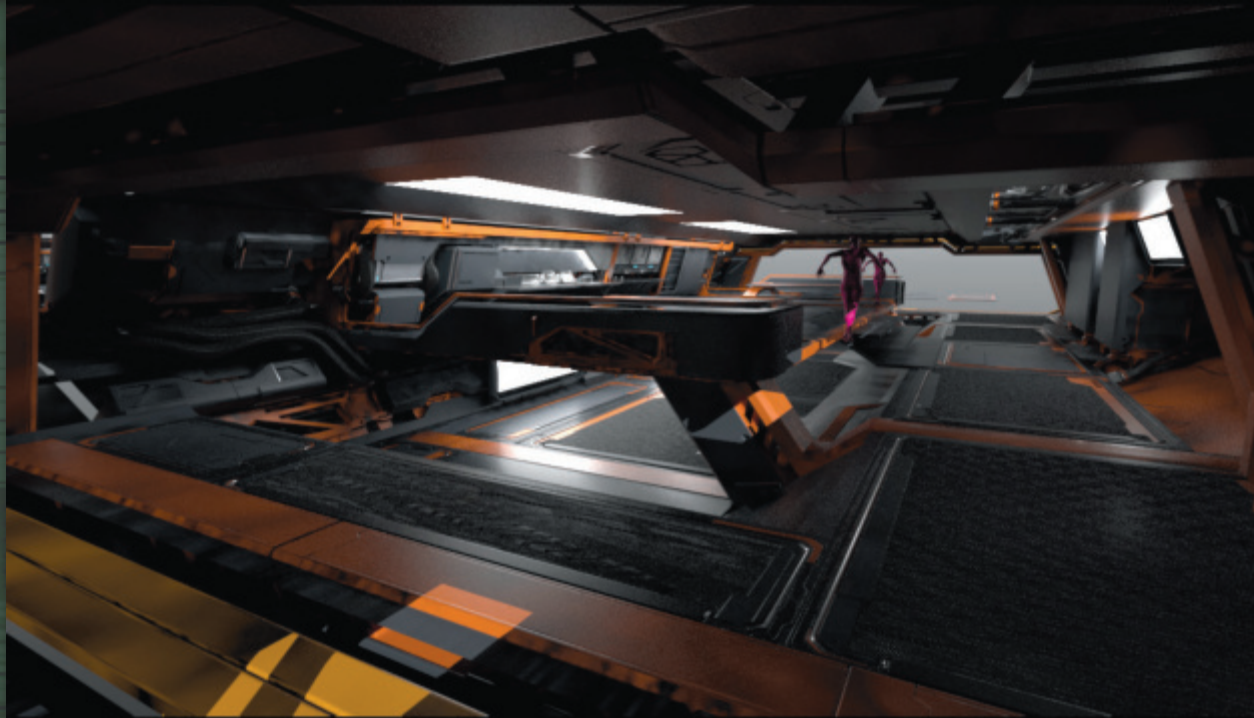
ENGINE ROOM



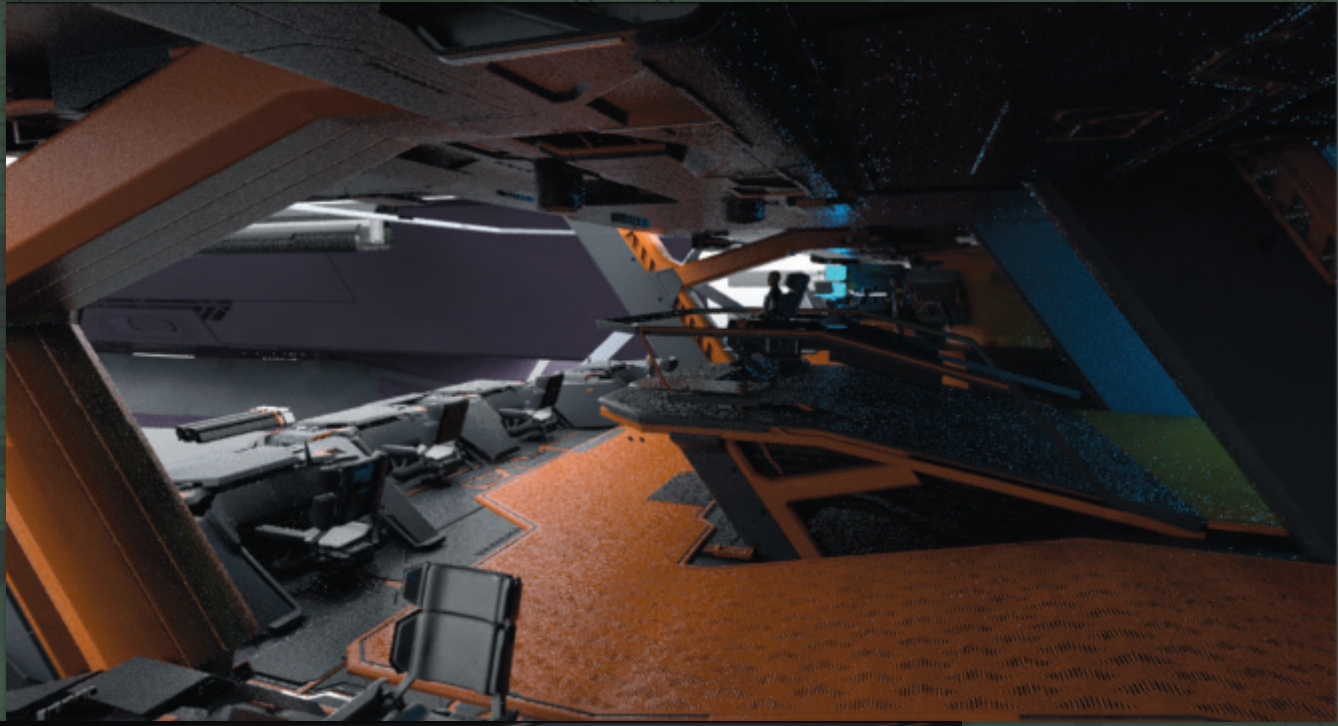
WORK IN PROGRESS



BRIDGE



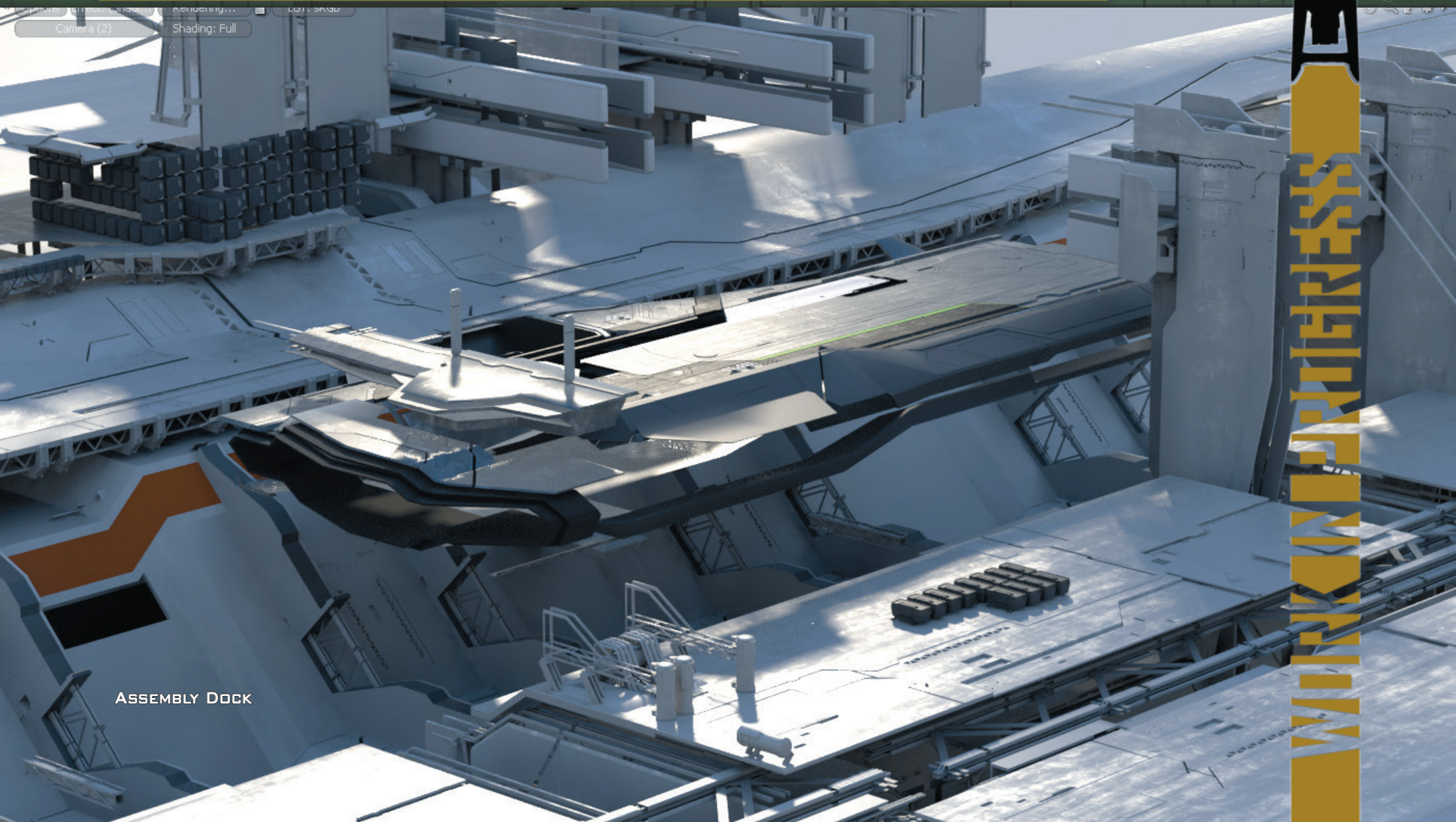
WORK IN PROGRESS



WORK IN PROGRESS

Stage 8 [pages 25-28]

