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Universal Constant (SAMPLE)

<u>A Novel</u>

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Chapter 1

Captain Richard Delaney Hicks wandered through the singular long hallway of his ship and thought about what was left of his crew. They had come and gone over the past twelve years, but the last few months he had been unable to find suitable replacements for those that had departed. He was so close to owning the ship, he could taste it, and having to dry dock your ship because of lack of crew was a despicable burden for any Captain to bare. If you were a Captain without a ship, what would you call yourself?

It was much easier to find work when your clients knew you had a personal investment in your ship. Having to tell a potential client that didn't own the ship you'd be transporting their precious cargo in was met with rolled eyes, knowing wry smiles and looks of desperation. There were too many horror stories out there of captains that gave in to piracy, internal theft or just didn't care enough to keep their ship, let alone their cargo, safe.

Hicks had kept Clementine in the deep dark for twelve years now; he had served aboard Dorota's Dream as the co-pilot for four years before that and as a cargo handler on Third Chance a year prior. Jobs before that he paid to keep off of

his record, clients could get twitchy when they saw your loyalties change too often.

Hicks had spent every last spare dollar, credit and yuan trying to get the most precious cargos available in any way that he could. He greased palms, avoided tariff patrols and slid into the cheapest docks, all for the greater good of his bottom line, his goal, his <u>Clementine</u>. She wasn't the fastest, the safest or the prettiest ship running the Trader's Triangle, but with the external help Hicks provided, she did her job well enough. The Class III Cargo Hauler had an FTL range of 4.7 parsecs, 0.7 parsecs above average for a ship her size. One of the few improvements Hicks had sprung for over the years.

He had started off with the standard crew complement: a Captain, navigator, two systems officers and two engineers. The ship could operate with additional crew members, but needed a minimum of six to operate within the safety standards set forth in the Space Exploration Standards handbook, the dreaded SES. After a few years in operation, it was brought to his attention that his ship had a higher than average turnover rate. Some crew members left for higher paying berths, some safer berths and others disappeared in port, reasons unknown. Crewmembers had no contract to the ship, only the captain; Hicks had always kept contract negotiations open, hoping the

best and brightest would rise to the top. Instead he found he

had a revolving crew, and his ship had the unfortunate

reputation for being a stepping stone to better berths.

Clementine was now limping along under-crewed. Hicks

supposed it was his fault for wanting to maximize profits at

the expense of comfort, reliability and legality. In their

last run he had tried to sneak around the Denmark 84 port

tariff patrols, as ships were required to pay foreign

government taxes for their cargo loads. Denmark 84 was under

jurisdiction of the NEU, and his cargo had come from a Kingdom

port. The electronic components only filled a few containers

in his cargo hold, but the profit from the run was worth four

times the previous two runs they had made, combined. It was

the run that was supposed to push the bottom line higher than

it had ever been, and Hicks had been looking forward to filing

the paperwork with the loan company to finally own Clementine.

Hicks took to piloting the ship as he sometimes did when

they had the space around them to perform a few maneuvers.

However, Clementine wasn't designed to maneuver the way Hicks

maneuvered his old patrol ship and his cargo was impounded.

Hicks blamed the thrusters, the power output and the engine

crew. He knew it was just bad luck, really, but his

engineering chief, Emmett Bauer, had taken his complaints to

heart. He was an older man, experienced in Class III Cargo

Haulers, and was very serious about his job. He left the ship to explore the Denmark 84 docks after a screaming match with Hicks and never returned.

Hicks' Kingdom clients had demanded he pay the cargo impound costs as well as the late delivery fees, the paperwork for which caused them to miss the deadline for the next job Hicks had lined up. Now the few cargo containers he had were half-filled with cheap raw iron ore. Not a bad cargo, just not anything that was going to raise his bottom line enough to purchase the ship. He could haul more product with less mass and make a bigger profit, but that required a higher reputation than he had garnered as of late.

Hicks climbed the short ladder to his cabin and touched the cold steel frame bulkheads where the safety padding had worn thin and fallen off. He remembered the first time he had scuffed that pad, and had scrambled to replace it before the loan inspectors would up their percentage. He chuckled at himself and at his youthful naivete. After his first year of commanding Clementine, the inspector hadn't even walked through the ship to inspect it. He had linked his tablet to the ship computer, asked the AI a few questions, recorded the logs and left. That pattern repeated itself twelve times in twelve years.

Looking around the room, Hicks tried to imagine it empty,

as he had first seen it. The square room at the top of the ladder was kept sparse. There was a rectangular indentation in the deck that now held his double-sized mattress, a pile of blankets, and his tablet, which glowed a soft white light in the otherwise dark room. Attached to one wall was a small desk with boxes of paperwork stacked next to it, and a wheeled chair that he had locked into place after some of the gravity plates had started failing a few years back.

