GAME DESIGN DOCUMENT

FIGHT. REPAIR. CONQUER.

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Game Analysis

You're a pilot in the three-way war against Earth, Mars, and the outer-belt colonies. The war for the Solar System has spanned decades. Resources are running low and the essential fighter ships needed to win the war are in short supply.

Choose which side you fly for, join missions, destroy the enemy, and salvage their ships for parts. Strategically return to base before you get yourself blown up. With the credits you earn from completing missions and selling your haul, upgrade your repair station to improve your fighter and get back into the battle faster.

Mission Statement

Fight. Repair. Conquer (FRC) is an online, fast-paced space combat and sci-fi job simulator where you control a fighter starship in the war for the solar system. Destroy the enemy, salvage the wreckage, repair and upgraded your ship.

Genre

- Shooter (FPS)
- Multiplayer online battle arena (MOBA)
- Role-playing (RPG)
- Simulation
- Puzzlers

Platforms

- PC
- PS5
- Xbox Series X

Target Audience

FRC is designed with the **Causal to Mid-Core Gamer** in mind. These gamers tend not to have that much free time to play video games, therefore they want the ability to play short sessions, stopping when they like, without losing progress. The casual gamer doesn't care too much for the games lore but will expect the story to be intriguing enough to keep them engaged.

The target audience will respond better to a lower learning curve, frequent rewards, and a steady feel of progression because they want to get the most enjoyment out of the short time they have. Considering that FRC has sci-fi and shooter elements it will most likely appeal to the male audience between the ages of 13 – 40.

FRC is inspired by movies and tv-shows such as, Star Wars, Star Trek, and The Expanse. Therefore, the players that might find this game interesting will likely be fans of these shows as well. So, including easter eggs, subtle nods, and matching the aesthetics of some these shows in the game will likely be received well by the audience.

Storyline & Characters

Storyline:

In the world of FRC the player is a fighter-starship pilot in the war for the Solar System. The decades spanning war between Earth, Mars, and the asteroid belt colonies is all the player's character has known. They were born into it, just like their parents, and their grandparents died for it. Decades off war has resulted in resources of all types becoming increasingly scarce. The rarest and most sought after of them all is ***unobtainium ore***. This precious mineral is what enables *light-speed* travel. All fighter-starships use this element to surprise their enemy. Since the last mines dried up 10 years ago the war has changed. Now, the faction with the last fighter-starship will be victorious, which is why warping out of the battlefield for quick repairs is the aim of the game.
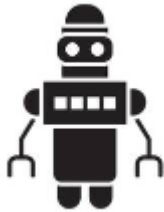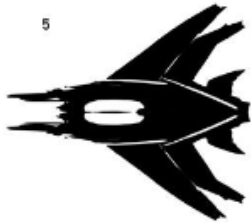
The player starts by enlisting into a faction (Earth, Mars or the Belt). Each faction has a space-station which acts as the *focus node*, a central area that the player returns to. This is where the player repairs their fighter-starship after returning from missions. When the player completes a mission, they are rewarded with credits, as well as the scrap metal that they salvaged from their enemies. These resources act as in-game currencies that the player can use to upgrade their repair station and starship. The player will need to upgrade their ship because the missions will steadily increase in difficulty as the player completes them.

Characters:

The player receives missions from the **Commander**, who they can find on the space-stations deck. When in the repair bay the player is helped by an **AI assistant** which keeps tracks of the parts they need. The AI assistant has a witty personality and teases the player if they make a mistake or take too long repairing, giving the game some comedic relief. The player can also upgrade their repair station by purchasing **robot helpers** to repair their ship. These little android companions will also contribute to comedic relief, talking back when you give them a job and doing random things when they aren't working.

Enemy characters are portrayed as other fighter-starships when you're engaging them in battle. They consist of NPC's and other online players, depending on the chosen game mode.

All characters will look and act slightly different depending on the faction that the player choose.

Character	Description	Characteristics	Misc. Info
Commander	An NPC that gives the player missions. Can find them on the space-station deck or reachable through comms (Menu).	Serious. All about 'the cause'. Devoted their life to the war. Wants victory at any cost.	The Commander also pays you in credits depending on the mission. The harder the mission the larger the pay.
AI Assistant	The AI Assistant is an NPC that communicates over a speaker in the repair bay on the space-station. They help you track repair progress.	Witty and sarcastic but also helpful.	Think J.A.R.V.I.S from Iron Man and Rick's ship from Rick and Morty had a baby.
Robot Helpers	Purchasable NPC's that help the player grab components and/or put out fires on the ship.	Cute, silly and a little dumb. If used properly they can drastically reduce the time it takes to repair a ship.	A lot like Peli Motto's android assistants from The Mandalorian or R2D2 from Star Wars.
Enemies	Either NPCs or other players. The strength and skill of these enemies will depend on the nature of the mission.	Different levels of difficulty. Will warp away when close to being destroyed. Will drop scrap metal when hit.	Depending on the faction the player chose the look of these 'enemy' ships will be different.

Gameplay

Overview of Gameplay

Mixing of Genres:
FRC is a mix of multiple genres, including shooter, multiplayer online battle arena (MOBA), role-playing (RPG), simulation and puzzler. The whole game can essentially be broken into two separate, smaller games. On one side, you have the shooter and MOBA genres to form the mission-driven shooter where, the player controls their fighter-starship to shoot down the enemy starships and dodge incoming projectiles. When they complete the mission, or when their ship is critically damaged, the player warps back to the space-station to perform repairs. This is when FRC's genre becomes more simulation and puzzler focused. When the player is repairing their fighter-starship it's a simulation of a fictional sci-fi mechanic job. The player put's out fires, checks what parts their ship needs for repairs, finds the required components, and attaches them to the ship. The puzzler aspect comes from minigames that the player must complete to attach the components.