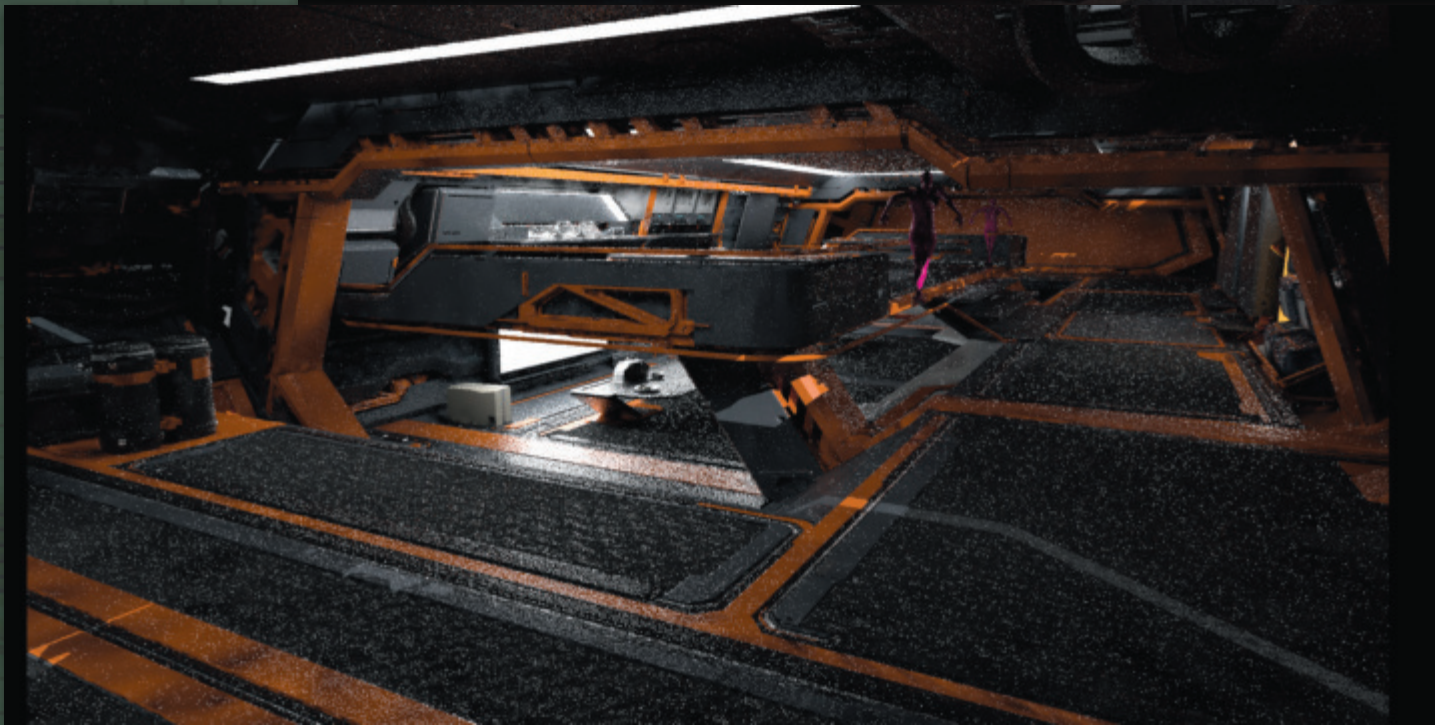
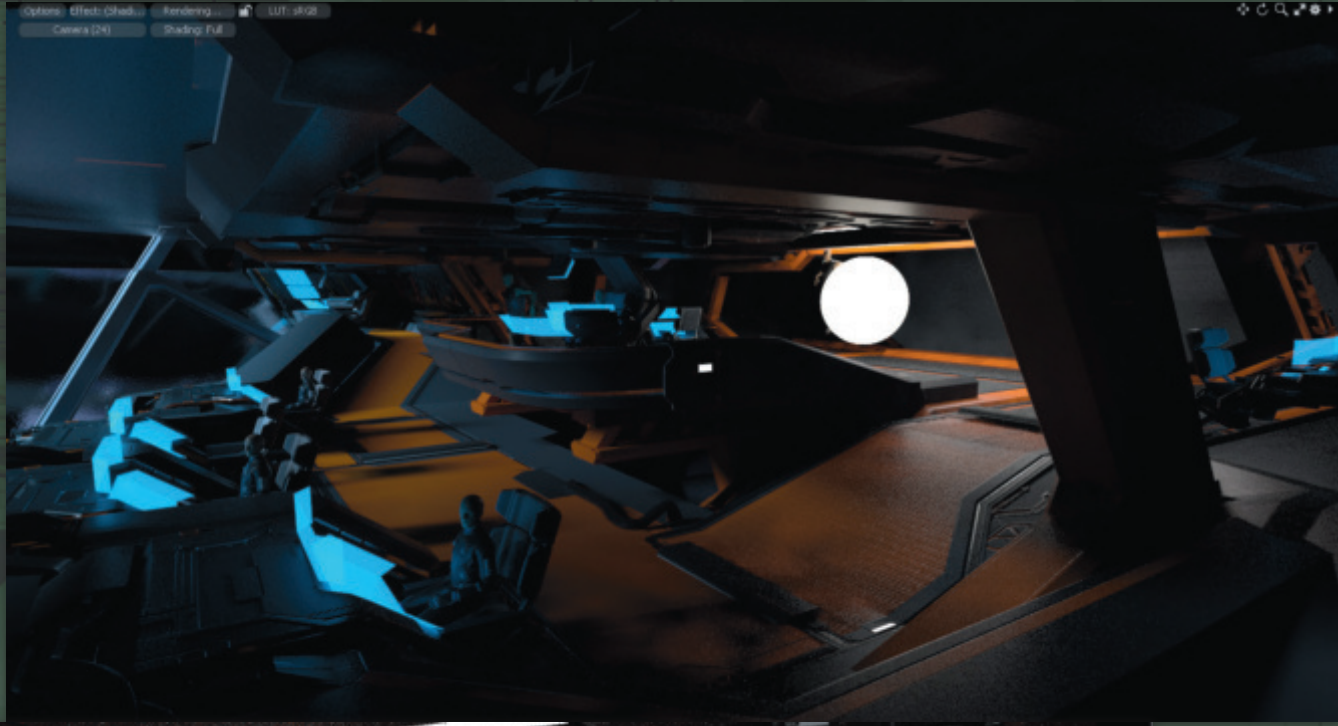
Doing a bit of everything here. I made further passes on the interiors, and the assembly line got a overhaul. The bodywork got updated and we made some early explorations for colour and branding options. Aside from those updates I composed the initial mock-ups for Marketing.



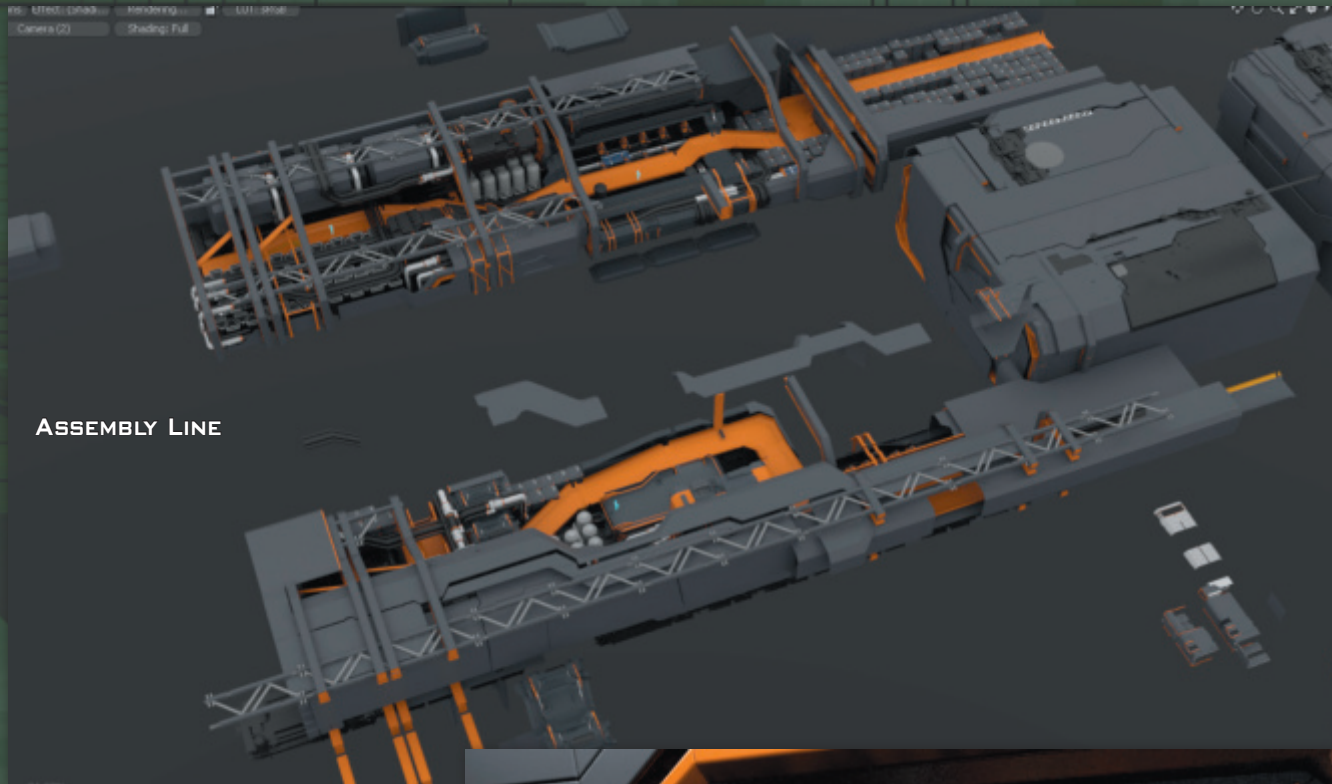
ASSEMBLY DOCK



WOLFGANG PETER



WORK IN PROGRESS



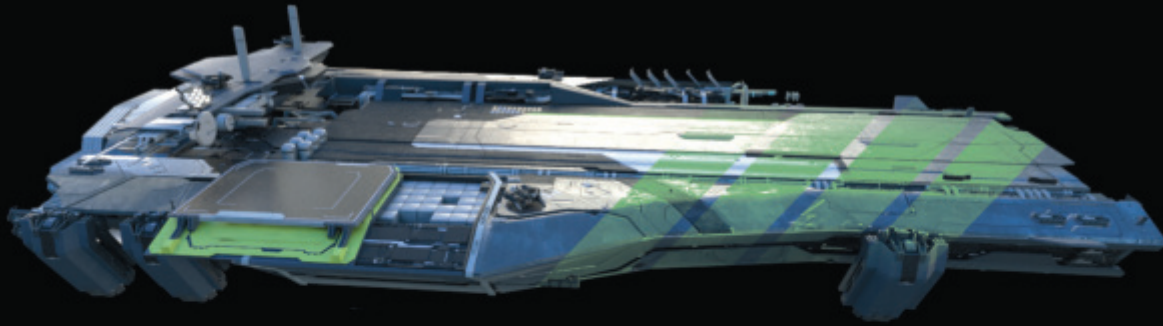
ASSEMBLY LINE



SLEEP QUARTERS



WORK IN PROGRESS



EXTERIOR TREATMENTS



WORKING IN DARKNESS

Current State

CONSOLIDATED OUTLANDS FEATURE EMBRACING THE UNKNOWN

WELL STOCKED

When you're leaving civilization behind, having plenty of room for supplies is a must. The Pioneer's expansive stores can not only accommodate equipment and gear, but also the materials required for fabrication.