Hicks entered and waved his left hand in front of the sensor and the room lit up, the wall sized holo-display lighting up the wall opposite the desk, showing different portions of his ship with an accompanying diagnostic readout for each. He used his hands to flip through different displays of the ship but didn't see his remaining crew-members where they were supposed to be. Hicks picked up his tablet from the bed and navigated through various menus until he reached the ship-wide docking checklist. He found his crew initials being added with a timestamp as they finished their tasks. Frowning, he flipped through the displays again and noticed that several of them were missing, skipping from view002a to view005b. All views that were of various parts of the engine room.

Hicks studied the display for the engine room and noticed a line in the diagnostic was blinking yellow. He squinted at the display, then brought up the readouts from the engines on

his tablet. He saw that his note about engine number three's fuel efficiency being down .5% had been reviewed and acknowledged by the ship's new chief engineer, Chet Rollins. Hicks had promoted Chet from his apprenticeship to chief out of necessity; the promotion would look good on his records too.

There was a comment from Chet indicating that he was going to run a full diagnostic when they were docked. Hicks double-checked several other tasks on the docking checklist and although mystified by their disappearing act, he was happy his crews' apparent progress and tossed his tablet back down on the bunk. The holo-display, noticing the tablet was turned off, switched itself off and the room was plunged into a dim state.

"Hey Emma, we in range yet?" The tri-lensed holo projector that was hanging from the ceiling lit up and an image of a woman materialized in the middle of the room. She stood still in the room, the look on her hard face one of annoyance.

"No Captain. I'll tell you when we are. Or, you could just look at this." She raised one beefy arm and pointed towards the holo display. The display lit again and a model of near-space appeared, the ship a glowing green point of light. The station they were approaching, Isle of John, was a bright

blue, and there was a dashed orange line connecting the two, with various numbers floating next to it indicating an estimated time of arrival, the current distance, and their velocity.

"Show me other ships." Hicks sat in the rotating chair next to his built-in desk and put his booted feet up on the stack of boxes that held hardcopies of the ships manifest, which still needed to be stamped with the ship's seal. His heavy safety-mag boots caused the boxes to sag with the added weight. He folded his hands behind his head, leaned back and waited.

"Do you really need me for this captain?" The image of the woman shifted her weight from one booted foot to the other and crossed her arms. The image flickered as she did this, her resolution flipping between poor pixelation and a focused image. "I'm a little busy at the moment, as you can see."

"Just show me, Emma." Hicks dropped his feet from the boxes, his knees aching. He turned his back to her exasperated face and flopped down on his bunk, causing his tablet to bounce in place, it's screen flickering to life with the movement. The holo-display angled itself, following the captain's movement.

Emma, the ship's AI, stayed where she was, her face going back to it's usual stoic facade, her beefy arms staying

crossed in front of her chest. She had modeled herself after a famous Old-Earth American painting of Rosie the Riveter. As far as Hicks could tell, she had been the mascot for one war or another. She wore faded blue overalls over a darker blue collared shirt and she had chosen to show her pant legs tucked into thick black boots, the only change she made to the classic image. Dark welding goggles rested on her forehead, obscuring her eyebrows, and held her red hair in place with the strap that wrapped around her head. She had placed a name-tag on the front left breast of her overalls, along with various pins and buttons that only she, and Old-Earth historians, knew the meaning of.

"Yes, sir." The holographic image that contained the ship, Clementine, and the commercial station they were heading to, Isle of John, zoomed back and populated with several red dots, tags of text floating next to them showing velocity, ship names, and cargo manifests, if available. Hicks leaned forward and squinted his eyes. He read through several names: Dignity, Sarah's Pride, Centurion Hawk, Four on the Floor, Elephant Dancer, Lightning Bug, Colorado Corsair, Taiwan 724, Earth-Corp Ark, and when he didn't recognize any of those ships, or any one the twenty others that were inbound to the station, he closed his eyes and tried to remember if he knew anyone who lived on-station. If he was going to re-crew the

ship, he'd have to start hunting soon.

"Thanks, Emma. You can go." Without further drama, the holoprojector cut out and the image of Emma disappeared, allowing the room to once again slip back into a dim state. Hicks studied the image of ships lazily floating towards and away from <u>Isle of John</u> and wondered if he'd be blamed for stealing crew members like he had a few years ago when he hired his systems tech. He stood, waved the holo-display off and went into the private head that was one of the only perks of being captain of a space faring vessel.

The small room lit up and he turned on the faucet, listened to the pump whirr, and allowed the cold water to spiral down the stainless steel drain. Then he reached forward and cupped his hands into the water, allowed them to fill, and splashed his face. He tried to rub the responsibility away, but when he looked at his reflection in the mirror, the hard lines of his face reminded him of his duty. He rubbed his face with his scarred hands again, remembered what shirking his duty could cost, and grabbed a towel to dry his face.

He shivered and checked a small environmental readout on the wall, tapping through heating and cooling settings. He ran his ship cold, due to the expensive heating costs and, instead of using up ship power, bought the crew large fur coats. He noted that his room was a few degrees cooler than it should

have been, even with his strict power restrictions. Making a mental note of it, he opened a panel to pull out his faux-fur lined duster, a long coat that had long ago lost its sleeves in one accident or another. It was dirty and patched, but to Hicks, it felt like home. He swung it on in the small space, a practiced action, and reached into one of the many inside pockets. He pulled out a dented flask and twisted the cap off. He tried to take a pull from it, but nothing fell into his mouth.

Cursing, he shoved it back into the pocket he had pulled it from and ran his fingers through his too-long hair. The grey patch that had haunted him since childhood had streaked itself across his left temple and to the nape of his neck. He pulled his hair back, revealing the streak, and tied his hair into place. It was time to play captain and see where his crew was hiding.

Hicks picked up his tablet on the way out of his bunk and holstered it in the worn leather holster on his right hip, and snapped the safety loop closed. His utility belt shifted with the familiar weight, the pouches and various tools on his left hip raising to where he was most comfortable with them. He swung down the ladder into the hallway, and tossed a glance into the crew quarters, curious as to where they were hiding.

The room was empty, but the holodisplays that had been

installed in place of the double-bunk (another modification he'd probably have to pay to replace if he could find enough warm bodies to round out a full crew), were flashing pictures overlayed with bits of text and code. Soft music that seemed to be timed with the images was also playing into the empty room. Shaking his head at the waste of power, Hicks walked into the room and waved his hand at the display. The gesture that would have turned off his own display made this one flash red and beep.

"Don't touch that." The harshness of the voice that came from one of the bunks made Hicks jump. The room had been divided up amongst his two remaining crew. The room was supposed to hold three double-bunks but had been cannibalized to have one normal bunk to his right (a courtesy for his only remaining female crew member) and the remaining double on the left. The third double-bunk had been replaced with an alcove that housed additional holographic displays, a workbench, and shelves that held numerous nic-naks, pictures, and trinkets from their travels. It also held a thick coating of dust. There were clean spots on the shelves where Emmett had taken his belongings when he left, a detail Hicks should have caught on to a lot sooner than he did. The voice came from behind a half pulled quilted blanket to Hicks' right. The quilt acted as a screen to keep the bunk area private, as a private person

was wont to do.

"Watts? What are you doing hiding in here?"

"I'm not hiding." Amelia Joan Watson shoved the divider open with her left elbow, but stayed seated on her bunk, a pile of electronics wired on her lap. She had her tablet in her left hand, it's backing pulled off, with wires and electrodes dangling and mixed into a nest on her lap.

Her right arm, from elbow to fingertips was constructed from a dark grey metal, it's design mimicking the musculature that would be present beneath her skin, had she not lost half her arm in an industrial accident. The nest in her lap swarmed over the artificial arm, which had its own access panel open with many of the wires disappearing inside. Her short brown curly hair was frizzy as ever and tucked back behind her heavily pierced ears with a strip of red cloth. Her relaxed posture belittled her stocky muscular frame. She was wearing several thick shirts as well as a knitted scarf. She looked comfortable.

"The hell are you doing? Are you hooked into the-"

"The AI? No, just the sensor systems. Back at Denmark 84, when we were waiting for the impound to be lifted, I did a test interfacing with the environmental system. I reprogrammed the arm to give me neurofeedback. When our O2 got low, it felt like my thumb fell asleep." Watts wiggled the mechanical

thumb, the tiny servos made a tinny noise that neither of them really heard. "Between D84 and here I've been programming other sensations for other systems. For example, when you just tried to shut off the display, my wrist twitched."

"Dammit Watts. Unplug your arm from Clementine and get your checklist done. We've got an hour until dock and I need to submit the request in about," he checked the ship's analog chrono that was embedded into the wall, "twenty minutes. Do you know where Chet is?"

"Keep calm, Captain." Watts closed her eyes and seemed to be concentrating on something. After a few seconds, she took a deep breath and opened her eyes. Hicks' tablet beeped at him and he pulled it from it's holster. There was a message from Watts with her docking report attached.

"There. You get it?"

"Yeah. I got it." Hicks shook his head and sighed, "unplug."

"But it worked. Why-"

"Because it violates protocol. Chapter 8, section 3, SES. 'Never allow ship AI to modify person to person communications'. You know this. We've talked about it before. I don't care what you do with your biomechanics as long as it doesn't interfere with the ship. Where's Chet? I don't have his report yet."

"Captain, there is zero chance-"

"No. Unplug."

"She's not interfaced with me, Captain." The bodiless voice interrupted their conversation.

"Appear, Emma." Hicks shook his head, not wanting to argue with the thing he so desperately needed to own.

The image of Emma materialized in the center of the room. Her arms were crossed again, showing her unconscious emotion, just like a person and just like Watts had programmed her to.

"Alright, explain it to my simple Captain brain, so I'll know the exact protocols the both of you are violating, and assign punishments appropriately."

"Captain," Emma began, after taking an artificial breath, "her arm is relayed through her tablet. The safety firewalls in the tablet keep me from modifying the signals, as all AI is locked out of person to person communications. We can only record, report and modify ship data."

"And the message to my tablet? How's that a person to person communication? Its arm sensor to person communication, the kind of sensor data that you have access to."