HOME AWAY FROM HOME

During the long flight to the frontiers, the Pioneer provides comfortable living space for crew and passengers alike.

SAFE AND SECURE

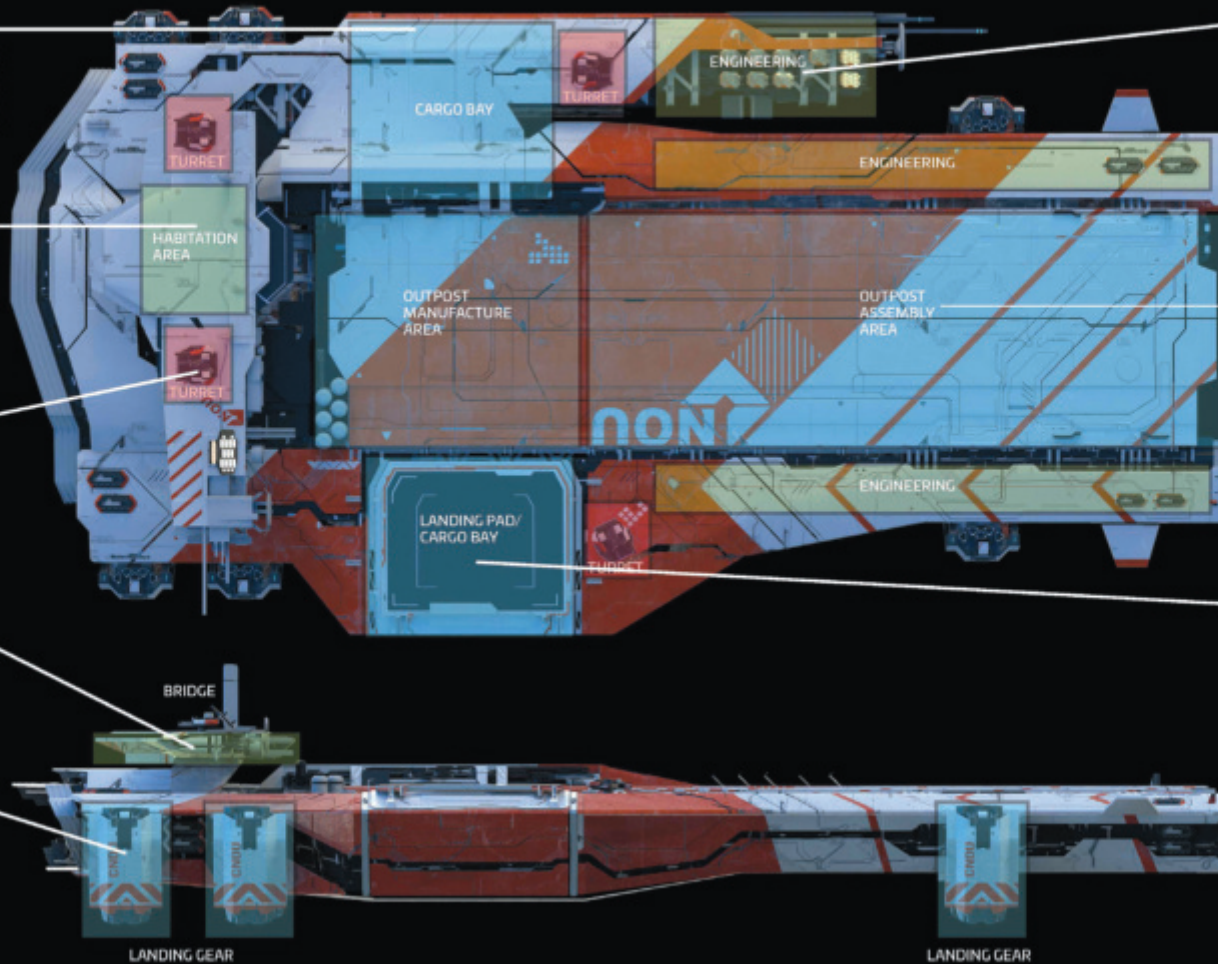
Multiple turrets provide a comprehensive field of fire to protect the Pioneer in transit or planetside.

POSITIVE OUTLOOK

The Pioneer's elevated bridge provides an eagle's eye view making it an ideal command center to get your new colony started.

ROCKY START

Consolidated Outland put considerable effort in engineering a landing system that could handle the wide variety of terrain and environments the Pioneer is expected to encounter.



BUILT TO LAST

Engineers for the Pioneer performed rigorous independent tests to make sure they selected the most durable components they could, minimizing the need for emergency repairs while out in the wild.

SETTLE DOWN

Here is where the magic happens. The advanced fabrication plant uses cutting-edge manufacturing techniques that allow the Pioneer to craft and deploy outposts onsite.

GETTING AROUND

The Pioneer's utility landing pad makes it easy to coordinate with smaller scout and support vehicles.



WORKING IN THE UNKNOWN

WHITLEY'S

GUIDE



Whether you're perusing one of the extravagant ship showrooms in Prime, or bargaining in the back room of a secondhand dealer in Hadrian, there's one thing that is almost universal no matter where you're shopping in the Empire – *Whitley's Guide*. Considered by many to be the ultimate source for impartial and accurate information and reviews for the thousands of various ships, weapons and components that can be found throughout the UEE, it is often the first stop many make when trying to decide if a particular item is right for them. With the guide's ratings near ubiquitous today, it can be surprising to remember that it was less than a hundred years ago that Sal Whitley first started publishing his guide.

A Guide to Whitley

Darby Keilich was once quoted as saying that if you were to spend a day hanging around the repair shop that he and Sal Whitley used to own together, your first impression might be that Sal hated ships. The mechanic was well known for cussing at broken parts and ranting about "idiotically" designed spacecraft, but as Darby explains it, "If Sal always seemed angry, it was only because of how much he loved the things. After working as a mechanic for close to forty years, he understood how ships worked better than almost anyone else, so it really pained him to see cut corners or shoddy craftsmanship."

The vessels that the pair serviced in their shop, located in Odin, were hard flown since the rough local conditions meant that parts were prone to extreme wear and tear. After ten years working as a mechanic and seeing certain brands and models fail again and again, Whitley cultivated very strong opinions about which ships and components their clients should buy and use. Often, customers would consult with Whitley before buying a new piece of

equipment, to see if it met his standards. It wasn't long before word got out and people he had never met were filling his comms with requests for recommendations. It got so bad that Sal threatened to close up shop and move away just to get people to leave him alone, but Darby had a different idea. If people wanted to know what Sal thought so badly, why not write it all down and charge them for it?

A Word to the Wise

The first version took three months for Whitley to compile, in between shifts at the repair shop; it covered spacecraft, power plants and cooling systems. Released on June 21, 2856, it didn't have any images or even a formal title, but gearheads across the 'verse were drawn to Whitley's matter-of-fact writing style. Methodical and detailed orientated, Whitley not only meticulously broke down all the stats of each item, but concisely summarized the ship or part's overall performance. To the surprise of both Sal and Darby, the first month of sales outperformed the repair shop itself.

By the time 2859 rolled around, Whitley had published two more versions and had begun to focus full time on writing and reviewing. The popularity of "Whitley's Guide" had grown to the point where manufacturers had begun to offer Sal free items with the hopes of being included, but without fail, he would refuse them all. It was important to him that he stay as independent as possible so that nobody could accuse him of being a shill. Instead, he sought

out secondhand items, preferring to evaluate well used versions over fresh-from-the-factory models. "Who cares what something is like when it's brand new? What's important is how it's going to be running six months, a year, five years down the way," explained Whitley in a 2876 interview with *Long Haul Quarterly*.

As the guide continued to grow, manufacturers weren't the only businesses to come knocking on Darby and Sal's door. In 2860, Svetlana Gallivan of Gallivan Publishing approached the pair with an offer to buy the publishing rights to the guide, envisioning a bound volume with pictures, layouts and diagrams. Whitley agreed to sign a five-volume contract under the condition that he would have editorial control over all the content. Darby however, decided that the time had come for him to move on and chose instead to accept a buyout. "I had really started to miss just being a mechanic," explained Darby. "But it does feel pretty nice to know I helped create something special."



WHITLEY'S
GUIDE

The Future's in Store

The relationship with Gallivan Publishing has lasted well more than five volumes. By the end of his career, Whitley had overseen close to a hundred editions of the Guide that bore his name. Not only would the core guide expand to cover pretty much every part of a ship, including weapons and missiles, Gallivan began to produce special editions that focused on just one individual part in extreme detail. The 2865 *Whitley's Guide: Energy Weapons* was the highest selling publication that year. In order to keep up with the volume, Whitley hired a staff of writers, though he reviewed all their work personally to ensure he agreed with the results. "If I'm going to have my name on something, you can be sure I'm going to read every single thing that goes in it," said Whitley in an interview.

Though Svetlana supported Sal in his insistence on overseeing each edition personally, even though it limited the number of guides they could publish, there was another

topic that almost drove a divide between the two. Companies approached Gallivan Publishing wanting to use the *Whitley's Guide* rating that their product received in advertisements. Sal opposed the move, worried that the marketing would make it look like the guide favored that product. However, Svetlana stood her ground, arguing that the companies would only be sharing information that the public could find in the guide anyway. The first ad to specifically reference *Whitley's Guide* was in 2867 for a Tarsus Expedition Quantum Drive. From there, the practice expanded. In 2872, component re-sale chain Dumpster's Depot began including the *Whitley's Guide* rating for every item they sold, with one store owner stating, "Might as well save everyone some time, since they're all standing there looking it up anyway." By 2880, *Whitley's Guide* had confirmed its place in the public's mind as the impartial trusted resource for all things spaceships.

A Change in the Ratings

Even with the passing of Sal Whitley in 2886, the guide has continued to be an integral resource for people across the Empire – though without its creator at the helm, there have been some bumps along the way. With Sal gone, the guide for the first time began to accept test samples from manufacturers, as well as to review items before they were released publicly. While the new editors tried to maintain the standards put in place by the publication's founder, an exposé in 2895 that analyzed the ratings of the past decade showed a trend that favored items and ships manufactured by Terran companies. This led to accusations of impropriety, since Gallivan Publishing is also located on Terra. *Whitley's Guide* claimed that it was just a case of correlation without causation, but to make it clear that they were truly

independent, they reverted to Sal's original policies.

However, despite this hiccup, trust has remained high in the publication and some of the recent changes made to the guide have met with even more success. It has continued to expand in new directions and in 2910, *Whitley's Guide* released their first personal armor and weapons volume. They've even experimented briefly with reviewing restaurants, though that was limited to only a single special edition. The addition of a monthly magazine as a supplement to the larger guides has also been quite popular. For nearly a century, *Whitley's Guide* has continued to be an instrumental resource for consumers, thanks to the wealth of information they provide. It is hard to imagine what shopping would be like in the UEE today without their guidance.



CHARACTER ART



XI'AN MOTHER AND CHILD
(CONCEPT)

Without people to interact with, there isn't much of a game to play in Star Citizen, so characters are a major part of the universe that we're building. Creating the characters, from initial proposal, to preliminary sketches, to concept illustration, to 3D model, to mesh (hi-poly and then low), to rigging, to animated personality, is a significant part of this grand adventure, and that's not even including all the programming and design needed to instill a reason for living into each of the characters you will meet along your way.

Character creation gives us plenty to talk about in all sorts of ways; today, we're focused on the art that makes them look real.

JP: *Could each of you please give me a one-sentence description of what you do for CIG?*

Josh Herman, Character Art Director: I oversee the character art and character concept teams taking characters from concept to in-game execution.

Corey Johnson, Lead Character Artist: I oversee the character art team day to day.

Jeremiah Lee, Senior Concept Artist: I create character concepts for SQ42 and PU clothing, armor, and creatures.

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BEHIND THE SCENES

HEAVY ARMOR, FIRST PASS
(CONCEPT)



JEREMIAH LEE, JOSH HERMAN,
COREY JOHNSON
(WITH TYLER YOUNG
IN THE BACKGROUND)

JP: How many folks are on the Character Art team?

Jeremiah L: Six character artists, two concept artists, the lead character artist, and the art director.

JP: Let's talk process for a minute, to get a handle on the scope of what y'all are doing. Take me through the steps, from initial "let's do a Street Sweeper character" (for example) to where you hand off to Animation.

Josh H: The process starts with a brief of what and who the character should be. This idea can come from a variety of places and many departments, so there isn't a set place where this starts. But after the initial idea is thought up we work on concept art of what this character would look like. Here we draw and paint concepts to explore a variety of ideas.

Josh Herman, Art Director

Character Art Team

Corey Johnson, Lead Character Artist

Claudio Clemente, Senior Character Artist

James Ku, Senior Character Artist (freelance)

Cheyne Hessler, Character Artist

Eric Ortiz, Character Outsource Artist

Mansu Kim, Character Artist

Tyler Young, Associate Character Artist

Character Concept Team

Jeremiah Lee, Senior Concept Artist

Michael Broussard, Concept Artist



Sometimes this goes through multiple rounds of concepts till an approved concept is chosen, making iterations and changes along the way. Once a final concept is completed, it is handed off to the Character team, where we begin the process of creating the model for the game.

JP: *Who is involved in reviewing and approving character concept art?*

Josh H: I do the initial reviews, and then show it to Chris and any other departments that need to be aware of it.

JP: *We've got two concept artists, and no two artists are exactly alike. When creating characters for the game, are we trying to maintain a strong similarity between the characters that each of you create, or do we perhaps highlight those differences, so that some are recognizably "Jeremiah" characters and some are recognizably "Michael" characters?*

Jeremiah L: Yes and no. The Concept team work as a unit when it comes to presentation and ideation. However, we do not limit the artists to one style when it comes to creating new and unique ideas/designs. All concept artists come from different backgrounds and art styles. We take advantage of those differences when tackling new ideas and character world building.

JP: *What type of character is more likely to be done by Jeremiah, and what type by Michael?*

Jeremiah L: Michael and I both work on different assets depending on what the Character team is in need of at the moment and/or what is needed for SQ42/PU. There have been multiple occasions when Michael and I have worked on the same asset to further an idea and/or explore new directions.



CELEBRATION
(CONCEPT)



BEHIND THE SCENES

JP: *That sounds interesting. Collaborative art can create some really neat results.*

Josh H: The intent of the concept art is to define what the final model should look like, so the artists strive to make sure that what they're designing is thought through for our game.

In Character Art, we start by making a high-poly sculpt in a program like Marvelous Designer and adding details in Zbrush. Once the high-poly model is completed and approved by the Character team, we start making the in-game model, also known as the low res, or game mesh. At this point, we check the mesh with the Rigging and Tech team to ensure that it will deform correctly.

JP: *What does it mean for a mesh to "deform" correctly?*

Corey J: Deform refers to how well a game mesh maintains the correct shape when it moves.

Josh H: After the mesh has been checked, we finalize the character by texturing it and adding materials. This includes making the character's materials feel like the correct materials – meaning that cloth should feel and look like cloth, leather like leather, and metal like metal.

After this process, the character is fully ready to be rigged, where the Tech team fits it to our rig and prepares it for animation.

JP: *I notice that you describe both the look and the feel of the finished image. Assuming I'm not rubbing my hand over the screen, what do you mean by the "feel" of an image?*

Josh H: The look of an image and the feel of an image are one and the same. The "feel" refers to the vibe, tone and mood of a piece of artwork. For your "Street Sweeper," this includes what type of character they are, where they live, what social class they live in, etc.

MOBIGLAS (3D CONCEPT)



 **mobiGlas 2**
A Classic, Remastered



BEHIND THE SCENES



XI'AN (CONCEPTS)



BEHIND THE SCENES



BEHIND THE SCENES



UEE MARINE
CDS LEGACY HEAVY MARINE
FIRST PASS - HIGH POLY

JP: *If I'm understanding correctly, concept art may have multiple perspectives on a character, but it's all 2D when it's handed over to the Character Art team – correct?*

Corey J: We work really closely with the Concept team to make sure that we match the concept art and also get feedback from the team when we encounter issues when making the models.

Josh H: Sometimes the concept team does 3D designs,

but the majority of the time it's 2D work.

JP: *Why does Concept create a 3D design occasionally? When is that useful?*

Jeremiah L: Some assets have to be intricately designed with multiple views. By concepting in 3D, the concept artists have the ability to accurately design within the actual metrics. So some assets in the long run benefit the overall team by having the concepts created in 3D.

JP: What tools does Concept Art use? I'd guess Photoshop ... what else?

Jeremiah L: Depending on the asset, the concept artist approaches tasks with several different programs. We mainly use Photoshop, Zbrush, Maya and Keyshot.

JP: How about Character Art – what are your usual software tools?

Corey J: Photoshop, Substance Painter, Substance Designer, Maya, Max, Mari, Handplane, Zbrush, Marvelous Designer, Jira and Keyshot.

JP: So a concept image of a Street Sweeper has been handed to Character Art. (Let's assume this one isn't com-

plex enough for a 3D concept to be useful.) What do you do with it? What's the point of creating a hi-res and then a lo-res mesh image?

Corey J: When a character artist begins working from a concept image, we first decide what materials make it up. So for example, canvas fabric, compared to leather, compared to hard surface metal parts. For fabric assets, we will go into Marvelous Designer (this is a program that allows artist to create and simulate clothing assets using sewing patterns) and sim the assets with different fabric types so we can get more accurate wrinkles. From there we take it into Zbrush to polish the asset and add details.



HURSTON OFF-DUTY WORKER
(CHARACTER)



BEHIND THE SCENES

JP: Seriously! There's art software that creates simulated clothing based on inputting a pattern and type(s) of fabric? That's gotta be handy for all that we do in the game.

Corey J: Marvelous Designer is where we begin the 3d asset creation.

JP: So at this point, it's still an image, isn't it? Or has it also acquired a mesh?

Josh H: High-poly is always referring to making a mesh.

JP: I'm assuming there's another round of review and approval at this point, although I wouldn't expect much will have changed from the concept art?

Josh H: At the end of the high-poly phase, there is a review which is mostly to ensure that the high-poly model looks like the concept art, or to approve tweaks that we made along the way.