"Well, technically, but-" Watts began.

"And all sensor data is recorded by Emma, right? All AI can modify that data, as a necessity sometimes, hence the person to person protocol. This is elementary AI control. So

what's stopping you from modifying this signal, Emma?"

"Yes Captain, well-" Emma answered, her voice faltering, and her digital eyes flicked to Watts, "I don't record those particular bits of information."

"Emma, that's your damn job. You have to record, catalogue and sift through all sensor data so we don't make a mistake and die horrible deaths. Why would you ignore any sensor data?"

"Uh, I asked her to." Watts said, pulling wires from their connections in her arm. She started wrapping the connecting wires, but her hands fumbled and the wires tangled.

"Great, my systems officer is blocking the AI from recording the sensors. That's great Watts. What else have you asked her to ignore?"

"Nothing. I won't plug in again, Captain. I'm sorry."

"Apologies won't save us from a rogue AI. No offense Emma."

"None taken Captain. I would never-" Her image froze and her voice cut off.

"Now what?" Hicks looked up to the holo-projector to see if it was malfunctioning again when the lights dimmed and a voice sounded over the ship's comm.

"Captain, uh, we have a small problem."

"Chet, finally. Where are you? What is it?"

"In the engine room and we're, ah, out of gas."

"Impossible. We were fully charged when we left <u>Denmark 84</u>, and we're not even using the FTL, What are you talking about?"

"The FTL is charged yeah, but the genny-turbines are low. They're not generating the power they should. I'm not sure what the extra drain is from, but my projections show that we'll be dead in the dark in a little under an hour. I shut down some systems to preserve-"

"Did you shut down Emma?" Watts sounded concerned. She had been upgrading and modifying the programming associated with Emma's personality over the past several years. She rarely left the ship unless they docked at a human-only station and Emma had become her constant companion.

"Well, yeah, kinda."

"Captain, he can't-" Watts started, but the look Hicks gave her cut off any other prostrations she had planned.

"What else did you have to shut down?"

"That was the only computer routine. I think Ms Amelia should run a diagnostic on the systems. The power drain I see here was sorta solved with shutting her personality down."

"Did you look at the message about engine three's efficiency?"

"Yeah, um, that's the other thing. I took it off-line and

was having Emma walk me through some diagnostics and a small repair, so, we're down an engine too."

"Your note said you'd run a diagnostic after we docked. What changed?"

"Well, I thought that since we were so close-"

"Please tell me you already factored that into your estimate." Hicks sighed in frustration and rubbed his forehead with his left hand as he pulled out his tablet and looked at the systems readouts. Sure enough, engine three was dark, as was part of the AI core.

"Of course Captain. If we could get number three back online, I could revise my estimates, but-" His voice trailed off.

"What?"

"I need Emma."

"You're the chief engineer."

"I've never repaired an AC393 motivator before. I had to rip out the partitioning sensors, and the filters just to get at it. The filters I can replace real easy but, Captain, it's complicated. One other thing I should have told you," his voice paused, as if he was gathering courage, "I was pressed for time to get it repaired and reassembled for the dock. I was hoping to get it done in time, but-"

"Don't tell me Emma was running your checklist."

"Umm..."

"So I had one crew member illegally interfacing with the ships' AI, and the other using the AI as a teacher to pull apart a system that was only .5% faulty, all while we were running out of gas."

"Sir?" Chet asked, needing direction.

"Alright. Put turn Emma back on using emergency power, we need someone to document our mistakes, so the salvagers can see when we went off the rails. Have her help you with the reinstall, don't worry about the repair. We can dock without the repair, right?"

"Yeah, we can dock, but emergency power is only rated for environmental and-"

"Yeah I know. Watts, turn down environmental or share the input or whatever it is you do."

"Yes Captain."

"It's going to get cold, you two, so bundle up. After Chet gets the engine back online, we'll shut Emma back down and hopefully have enough power to dock. If we don't-" Hicks took a deep breath, "just pray that we do. I'll be on the bridge."

"But Captain, if we shut down Emma, how are we going to dock the ship?"

"Three guesses and the first two don't count." Hicks

buttoned the three large button on his duster as he left the crew quarters and jogged down the long hallway to the bridge. He passed the common area and the kitchen, both dark, and performed a well-practiced leap through the gravity distortion transition to the bridge, which sat at a ninety degree angle to the middle section of the ship. The engine room, which took up half of the total length of the ship, was oriented the same way, causing the interior access to look like an elevator shaft of a ten-story building.

Clementine docked by rotating at a ninety degree angle to the dock, it's 'belly' holding the shipping containers slotted into a receiving area. When docked, the station's shipping bay would open, and the station crew would pull out the appropriate containers and slot in any new cargo. This way, the engine room and bridge synced with the station, making any repairs or crew transfer an easy task.