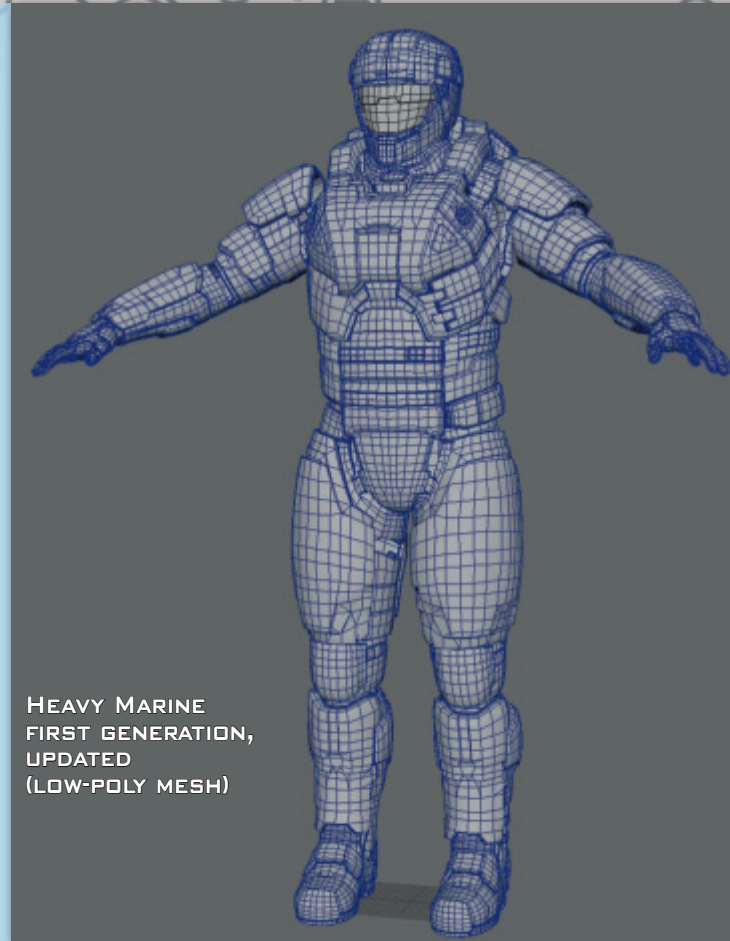
JP: Just based on headcount (two in Concept Art, half a dozen in Character Art), I'd guess that converting from a concept to a finished lo-res mesh takes longer than creating the initial concept. Is that accurate?

Josh H: Yeah, that's accurate. It can take up to 2 months to complete a complicated character model.

JP: What can make a character model complicated? Actually, let's hold off on that for a minute. Character Art converts the concept to a mesh that I assume can be handed off to Animation – correct?

Josh H: The high-poly model is too dense to be animated, so a low-poly/game mesh is created. The details from the high-poly are transferred across via texturing and shader, so that in the game they look nearly identical.

JP: And if they look nearly identical to an artist, I'm assuming that lowly mortals like myself are unlikely to notice any differences at all.



HEAVY MARINE
FIRST GENERATION,
UPDATED
(LOW-POLY MESH)

Josh H: That's the goal! :)

JP: Does the lo-res mesh have joints and other pivot points, or is that handled by Animation? What else (if anything) does Character Art do to prep the figure for Animation to take over?

Josh H: We don't do anything with the joints and pivots. That's all taken care of by the Rigging and Tech teams. They make sure that the mesh is skinned to the skeleton and moves correctly. After they spend their time doing their thing, they will hand it off to Animation.



BEHIND THE SCENES



VANDUUL (CHARACTER)

JP: So let's get back to the question I put off. What can make a character model complicated?

Corey J: A simple shirt asset compared to the Heavy Marine's core armor.

JP: Does the core armor have a lot more distinct elements than a shirt?

Corey J: Yes – it's more complicated when a model has more intricate details.

JP: I know you have to run, so a couple of final questions for each of you: what character has been the biggest pain / most difficult to create / most enjoyable to create?

Jeremiah L: The hardest asset, but definitely one of the most fun assets I have worked on, would be the Xi'an. World building in any genre is difficult to construct. You have to take into account the language, cuisine, politics, etiquette, moral values, etc. A lot of thought and planning go into designing a world and its culture.

Josh H: I think the most difficult character that we've

created so far has been the Vanduul. Branching out into an alien species is really fun, but it introduces other questions and challenges along the way.

The most fun is a hard one to pick. I like all of our characters for different reasons, so I'll just say "all of them." :)

Corey J: The Shipjacker has definitely been the most fun and most difficult character I have worked on so far. It has so many different elements to it, and trying to make the character have a scavenger vibe while still being threatening has been an enjoyable challenge.

JP: Thanks, guys! I appreciate your time.



SHIPJACKER (CONCEPT)

SHIPJACKER_01_CONCEPT_FRONT_AND_BACK





MIN SYSTEM ALEYA



Ever since Nick Croshaw first successfully transited a jump point, scientists have studied and theorized the phenomena that makes such inter-system travel possible. For years, the prevailing belief was that the gravitational pull from a star combines with some yet-to-be identified circumstances to create these expressways through space. They looked for correlations between the type of star in a system, its number of jump points, and exactly where they appeared. Despite a wealth of theories on how a star's gravitational pull plays into jump point formation, there was no scientific consensus.

Then the Min System was discovered, resetting most scientific thinking on the subject. The system has no star. It contains only a rogue gas giant with four orbiting moons.

THE DARK SYSTEM

In the pantheon of systems discovered by Humanity, Min is utterly unique due to its lack of a sun. Rumors that a "dark system," devoid of light, existed in certain outlaw circles for years, but most believed it to be nothing but a tall tale. These tales propagated because Min's initial discovery was kept a secret for over two centuries.

That decision can be credited to the Hathor Group, which owned a majority of the system now known as Nexus between 2468 and 2672. They mined its planets until almost all resources were exhausted, while enforcing few laws, which resulted in the strong outlaw presence that exists in the system to this day. At some point in 2473, a Hathor-owned ship discovered a jump into the Min System from Nexus. Exactly who flew through this first jump is unknown, so the discovery simply remains credited to the Hathor Group.

For over two hundred years, knowledge of Min's existence remained a company secret. Historian Eaden Andres believes this secrecy was initially driven by a desire to keep the system's resources for themselves. Only a handful of years after paying an exorbitant price for access to the Nexus System's resources, Hathor executives worried about the bureaucratic nightmare and potential cost of accessing Min, if the UNE was informed of its existence.

Instead, Hathor Group CEO Russell Gurney kept Min a closely guarded secret, even going so far as to create a covert division to chart, scan and assess the system's economic potential. (In an initial comm chain he stated that he wanted "the minimum number of people involved" which is where the planet would derive its name.)

When those numbers turned out to be underwhelming, the division was quietly disbanded in 2476. After that, most mentions of the system vanished from Hathor Group documentation, though some evidence suggests it was occasionally used as a dumping ground for toxic mining byproducts.

Before the Hathor Group relinquished control of Nexus in 2672, their internal archives suffered a massive hack. The coordinates to the Min jump point ended up among the vast stores of compromised data. According to historian Eaden Andres, rumors about the "dark system" began to circulate in criminal circles shortly thereafter.

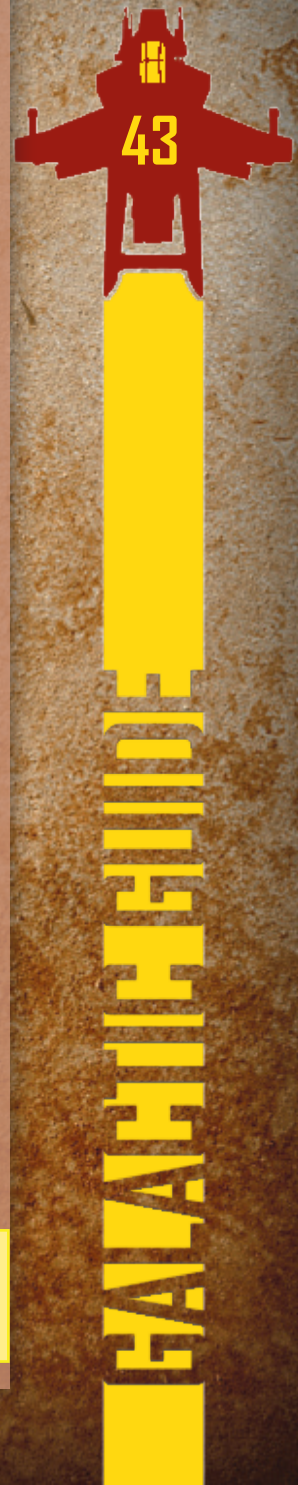
ROGUE IN VOGUE

Despite whispers about Min's existence, decades would pass before the truth was discovered, and it wouldn't even be from its connection to Nexus. Instead, a second jump, to Ellis, had been located by outlaws. It wasn't until 2702, when the New United reported on an Advocacy sting of a ship smuggling ring, that Min finally became known to the wider UEE. The story became the basis for the blockbuster 2705 vid *Unknown Origins*, which dramatized how undercover Advocacy Agent Hiram Qureshi discovered that outlaws were using a jump point from Ellis to Min to get stolen ships out of the system.

Direct access to a system that lacked a sun excited astronomers and fascinated the public. The UEE sent in their usual cadre of scientists and bureaucrats to investigate the system. Aside from the novelty, they determined that its lack of resource or habitable locations made it unworthy of claiming for the Empire.

Still, once Min's jump coordinates were made available to the public, outlaws, who had been accessing Min for years, took advantage of the lack of law enforcement to ambush sightseers and researchers. Attacks become so prevalent that for years the UEE released travel advisories warning about the dangers of visiting Min. Still, Humanity has found a way to call this system home. A small settlement has sprung up on the system's second moon, proving once again that even in the face of extreme circumstances, Humanity still finds a way to survive.

TRAVEL WARNING Travelers should prepare for the system's lack of security and amenities that are customary to claimed, secure UEE systems.



MIN I

Without a sun, Min I is the center of the system. This gas giant is dominated by ammonia clouds that ominously glow against the faint light of distant stars. Experts wonder what caused this planet to be expelled from its original star system. They also debate whether the jump points are connected to the planet or tied to this area of space that the planet just happens to be 'passing by.' Scientists have yet to discover what it is that makes this planet special.

MIN 1A

Min 1a is small, rocky moon. The Hathor Group's initial scans revealed that it contains trace amounts of marketable minerals. The cost of dispatching a team to retrieve them exceeded the potential profit and was quickly nixed. When the system was opened to the public, these pockets of minerals were targeted for excavation by small mining concerns.

HEARD IN THE WIND

"Min seemingly vanished from the minds of Hathor executives and goes unmentioned in internal documents for decades. Though some had marveled at the system's unusual astronomical make-up, it wasn't enough to make them care. To them, there was no profit to be had there."