Station docking was a precise action that was only regulated for ship AI and AAA+ rated pilots. Hicks was officially rated at AA-, but it had been twelve years since his last test, and his license was outdated. A double-a-minus was nothing to sneer at however; less than 1% of pilots ever reach (or care to try to reach) that rating. Only .05% of pilots reach triple-a-plus and they are typically military trained, and used as AI templates. For Hicks to have a

double-a-minus and be a private citizen was a big deal, and he
knew it.

Hicks launched himself onto the bridge and ran by the
captain and commanding officer consoles, waving them awake,
and typing in AI override commands. At any other time, Emma
would prepare the docking approach, contact the station
traffic controllers, and ready the ships systems to receive
fuel, data, and cargo. With Emma occupied instructing Chet in
the engine room and running on emergency power, Hicks was
aware he held all of that responsibility in his hands. He
looked around the empty bridge, taking note of the empty
chairs, and settled into the pilot's station.

The bridge was built like an amphitheatre, with three
station tiers pointed towards five large displays that covered
the far wall. The top tier was where the entrance to the
bridge from the gravity distortion was, and had two simple
stations, one for the captain, and one for his commanding
officer. They had holo-displays that showed ship-wide
diagnostics, the navigation controls, and a pair of
overstuffed leather chairs. On a typical dock, Hicks sat there
alone, sipping at a coffee mug full of whiskey to settle his
nerves, keeping an eye on their velocity, other ships in the
area, and any threats that might get past Emma.

The middle tier was accessed by a short ramp down from

the commanding tier. It protruded into the middle of the bridge and had a single reclined pilot's chair, which was sunk into the raised deck. The station had two separate built in displays that showed views to direct port and starboard of the ship and had a large holo display, which overlaid the five large displays at on the far wall to show additional information only relevant to the pilot.

The bottom tier sat to either side of the pilot's runway, one a systems station, the other the engineering station. The engineering station had paper notes stuck to various panels, notes from Emmett about who-knew-what. He refused to use the ship-wide communication tablet system, and Hicks could never figure out why. The systems station, which covered sensors and communications, was kept tidy, Watts was never one to get her personal space and work spaces confused. There was an electrician's tool belt hanging from the back of the seat, but it had been there since Watts had joined the ship, left by the previous systems officer.

Hicks brushed the dust off and slid into the pilot's chair and keyed in his personal settings. The chair adjusted itself to his comfort settings, and brought up the appropriate displays all around him. The bridge's large display sprung to life showing Isle of John spinning in space. It was a mushroom shaped structure, the stem comprising the commercial docks,

and in the under-cap the private docks, living spaces, common spaces and industrial facilities. The free docks were at the bottom of the stem, and Hicks could see they were crowded with ships of all shapes and sizes. Shuttles buzzed around them, transporting cargo and personnel to other parts of the station, faster than using the in-station elevators. Since the free docks had no charges associated with docking, the station didn't stand to make any money from them, and left them to their own devices. It was a dangerous place to be, but was sometimes a necessity.

Hicks placed the comm headset on his head, and adjusted the mic. He keyed into the comm system and sent out a low priority distress signal to the station controllers. A response came at once.

"Controller M1039 speaking. What is your emergency, Clementine?"

"M1039, this is Captain Hicks speaking. Our AI is off-line and we have to perform a manual dock."

"Received Captain. Please transmit your emergency pilot's rating and record for inspection."

"Negative M1039, the ship does not currently have an emergency pilot. I am rated at double-a-minus."

"Captain, according to your ship's record, your current rating is out-of-date. Please confirm."

"Confirmed M1039, it's the best we can do. There is one other problem. We have a localized power drain in our generators, and one of our engines is under repair. We are currently at 8% power and dropping with minimum systems online and only three engines firing. I need to dock now."

"Please wait Clementine."

Hicks waited in the pilot's chair. He could feel the ships' hum through thick padding. It didn't feel right. He was down and engine and the missing vibrations made his ship feel wrong. The bridge door opened and Watts came in without a word and sat down at her station. She started scrolling through diagnostics, and Hicks opened a shadow window on his screen and watched the checks fly by. Environmental, communications, safety shielding, and computer systems. Hicks noticed that she didn't run any checks on the AI, which was good, considering Emma was running on emergency power and any sort of diagnostic would drain what power she had left.

Having a deficient generator and drained emergency power was a very dangerous position to be in. Hicks thought about how the repair bill was going to be astronomical, and started weighing figures in his head. If he could find another maintenance crew member, he might be able to have them patch together the generator. He could have Watts dial down Emma's personality, save some power-

"Clementine, you are denied docking privileges, repeat denied. Please shut down engines and set environmental to minimal. We have a local company on file that can tow you in and make the necessary repairs."

"Are you kidding me M1039? I have pilot rating, this is a simple dock. We have a shipping deadline to keep too. Give me a dock number, I can slide in no problem."

"Negative Clementine, our free docks are full. Your ship records don't show a reserved dock and the only non-reserved available are on level fifteen, third quadrant. Those docks have less than three meters clearance to port and starboard. The emergency rating is triple-a-minus to plus. You are not rated for the dock, we cannot risk the lives of the people on this station, nor the lives of anyone aboard nearby ships, should a catastrophe occur."

"M1039, I can't wait that long. I have a shipment that needs to be unloaded."

"Clementine, all due respect, your shipping times are not my problem. What is my problem is that your ship is still heading towards my station, and you need to shut down."

"That sounds like a threat M1039. Put your operating manager on the line."

"Please wait."

Hicks took off his headset and threw it on the console.

He rubbed his face with his hands, wiping the sweat from his brow.

"Watts, keep an ear on the line."

"Yes, Captain." Watts picked up the headset on her station and clamped it over her head. She continued to run through her diagnostics, double and triple checking that every system was operating within normal guidelines.

"Chet, we have an ETA on engine three?"

Chet's strained voice came over the bridge speakers accompanied by a loud thrum and an irregular clicking. "No Captain. The engine is back together, but it won't fire; keeps setting off safety alarms. Emma says she only has four minutes left until shutdown. We're running diagnostics, but sir, it— ah, it doesn't look good."

"Let me know when it fires. I'm counting on you Chet." Hicks pressed the disconnect button on his console and nudged his seat up so he could peek over the lip on his cockpit and said, "Watts."

"Yes Captain?" Watts looked up from her station at the sound of his voice.

"Can we fool the stations sensors into thinking we have all four engines firing?"

Watts eyes widened and she grinned. "I don't know Captain; probably. Give me a minute here." Hicks lowered

himself back into the pilot's seat and could hear frantic typing coming from Watts' station. The sound would have been strange to anyone but the crew of <u>Clementine</u>. Half of all the key presses were near silent, and the other half sounded with the sharp click of metal on plastic. Hicks continued to ready his station, pulling up the appropriate navigations programs and gravitic-negotiation algorithms. There was a pause in Watts' typing as she listened to the voice in her ear.

"Affirmative <u>Isle of John</u>, hold for Captain Hicks."

Hicks' console alerted him to the comm signal, Watts too entranced in her sabotage to say anything that the computer couldn't relay. Hicks placed the headset back over his head, and keyed into the signal. "Captain Hicks."

"Captain Hicks, this is General Operating Manager Keith Sanderson. How are you?"

"I'd be doing a lot better if you could let me dock. I've got a schedule to keep here, GOM, and my chief engineer assures me that our engine will be online any second now."

"That's well and good Captain, but that's not the issue. The issue is that you want to perform a manual dock."

"That is completely untrue GOM. I <u>need</u> to perform a manual dock. We've had a problem with our AI core, and needed to shut it down. The other issue I'm having here is that I have some cargo-"

"Captain," the operation manager interrupted, "we have a simple solution. All you need to do is shut down your primary systems, some secondary systems, and let us send out a tech."

"That's not going to work for me. My cargo-"

"-is not our concern. We could lease you an AI, it looks like you're in range for it takeover. There is a nominal fee-"

"-and let you worm your way into my systems? What kind of Captain do you think I am? I'd rather crash my ship."

"Captain Hicks, the ball is in your court." The GOM sounded bored and angry with the way the conversation had gone, "You have an engine down, your AI core shut down and your power is failing. Your ship cannot dock without either an AI core at the helm or the appropriate pilot rating. As I've already told you-"

Watts lifted her arm into Hicks' view, her metallic hand giving him the thumbs up. "GOM, our engine is back online, how about you scratch that from your list of cons, yeah?"

"Yes, captain, however-" there was a pause in the audio. There was a rough pop as a hand covered the mic on the GOM's end.

"Watts, what happened to the-"

"You have permission to dock at bay fifteen, quad three." The GOM's voice was stern and brisk, the voice of a parent who had been proven wrong by their insolent child. The

communication broke off and Watts stood up on her tip-toes to face her captain.

"They think we have AI back."

"What?"

"I was fooling with the I/O permissions sensor connection and-"

"English."

"I made them think Emma was on, same as engine three."

"Did they disconnect?"

"Looks like it. They think we have AI active, they have no reason to reject our dock."

"Kinda rude, dontcha think?"

"What was it you said? 'I'd rather crash my ship'? I think they'd rather you didn't." Watts sat back down into her seat and continued to triple check the systems that were still active.

The comm in the bridge went active as Hicks was programming their approach vector. "Captain?"

"What's the status Chet?"

"Emma is gone, the engine three isn't firing. I'm sorry Captain, I did the best I could."

"Don't worry about it kid. I wouldn't be worth my weight as a captain is I couldn't dock my own ship. Stand by for docking procedures."

"Is that, um, wise Captain?"

"Probably not. Make sure the engines that we still have don't fail. Got it?"

"Yes Captain."

Hick shut off the comm and removed the headset, placing it back on its hook. The holo-displays in front of him showed the calculations he made to take the ship through the tangle of docking and leaving ships. There was a separate set of calculations for the gravitational anomalies the objects in space created, both moving and stationary. There was another set for Clementine's fuel consumption along with her mass and velocity.