- Eaden Andres, *The Crossroads of a Company and Criminals*, 2881

"I'm not runnin' from nothin'. I've been clear cross the universe, multiple times, and this is the place that stuck with me the most. Never seemed to have a good night's sleep until I got to Aleya. Don't know what it is, but something about this place just puts my soul at ease."

- Bernie Holt, *interview from Sunless Souls*, 2921

ALEYA (MIN 1B)

Somehow life has found a way to survive on Min 1b despite its meager prospects. This rocky moon, the largest of the four, holds onto a thin atmosphere and stays unexpectedly warm thanks to the effect its eccentric orbit has on its atmosphere. Its surface is almost completely covered in vast oceans with countless hydrothermal vents in the seabed. These factors are enough to sustain a large community of bioluminescent bacteria. Their ghostly glow radiates up from the ocean floor, making for an almost surreal visual when combined with the stars in the black sky.

In 2816, a unique community, formed by a disparate combination of researchers, outlaws and survivalists, was established on the moon and it has remained occupied since. Its residents welcome any visitors willing to trade with them for the crops grown in their bacterial ocean farms. To learn more about the people who inhabit what must be the strangest human settlement in the universe, watch the exceptional 2921 docu-vid *Sunless Souls*.

MIN 1C

Lacking an atmosphere or many resources of note, Min 1c's two most defining characteristics are that it's the smallest moon in the system and that it has a sprawling cavern network beneath its surface.

MIN 1D

As Min's most distant moon, outlaws frequently use its massive impact craters to hide in and wait for the next unsuspecting ship to arrive.





THE PAYOUT

by Dave Haddock



I'm dead, I'm dead.

The words repeated on a loop in Sully Cannata's head as he raced through the winding tunnels of the abandoned factory. Focused columns of heat blasted from the vents staggered along the wall, pumping acrid smoke into the tight passageway.

A series of desperate shots boomed behind him. It sounded like the hand cannon Jens was known to carry. Sully guessed he was digging in.

Better him than me, Sully thought.

The rip of gunfire was suddenly silenced by a chorus of high-speed energy weapons, bringing back those words again:

I'm dead. I'm dead.

Sully cut around a corner. His feet skidded on a puddle of something and nearly came out from under him. He managed to catch one of the pipes on the wall, righted himself and raced forward. He'd scouted the factory before the drop, a habit he'd picked up in the past year or two, but now he was just trying to keep the terror at bay so he could remember the winding layout that led to . . .

The access door came into view ahead of him. He pushed even harder and shoved his full weight into the metal. It flung open. Sully quickly slammed it behind him and jammed a piece of metal shrapnel into the doorlock, hoping it'd slow down his pursuers.

Thin metal stairs wound up around the walls. He wasted no time, leaping two, three steps at once even though his legs burned. By the time he hit the top, somebody crashed into the door he came through. His improvised 'lock' held. Sully quickly pulled on his gloves and hood as heavy impacts rammged against the door below. By the time he'd gotten the goggles on, the door downstairs buckled. Heavy foot-steps thudded up the stairs.

Sully wrenched the handle and pushed the heavy rusted door at the top of the stairs open.

A swirl of dirt and dust blew into the factory. He could already feel the dull burn of the dirt through the fabric. He slipped out the door and hustled away.

The drop had been on the outskirts of Lorville. Factories out here were either automated or had outlived their usefulness. They were also within walking distance of residential areas, so it made for a convenient place to meet.

Sully cut into a winding alleyway to keep out of sight. He weaved his way around piles of trash, leaving oddly colored fluids as he made his way towards the more populated areas. Over the wind, he could start to hear the oddly placid music intended to keep the populace calm, meaning he was close.

Although he strained to hear the armored footsteps of his pursuers through the howling wind, he knew he wouldn't hear any voices. It was one of the most unsettling things about Executive Security, they only turned on their external speakers if they were addressing you directly. The rest of the time, they were completely silent. Their sealed heavy armor obscured all the conversations they were

undoubtedly having.

Up ahead, a trickle of people passed the mouth of the alley. Sully slowed as he approached and glanced around the street. He was in one of the commercial sectors, placed near a travel hub, so workers could pick up any last-minute items on their way to the factories. Sully hadn't realized how pathetic these 'stores' were until he'd gotten off-world. The shelves in all of them were mostly bare, only displaying a handful of 'sanctioned' items that Hurston imported. The storefronts themselves, although they had colorful names, all bore the same "Owned and operated by Hurston Dynamics, Inc." disclaimer on the sign. Almost everybody was dressed in similar clothes, wrapping up in multiple layers to protect against the corrosive dirt. Almost no one looked up, every gaze locked on the ground ahead. Kala had always said it was the mindset of the people here; keep your head down, focus on the path right in front of you. She'd always been more pragmatic than Sully. At least, that was how she'd described herself. He thought it was the mindset of the broken.

That was why Sully had to leave.

He kept his head down while passing a camera cluster perched above. A dozen or so lenses were aimed to spy on the entire street. Speakers embedded among them pumped out that obnoxious music. He passed underneath and slowly trudged (it took all his restraint not to run) his way up to the monorail station.

At the top, Sully glanced back towards the alley. There was no sign of his pursuers. The only security were in an enclosed observation post perched above the checkpoint. Sully queued up and waited. When his turn came, he stepped into the small antechamber. The laminate doors swung closed as he scanned his card. A moment later, the screen flashed green and the plexi doors in front opened. A monorail was just pulling into the station.



CHRONICLES

Sully filed into the train with the other workers. Focused pneumatic tubes fired bursts of air as each person stepped through the door of the monorail, blasting dust and dirt from their clothes. It was part of a Public Health Initiative that Hurston Dynamics had unveiled ten years ago, but like everything else from Hurston, nobody ever took it seriously. Sully slid into a seat. As the adrenaline wore off, his legs started to burn, but Sully couldn't think about that now.

He had to figure out what went so wrong.

* * *

This was hardly the first time Sully had made a run to Lorville. Ever since he linked up with Peng's gang five years ago, he'd done a handful of smuggling jobs here. As much as he despised coming back to this hellhole, the black market mostly sold stuff easily gotten off-world. You could buy a pair of DMC pants anywhere and sell it for four, sometimes five times the price here. Only tricky part, you had to get it past security.

And that's what this job was. A breeze op running a bunch of clothes and food that nobody would look twice at anywhere else in the UEE. Once he landed, he contacted Shaw, his guy on the inside, who rerouted the 'specialty cargo' past the customs check and put them on a freight to the factories.

Once the customs check on the rest of Sully's cargo had been cleared, he met up with Jens and made the deal. Everything had gone as it always had. Healthy amounts of paranoia, but otherwise, respect. Jens had two of his usual enforcers there to help carry the crates. He cracked open the third crate, but instead of hydroponic growth supplements, it was jars and jars of WiDow.

Jens turned to Sully.

"What the hell is this?"

Sully was dumbfounded, he barely heard the question.

"I don't . . ." he managed to stammer.

A dozen energy weapons hummed to life above them. Jens, his enforcers and Sully turned to see Hurston security lining the catwalk above, rifles already aimed.

"Afternoon, gentlemen," an augmented voice cut through the silence. Sully turned to see a form step from the hallway. The armor had officer markings on it. "I'll be honest. The thing that usually bothers me the most is that while people are spending their day being productive, contributing to the betterment of the world by putting in their twelve hours and going home, you types try to make more money for less work."

The Security Officer calmly circled Jens and Sully. Jens' enforcers kept glancing at the security up top, while Jens locked eyes with the officer as he stepped over to the crate of WiDow.

"But this," he said as he lifted a jar of the thick black liquid. "Poisoning our populace with this junk . . . well, that I just can't stand for."

"We—" Sully started to speak when the officer backhanded him. The armor augmented the hit, sending Sully sliding across the dirty floor.

Jens' hand slowly drifted behind his back.

The officer unlatched his helmet and pulled it off. He was older, probably late sixties, tan, weathered skin and cold, gray eyes. He walked towards Sully and leaned down.

"I didn't say you could speak," the officer said.

"What's this gonna cost?" Jens muttered. The security officer paused, eyes still locked on Sully, then smiled.



CHRONICLES

“What?”

“I pay out to you boots every month, but it ain’t never enough. Seems there’s always someone else who wants a little slice of the action.” Jens glanced around, seemingly bored with this whole interaction. “So what’s it gonna be this time?”

“I want the name of everyone you pay out to,” the officer said as he turned back to Jens.

Sully glanced around, there was a side door maybe four, five meters away.

“Yeah, sure. Got a list right here.” Jens yanked a holdout pistol from his waistband and opened fire. His enforcers dove for their rifles.

The officer brought up his armored hand just in time to stop Jens’ shots.

“Let’s do this the hard way then,” the officer said with a grin and calmly drew his sidearm. Jens drew his heavy ballistic.

That’s when Sully ran.

* * *

The monorail lurched to a stop. The droll voice announced the services and alternate rail lines that were available at the station. Sully had one more to go before the pads where his ship was parked.

He went over every step of the job. The cargo was prepped on New Babbage like usual. Peng had made the delivery, but he wasn’t the type of guy to mess with drugs. Peng was an opportunist who liked getting paid. He liked to play things safe rather than chase the rush of pushing boundaries. Running that kind of weight into Lorville was a death wish kinda deal.

Sully leaned against the window as the monorail passed into shadow. He looked up to see the monolithic Hurston

Dynamics building blocking out the sun. Unfortunately for him, to get the hell out of here, he’d have to go into the heart of corporate security.

The train began to slow as it approached the next stop. Sully got up and joined the other passengers clustered by the door.

Striding through the monorail station, he brought up his mobi and pushed a comm to Peng.

“Hey, what’s up?” Peng murmured as he appeared on the comm a moment later, clearly woken from a nap.

“One sec,” Sully said and headed for a crowd of people to hide his conversation from the cameras. “What the hell did you have me transport?”

“What you mean, man?”

“One of the crates . . .” Sully dropped his voice to hide it from the people around him. “One of them was loaded with damn WiDoW.”

“Quit playing, man.”

“Do I look like I’m playing?” The crowd around Sully started to move, so he kept pace. “Not only that. Security were all over the drop. Jens is dead, probably.”

That woke Peng up.