Hicks used all standard calculation models, and found that they were redlined in fuel consumption. He couldn't slow the ship down enough to not punch a hole in the docking bay with the nose of his ship. He expanded the route he could take around other ships, assuming their current velocities stayed constant, using their microgravity to bleed off some of his speed, but assuming that other ships were going to stay put was an awful large assumption to make. And this is why we need the damn AI Hicks thought to himself because everyone else relies on the damn AI. He programmed in another route, and while it was yellow in a few spots, the majority of the route was green and theoretically sound. He punched in the route and

watched the holo projector animate his route, with all assumed velocities of the ships around him.

"In theory, it's no problem." Hicks said to nobody in particular. As the animation ran through its algorithm, the point of light that represented where Clementine was flying through space got closer and closer to where it would start following the programmed route. Hicks tapped his keyboard and rotated his model, kept it as up to date as the sensors would allow and made tweaks as necessary to keep Clementine from crashing. He knew that over the next ten minutes, he'd have to keep updating the route. It would be a strenuous job, a job that you'd fail at after a swig from a whiskey flask. For once, Hicks was glad that his flask had been empty.

"Watts, keep the sensors cranked for near-space, this is going to be tricky. Send up alerts for any ships that are coming in fast too, we'll have to project their routes. Any alert signals from the Network?"

"Hold on Captain, calibrating sensors." Watts' hand flew over her console, re-programming the sensor package and re-writing the incoming ship alert algorithms, both jobs that Emma could have accomplished with ease.

"Any signals? I need to know Watts, point of no return is fast approaching." Hicks watched sections of his projected path turn from yellow to orange to red as ships changed

course, stopped or changed speed according to the orchestrated dance their respective AIs were performing. Hicks reprogrammed Clementine's path and tried his best to keep up with the tempo of this particular dance.

"Hold on Captain! I'm not Emma, and you screaming at me isn't going to make me program faster."

"I'm not screaming, I'm-"

"Captain! Not now!" Watts finished the sensor package re-write, and started on the alert algorithms. She took a half minute to open a channel to the Network, and listened for any chatter that could cause them problems. She was almost done with the alert algorithms when Hicks unceremoniously sounded the docking alert.

A klaxon sounded throughout the ship. It was a universal signal that caused everyone on a ship to brace for emergencies. 83% of all ship accidents happened during a departure or a dock, and all crew members needed to be alert and aware when one was happening. Hicks sounded the alarm knowing that his remaining crew was well aware that they may need to perform any number of orders in a moments notice if they were to survive to see the interior of the dock.

Hicks set the holo-projection of his programmed route to rotate in the middle of the room. He faded out all other ships, the closest of which were starting to resolve in more

definition as the ship's sensors scanned them and rendered them in their current position, orientation and color coding depending on their status. He faded the wall displays out while he navigated close to the station. He wouldn't need them active until it came for the twitch maneuvers he'd need to perform to get the hatches sealed.

"Incoming!" Watts yelled and Hicks zoomed the current view of near-space out to see a passenger freighter blast into view from behind, the holo-projector representation of it a red blur, as it approached too quick for the sensors to pick up any details besides its shape and gravitational distortion. The freighter sent out a warning signal that should have been picked up by Emma, had she been active. Instead, Watts heard a blast of static in her earphones, the translation coming in the form of a string of numbers on her console a few seconds later. Ship to ship AI communication happened too fast for humans to comprehend and adapt to, and as a result, Hicks had to make an educated guess as to where the incoming ship would maneuver to keep from colliding with Clementine. Hicks glanced at the directional route that the ships' computer threw onto the holo-projector. It was a risk to guess what a ship's AI would do, as they often had access to more data than a human could comprehend if they poured through five minutes of flight data for a week.

Hicks had his experience however, and his gut feeling. He was foolish enough to believe that a human pilot could out-fly an AI any day of the week. He put Clementine into a slight downward spiral that would miss the approaching ship's engine backwash, and still keep his heading from deviating too much, something he'd have to worry about once the threat had passed them. He smiled to himself and watched the vector of the approaching ship.

The incoming ship, which Clementine identified as Razor's Edge made an assumption about Clementine's movement and adjusted its route at the same time Hicks made his move. Warning alarms sounded on the bridge and before Hicks had time to react, they silenced themselves. Hicks watched Razor's Edge fly past on the main displays, its engine wash scorching the port side of Clementine as the alert for an incoming transmission showed itself on the screen. Watts put her headset back on and keyed into the signal.

"Clementine." Watts paused to listen. "Our status is clearly displayed." She paused to listen again. "He's a little busy right now. Our AI is toast and- okay, let me see if he's available." Watts clicked off of the channel, "Captain, you want to talk to Razor's Edge?"

"Who wants to talk?" Hicks was reprogramming their approach, his emergency maneuver rendering his previous course

undesirable. He grimaced at the hull damage alert and tried to clear his mind.

"Their Captain."

"And who's he?" Hicks continued to punch in numbers, and their route turned from red and yellow to an acceptable green.

Watts keyed back into the transmission. "Razor's Edge, who is your acting captain? Thank you, one second please." Watts clicked off again, "Captain Cheyanne Hahn."

"Annie?" Hicks took his eyes from the route and his mind clouded with twelve year old memories of his last night aboard the Dorota's Dream. The tears in Annie's eyes when he told her he was leaving. Their last night together in her quarters. His promise to stay in contact. It all flashed before his eyes, and the yellowing of his route snapped him back to the present. He continued to analyse and reprogram until Watts reminded him of the hanging transmission.

"Captain, are you going to ignore the comm, or should I-"

"No, no. Put her through. Bridge speakers."

"Aye Captain. You're on."

"This is Captain Hicks, to whom am I speaking?"

"You sonofabitch."

"Excuse me?"

"You know full well who this is."

"Look, Annie, I'm sorry-"

"Save it. Who's piloting that bucket? You should maroon whoever the idiot is, that maneuver almost cost us all our lives." Hicks cringed at that.

"Your AI took care of it, I assume?" Hicks said, hoping to gloss over the immense danger he had put them both in.

"Yeah, Raze had it covered. I have to report it though, you know the SAS rules. Operating without AI is a huge breach of ethics. But I suppose you're no stranger to that."

"Cut me some slack, Anne. The station is already aware of my problems out here, so you don't need to contact-" Another section of his route turned yellow and Hicks entered in a course correction.

"You know you're broadcasting as full capability, right?"

"Yeah, well, we're playing our lack of AI close to the chest, hence the emergency maneuvering."

"What other problems do you have then?"

"Our genny is losing power, we have an engine out and my cargo is going to be late if-." A ship left dock into close orbit to Isle of John, Hicks changed course to take advantage of its microgravity to slow their approach. It was the last piece of the puzzle. As long as nothing else went wrong, their course was perfect.

"That violates-"

"I know it does so we're, ah, fudging the truth a

little."

"You're going to manually dock?" She sounded alarmed.

"Yeah." <u>Clementine</u> reached close orbit to the station and
Hicks changed algorithms to twitch commands. He faded down the
holo-projector and faded up the wall displays. The docking
socket was universal-type-B, which was a match with
<u>Clementine</u>'s docking hatches. The lights ringing the dock
flashed a complex pattern that would have meant something to a
ship's AI, but Hicks ignored it.

"Are you rated for that? Last time we talked you had a
double-A-minus. Don't tell me you got recertified. I didn't
think you'd be the type to spend that kind of money."

"I'm not. I'm still riding that cert." The twitch
commands activated, and Hicks held his hands above two sensor
spheres at his console. They sensed his finger movement, wrist
movement and height. Hicks moved his ring fingers and thumbs
to adjust the tilt of the ship, while moving his palms towards
the sensors, indicating docking speed. He moved the ship
forward at a slow speed.

"Are you serious Richard? You're putting the whole
station at risk."

"No I'm not. Everyone knows those ratings are tilted.
Powers that be want AI in control. They've been taking away
piloting privileges for years. Used to be a single-A rating

could dock." Hicks was taking too long to close the dock and the station's rotation caught up with them. He moved his right little finger to activate the starboard thrusters, pushing Clementine to port, and away from the dock. Hicks cursed to himself and raised the middle finger and little finger on his left hand, causing the aft port thruster to push that side of the ship closer to the station.

"Sure, when the moon was full and the dock was empty. You're out of your mind, Richard."

"Could be. Look, Annie, for old times sake, don't report me. I can make this dock and I need to get this cargo out. It's do or die time over here." Hicks dropped his hands faster than he should have and Clementine jolted forward into the docking socket. Hicks closed his eyes and let out a deep breath. Watts, who had been keeping a close ear on the conversation and eye on the docking procedures, took her cue to switch the ships systems over to temporary dock control. She was slower than Emma would have been, and hoped she didn't raise any red flags with control.

"Dammit Richard. If you survive this, contact me, okay?"

"Thanks Annie."

"It's Cheyanne. You lost those privileges a long time ago."

"Cheyanne then. I'll be in contact. Clementine out."

Hicks pulled the headset from his head and wiped the sweat from his brow. He leaned back in the seat and let out a long breath.

"Someone you used to know, Captain?" Watts finished locking the ships systems with the station's and got up from her station, stretching the kinks from her tensed back.

"Ages ago."

"She didn't sound too happy with you."

"We parted on uncertain terms." Hicks raised himself from the pilot's chair and stretched, his back popping in several locations.

"Sounds to me like she was certain you'd stay in contact."

"I was uncertain I wanted to." Hicks set the Captain's console to dock mode, and turned to leave the bridge. Watts finished setting her console and followed him, her pace quick enough to stay within earshot.

"Do you think you'll see her on station? I mean, after an exchange like that-" Hicks stopped and turned, a movement that Watts wasn't expecting and she jumped back a step.

"Don't you have some computery things to do? Turn Emma back on. Make sure we didn't screw up anything too bad. Give me a report on that thruster wash our port received. I'll be in the nearest on-station bar that serves an aged whiskey if

you need me."

    "Yes Captain."