“Whoa, hold up, I don’t know anything about no goddamn WiDoW, man.”

“Then how’d it get in the crate?”

“Hell if I know,” Peng started getting really nervous. “You ever lose sight of the cargo?”

“No, man, it was . . .” Sully paused. There was a gap where it was out of his sight – Shaw. His contact on the pads who slipped it past customs.

“Hey, look, you, uh, you need to get the hell outta there.”



"Yeah, thanks, Peng. What do you think I'm doing?"

"Yeah, right. Anyway . . . don't contact me 'til you're clear." Peng dropped the comm.

Sully muttered to himself and broke from the crowd to head towards the pad. He knew Peng was probably cleaning house; deleting any records of Sully from his comm, datapads, whatever. Playing it safe again.

Sully stepped inside Archimedes Flight and glanced around. Pilots were clustered around the various terminals, trying to order their ships to get the hell out of there. Cameras covered every square inch of the space.

He scanned the faces of the employees and found Michael Shaw staring vacantly into space as some customer in an ill-fitted flight suit yammered at him. Sully quickly made his way over and stepped behind the customer.

". . . it's important that my ship is kept covered," the customer droned on. "I've read extensively about the atmospheric conditions here and I will not have my hull tarnished by whatever's floating around in the air."

It took a few moments before Shaw noticed him standing there. When he did, he turned to the customer.

"Go away."

The customer stopped speaking, utterly shocked. Shaw's expression hadn't changed. He just stared at the customer until he moved away, then turned to Sully.

"Hi, welcome to Archimedes Flight," Shaw said in an unconvincingly chipper tone. "How can I help you?"

"Yeah, I seemed to have some difficulty with my cargo."

"Sorry to hear that. We do our best to make sure that our clients are satisfied, but sometimes accidents do happen."

Sully leaned in close.

"We need to talk."

"I'm sorry, I can't do that at the moment," Shaw replied with a placid smile. He then typed something on his datapad. "I've updated your hangar file with some relevant info. Thanks."

Sully turned and walked away. Once outside, his mobi pinged. There was a message from an unregistered user that simply said, "Bay four. Ten minutes."

A pair of ships, marked with Hurston Security livery, blasted overhead towards the factory district where Sully had come from.

This was not good.

* * *

Shaw was already ten minutes late. The bay was dark, empty. Sully passed the time scanning the Hurston spectrum for any kind of alert or notification. It was quiet. The announcer was cheerfully explaining how worker productivity was up over this past quarter, leading to a two percent profit growth.

Finally the door to the hall slid open, spilling light inside. Sully ducked behind a terminal. It was Shaw, strolling in like nothing was wrong.

"About time," Sully muttered as he stepped out.

"Hey, when I'm on the clock, you get my time when I wanna give it." Shaw popped a stim and held his arms out expectantly. "So?"

"Turns out my package had a little extra cargo in there. About ten jars of WiDoW extra."

Shaw was silent.

"You know anything about that?"

"Why the hell would I?" he replied derisively.

"Only time that cargo was out of my sight was when you were moving it."



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“Well, I ain’t in the habit of swapping boxes.” Shaw took a drag off the stim. “Bring the stuff back and I can see if anyone’s light on some WiDoW.”

“I can’t.”

“Why not?”

“Because Hurston was all over the drop. They got it now.”

Shaw leaned back against the wall and sighed.

“Guess you’re screwed then.”

“It wasn’t my stuff.”

“It is now.” Shaw took a last puff on the stim and ejected the spent cartridge. “Sorry, Sully. Think it might be time to disappear again.”

“Can you bring up my ship?”

“Yeah, sure.” Shaw walked over to one of the terminals and booted it up. After several load screens, he accessed the hangar manager and punched some commands. His expression darkened. Sully noticed.

“Oh come on, what now?”

“There’s a landing lock on your ship.” Shaw started punching some other commands. Suddenly, he stopped, then ripped the power cable out of the wall. The terminal went dead. “Security flagged me asking for your location. You gotta go. Now.”

Sully started heading for the door. Shaw jogged after him. Once outside, they looked up and down the empty hall.

“One more thing,” Shaw turned to Sully, once he was satisfied the hall was empty. “You drop me to Hurston, you’re dead an hour later. Clear?”

Sully stared at him, shocked.

“Good.” Shaw took off and left Sully alone in the hall.

Sully backed up and headed into the main atrium of Archimedes Flight. A handful of security officers suddenly appeared in the entrance. They pushed past Sully and unslung rifles as they moved towards the hangars.

He quickly pulled on his protective gear and set out into the street.

With his ship impounded, his options were dwindling. He could try and find another ride off-world, but he’d have to go through customs to get out. With security locking down Archimedes Flight, it was unlikely he’d even make it to customs. That left fleeing the city. If he could get to some other town, maybe there’d be another way to get off the planet.

* * *

Roving beams of sunlight cut through the dark clouds to shine on the passing city below. The Hurston Dynamics building receded in the distance, its top disappearing into the rolling clouds. The train quietly sailed along the elevated rails, heading into one of the residential zones.

Leavsden Square had always been one of Lorville’s more depressing housing blocks. The sterile gray halls and stairwells looked more like a fortress than a home. Sully watched the dark buildings approach, pinpoints of light visible from the narrow windows. Growing up in this hellhole, he knew exactly how violent the towers could be. Clearly not much had changed in the past five years. In fact, Leavsden actually looked worse.

For that reason, leaving Lorville had never been in question. When he finally found a way out, talking his way into a trainee position on a scrap hauler, he didn’t hesitate. He’d left family, friends, Kala . . . but he had to. He couldn’t live on this godforsaken planet one more day. Now he was going back and it wasn’t a prospect he was necessarily looking forward to.



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Sure, he'd thought about coming back, see if Kala could finally cut herself loose of this place, but he knew she wouldn't. She had too many ties. She'd never have that urge to see what the universe had to offer.

Sully glanced at the other passengers in the train. Clustered dirt-covered workers fresh off twelve hour shifts in munitions plants or sledging rock or whatever. He knew he was looking at the broken. He didn't even pity them anymore. They pissed him off. He wanted to smack them, tell them to wake up and realize that they're slaves, but he knew how they'd respond. They'd mumble something about life being hard everywhere, or some similar nonsense.

The train pulled into the Leavsdan station. His dread about coming back here was almost as bad as his gnawing fear of Hurston Security.

Almost.

The doors opened and Sully filed out.

He walked through the common area between the four monolithic buildings. Concentric concrete circles descended into the ground into a rusted playground. A group of kids sat there, glaring at Sully as he approached, their arms and faces bare like some kind of brazen (but stupid) act of defiance. Their skin was already showing discoloration from the toxins in the air.

Sully knew if they stood up, it meant a fight, so he kept his pace even. The kids watched him as he passed. One of them leaned back and grinned, displaying a patch cheaply sewn into his shirt. Civilian Constable Service. Hurston's eyes, ears and (if the situation called for it) enforcers recruited from the civ-pop. They were the security cannon fodder, rats who'd sell out fellow workers for a pat on the head.

Sully kept his head down and kept walking. The kids glanced at each other, clearly deciding what to do, but then went back to their hushed conversation.

Sully continued to the atrium of Tower B, gave a quick check on the kids to be safe, then brought up the directory on the wall terminal. He scrolled down until he found Kagan in the registry and punched the code.

"Yeah?" An older but still familiar voice murmured through the tinny speaker.

"Joe," Sully said as he leaned close. "It's Sully."

Then nothing. For a full minute, Sully just stood there. Waiting. He knew this was a bad idea.

The door buzzed.

* * *

Joe Kagan looked old. It'd only been five years since Sully had last seen him, but he looked like it'd been ten. Still had that focused look in his eye. He looked wearier, sure, but there was still that intensity.

They'd first met in the halls of Tower B when they were eight years old. Joe's family had just moved in after his dad got transferred to a new dig site, and a group of the older kids were welcoming him to the floor. Joe was about thirty kicks into the beatdown when Sully came charging in with a punch that knocked Micah Rodgers out cold. That was Sully's one good shot. He quickly joined Joe on the bottom of the kicking pile.

Needless to say, they'd stuck together ever since. As they got older, they shared a defiant streak. Whatever trouble they got into, it was always worth it if it resulted in those sacred words: *make Hurston pay*. It took over ten years of being inseparable to finally figure out what divided them: Joe decided that pranks and sabotage were pointless if they didn't coincide with real efforts to change. Sully just liked pissing people off.

The night before Sully took off from Lorville, they'd argued again. Sully called Joe delusional, Joe called him a coward.



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Now, Sully was sitting across from his old friend in the same two-room apartment his parents had occupied. The walls were covered in historical revolutionaries. Some bizarro music played from his speakers. Joe was in an old chair, just staring at Sully.

“How are your parents?” Sully finally said.

“They died.”

“Oh,” Sully settled back. “Damn, sorry.”

Silence again. Except for that dreadful music.

“So, you still . . . fighting the good fight?” Sully said with a chuckle.

“We’re petitioning to try to get Hurston to authorize a worker’s council to oversee safety conditions.”

Sully couldn’t stifle a laugh. Joe shook his head.

“What do you want, Sully?”

“I, uh, I need a hand getting out of the city.”

“You got legs, walk.”

“I need to get out quietly.”

Joe stood up and walked to the kitchen where some water was boiling. He made tea and coughed slightly.

“Let me see if I got this. You vanish for five years then pop up. Clearly in trouble, and expect me to help?”

“Kinda, yeah.”

“What’d you do?”

“Does it matter?”

Joe slammed down the mug. The handle broke off. He looked at it for a second and tossed it in the sink.

“What did you do?” Joe reiterated, regaining his sullen composure.

“I was running some cargo into the city. There was a mix up with the packages and I got nabbed with some nasty stuff. But it wasn’t mine. I swear.”

“So you’re just a straight up criminal now?”

“I was bringing in clothes, some hydroponic supplies, simple stuff to make people’s lives better.”

“But you aren’t.” Joe rubbed his temples. “You still don’t get it, do you? Smuggling in contraband isn’t making anyones’ lives better, it’s putting them on a razor’s edge and giving Hurston the evidence to crack down even harder when they get caught.”

“Sure, because your petition’s really gonna change things,” Sully snapped back. “I’ll bet the execs are laughing their asses off.”

They fell silent again.

“Look, I need your help,” Sully said, his voice calm again.

“Help me and I’ll never see you again.”

Joe thought for a few moments.

“I can’t,” he finally said. “I know you couldn’t care less, but we’re trying to change things here. I can’t get my people mixed up in smuggling. I’m sorry.”

Sully stood and walked to the window. Though he wasn’t surprised by Joe’s response, the walls of his situation felt like they were closing in. He couldn’t hide out in the city for long. Not now.

He looked out the window, down at the common area between the towers.

Hurston Security were talking to the CCS kids. They pointed to Tower B. All of the Security turned towards the tower.

“Shit,” Sully muttered.

“What,” Joe asked as he came rushing up to the window.



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He followed Sully's gaze. "Shit."

Joe rushed to one of his closets and pulled out some new coats, goggles, and gloves.

"Here." He tossed them to Sully.

"So you'll help me?"

"I can't get you out of the city, but I can buy you some time to get away." Joe pulled the front door open. "You remember the old stairwell where TwoTone used to deal out of?"

"Yeah," Sully replied, quickly pulling on the new clothes.

"Whole things been condemned, so they cut off the power to the cameras. That'll take you all the way down. Slip out the back and make a run for it."

"All right, thanks." Sully paused at the door. He held his hand out. "It was good to see you."

Joe hesitated, then shook it.

"Let me know if you ever start to care," he said.

Sully took off down the hall. The building's intercom crackled to life as he ran.

"Attention Leavsdn Square Tower residents, this is Sergeant McMannus, Hurston Security. We have reason to believe that a dangerous criminal has entered your building. We will be enacting security protocols to secure all residents until a proper search can be conducted."

All the apartment doors suddenly latched shut as automatic locks engaged.

"Any tenants caught outside will need to provide authorized identification."

Sully hit the doorway to the back stairwell. As it swung open, he was slammed in the face with a wall of rank odor. Years of mold, dirt, grime were compounded with

the remnants of whoever had been using the stairwell for a toilet.

He pulled his protective hood closer to his face and descended into the pitch black stairwell.

Floor after floor passed. The decrepit state of the stairs meant he had to take each step carefully and more than once almost slipped off something that he was grateful not to see.

He could hear the heavy footsteps moving through the halls outside. A few times a Hurston Security would venture a look into the stairwell, but they never lingered. One glance at the state of it was enough to convince them that no one in their right mind would be in there willingly.

Sully finally reached the bottom floor and moved to the exit that let out in the back of the tower. He pushed the door open and slipped out. There weren't any Security in sight, so he started to hustle off towards another one of the tower blocks.

That's when he almost ran into one of the CCS kids. This was the older one who'd proudly displayed his badge, but, thanks to Joe's new clothes, he didn't recognize Sully.

"Hey, the building's on lockdown."

"Oh yeah, I know. I already talked to security. They cleared me to go."

The kid studied Sully. He started to raise his mobiGlas to make a call.

Sully hit him and ran. He didn't glance back until he'd made it to the next resident tower. Security were absolutely swarming the building he'd just left, they'd even called in some hovers to watch it from the air.

He knew he was running out of time.



CHRONICLES

* * *

Sully rang the bell for Kala's apartment. Of all the things he's been through in the past few hours, this was the most terrifying yet. This waiting after he'd pressed the button. Knowing that she was on her way to the door. He would've rather never seen her again than face her like this.

Finally, the door opened. Kala, wearing her uniform, was dumbfounded by the man standing in her doorway. She still took his breath away, even after all this time.

"Hey K," he said.

She punched him in the face with a solid cross that busted Joe's goggles and snapped his head back. His legs wobbled while his head swam.

"What the hell?" Sully shouted as he threw his hands up and tried to steady himself.

"You son of a bitch," she muttered. "What the hell do you want?"

"It's a long story," Sully replied, keeping his hands up defensively. "Can I come inside?"

Kala thought it over for a second then turned and walked inside, leaving the door open.

Sully walked in and closed the door. The apartment was almost exactly as he remembered it. The one difference was that the pictures had been replaced. Now they were quiet, intimate moments of Kala with some other guy. A quiet shot in the afternoon of her reading. The two of them in bar. Then, a real kicker:

Kala, the guy and a little boy.

Kala turned back to see him studying the picture.

"His name's Max and he finally got to sleep, so keep it quiet."

"You guys look happy."

"Yeah, we try."

Sully pointed to the guy in the picture.

"Is he here too?"

"He's working."

Sully nodded and looked back at the picture.

"How long . . ."

"What difference does it make?"

"I'd just like to know."

"I don't know, maybe a year after you vanished," Kala responded. "Actually, here's something I'd like to know; what the hell happened to you?"

"I had to leave."

"Had to?"

"Needed to." Sully stepped inside and pulled off the goggles. He couldn't stop fidgeting with them, anything to not have to look at her. "I couldn't do it anymore, K, I couldn't take this place. I couldn't take the fact that it was draining us all."

"So you just left."

"I knew you wouldn't go."

"Maybe you should have asked." Kala rubbed the knuckles of her punching hand. "I might've surprised you."

Sully moved across the room to her.

"How about now? I need to get out of here, like immediately. You could come with me." He grabbed her hands, seized by the excitement of the idea. "You still work in freight, right? We could use your clearance, hop a train and be out of the city in a couple hours, on a ship a few hours after that."



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“What?” Kala pulled her hands from his and stepped away. “You can’t imagine what it’s like out there.” He said, following her. “There’s so much life it’s overwhelming. People are happy. The future is full of possibilities. It’s not smog and work until you die. Kala, please. Let me get you out of here.”

Kala looked at him for a moment. She touched the wrinkles on his face that had appeared since she’d last seen him.

“You had your chance, Sully,” she said firmly.

The wallscreen suddenly flared to life with a piercing alert noise. Sully could hear the same alert emanating through the walls from the other apartments.

The screen showed the Hurston Dynamics logo with a Security Bulletin.

Sully suddenly knew what was about to happen.

“Attention, citizens of Hurston, Security forces are on the lookout for Sullivan Cannata for illegal drug trafficking and assault.”

Sully’s picture from one of his arrests in his youth appeared on the screen alongside a frame grabbed from a camera in Archimedes Flight. The voice on the wallscreen continued:

“A reward of thirty thousand credits will be given for any information that leads to the capture of this individual.”

Kala turned and looked at him. The hurt in her eyes was devastating.

“It wasn’t me,” he said weakly, but he knew how it sounded.

“Get out,” was all she said.

“Mom?” A young voice said from the doorway. Max stepped out, rubbing his eyes.

“It’s okay, honey.” Kala rushed over to pick him up. “Just an alarm. Don’t worry about it.”

Sully walked into the bathroom and shut the door. This was it. His face was plastered over the entire world.

His gaze drifted down to the edge of the sink. Kala must have left her ID and clearance badge there when she washed her face after work.

He could take it, maybe he could still make it to a freight train. There was a chance that the alert hadn’t gone global yet. And who knows how many people really pay attention to that . . .

Then he thought out what would happen to Kala if he took it. She’d probably get locked up for aiding a fugitive. With their past, no one would believe that she’d turned him away. She’d lose her job. Maybe even lose Max.

His freedom would come at the cost of hers.

He looked down at his mobiGlas.

* * *

Sully stepped back out into the small living room. Out of the corner of his eye, he caught a glimpse of one familiar picture. Taken six years ago, it was Sully, Kala and Joe tremendously drunk one night at Felix’s bar after they’d sloppily assembled for a picture.

He hadn’t thought about that night for years.

“I’m serious, Sully, you need to get out of here,” Kala said as she exited Max’s room and shut the door.

“I know.”

The sound of sirens approaching rose above the howling wind.

Kala rushed to the window and looked out. Hurston Security transports and hovers swarmed down the street and swept around the building.

“You gotta go, Sully.”



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“Do me a favor,” Sully replied. He was calm, resigned. “You guys should do something fun, okay?”

“What are you talking about?”

Sully stepped close and took her hands.

“I’m really sorry, you know. As much as I wanted to leave this place, leaving you was the one thing I never got over.”

Kala studied him for a second, realizing how eerily resigned he was.

“What did you do?”

Sully smiled and backed away towards the door.

“Sully?”

“Bye, K.” He pulled the door open and screamed at the top of his lungs: “You sold me out!”

Sully ran out, shouting the whole way as he thundered down the stairs.

Hurston Security stunned him in the lobby. He screamed about how Kala ratted him out until he drifted into unconsciousness.

* * *

Sully came to in the back of some transport. He could feel his hands bound behind his back. He couldn’t see, thanks to the black bag on his head, but figured he was heading to central booking.

He was surprised how okay he felt. Even with everything that was outside of his control and the stuff he brought on himself, he didn’t mind taking this hit. Besides, he’d done scattered time in Hurston jails before. It’d take him a couple months probably to get his bearings, but he’d have that place wired within a year. Then all he had to do was either bide his time or wait for an opportunity to escape.

Best of all, thanks to the tip he dropped to Hurston Security in Max’s name, Kala and her family should be getting a nice, fat reward. Like he and Joe used to say: *make Hurston pay.*

The transport lurched to a stop. Sully could hear the door get pulled open. Footsteps approached him. Two pairs of hands wrenched him up from the seat and half-dragged him out of the transport.

Suddenly the bag was ripped off his head. McMannus, the Hurston Security sergeant who killed Jens, was standing in front of him. Sully looked around.

They stood in the middle of nowhere. No prison. No central booking. No Lorville even.

“What’s . . .” Sully stammered, trying to figure this out. He looked back. The only other Hurston Security officer stood by the transport, engaging in a mute conversation. “Where’s the prison?”

“That’s the thing,” McMannus replied as he drew his side-arm. “Money’s real tight these days.”

He raised the pistol and fired.

* * *

Two weeks later, Kala was balancing their finances while Aman cooked dinner. Max was playing with some of his toys.

Her terminal pinged from an incoming message. She clicked over to it. The message was from Hurston Dynamics and addressed to Max.

It was a thirty-thousand credit reward for aiding Hurston Security in the apprehension of a dangerous criminal.

The End



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