Some games that FRC is inspired by and share genres with include:

Shooter	Repair
- Star Wars: Squadrons - No Mans Sky - EVE Online	- Job Simulator: Mechanic - Over Cooked - Among Us

Platforms:
FRC will be available on PC, PS5 and Xbox Series X. It'll require a decent graphics card for PC and utilizes the newest hardware capabilities on the next gen consoles. Optimization for each platform will likely need to be made. The player will be able to edit the graphic settings in order to support lower-end PCs and last gen consoles. The controls will also need to change to support the target platform.

Game Modes:
FRC has multiple game modes for the player to choose between to support their style of gameplay, giving the casual gamer more flexibility. The different game modes include:

Campaign - Single player or co-op, complete mission solo or with friends. Fight against AI and/or other players. Progress through the missions and upgrade you ship while helping your faction fight the war.

Death-match - Improve your pilot skills. Verse AI or others online in a classic team death match. Repairing ships isn't required in this game mode, it's just about fighting! Receive credits for winning matches.

Mechanic - Improve your repair skills. Race against the clock to complete as many repair jobs as you can. Receive credits for completing jobs.

Player Experience

Introduction:
You launch the game and watch a cinematic video which explains the lore of FRC. It explains the war over the solar system, the different factions, and the importance of unobtanium ore for fighter-starships. After the video you are presented with a screen that briefly explains each faction and you're prompted to choose which faction you will join, out of Earth, Mars, or the Belt.

Cut Scene:
After deciding, the screen fades to black and loads the first level. You find yourself in the cockpit of your fighter-starship. Red lights flash and alarms are going off, suddenly you hear your AI assistant over the intercom, "*Damage level critical, total destruction imminent*", followed by "*Exiting warp in, 5, 4, 3, 2, 1…*". The lights whizzing past you stop and you can see your faction's enormous space-station right in front of you. At this point you can look around with your mouse but have no control over the ship itself. Your ship approaches an opening, written above it you read "Repair Bay". Your ship makes its way through the opening and lands automatically, the engines shutdown and you can hear the sound the Repair Bay pressurizing. Your AI assistant says "*Quickly, get out of there and put out these fires!*".
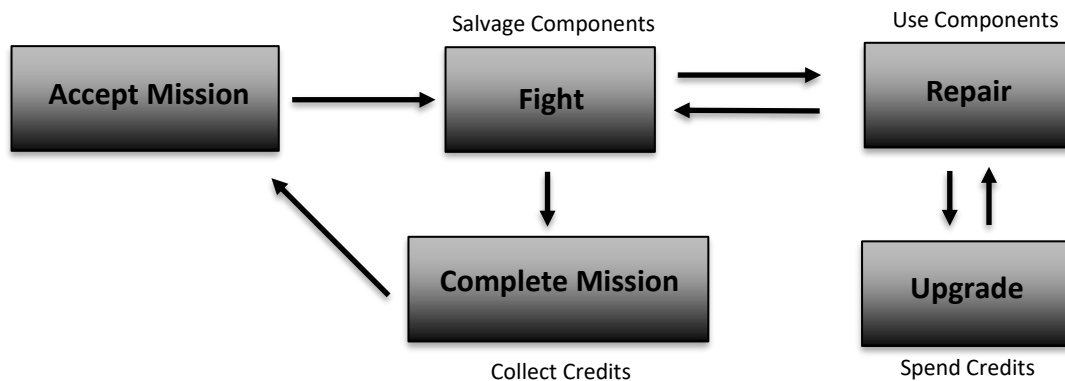
Repair:
A prompt to press [C] to exit your fighter-starship appears on screen. As you approach the fires on your ship a prompt to press [E] to repair appears. Pressing [E] puts out the fire and reveals the component you need to complete the repair. You work against the timer to put out all the fires and reveal all the components. Once the fires are out, your AI Assistant lets you know you can find the components you need in the warehouse, found on the side of the repair bay. Clicking the left mouse button when looking at a component will pick it up. You then bring each component to the correct spot on your ship and complete a minigame to attach it. On the final component your AI Assistant says "*Took you long enough, but nice work pilot... Now before you get back out into the action, the Commander wants a word.*"

Commander and Combat:

A mini map appears on the top right of your screen with a marker for where to find the Commander on the space-station's deck. You control your character and find the Commander, pressing [E] to talk to them. "*Cutting it a bit close out there don't you think pilot… Nevertheless, you made it back, good work. Now, I've got a new mission for you, here, take a look.*" Explains the Commander. Your new mission is added to your objectives which you can look at by pressing [O]. It explains what the mission involves, the reward (in credits) and the likely time it will take to complete.

At this point you can either make your way back to your fighter-starship to start the mission, explore the space-station and your living quarters or browser the marketplace where you can purchase equipment and robot helpers for your repair station and upgrades for your ship. From here on you progress by completing missions, following this general **gameplay loop:**

Gameplay Guidelines

The player can't 'die' in the Campaign game mode, instead they warp back to their repair station to fix their ship. The player should always be able to repair their ship regardless of credits or components. These resources increase the productivity of repairing a ship but aren't essential because if a player can't repair their ship they can't play. Mission rewards should generally pay 150% - 200% of one repair costs to ensure the player can save credits for upgrades.

Game Objectives & Rewards

The player will be motivated to progress through the game in multiple ways. The primary source of motivation will come from the campaign's **story** progression as the player completes missions to help their faction 'reclaim' the solar system. Secondary sources of motivation include improving their **skills** in either the Deathmatch and / or the Mechanic game modes, depending on the player. Dominating other players online or beating their personal best repair time will drive the player to continue playing. These game modes also serve as an alternative method to earn credits outside of completing missions. Earning **credits** is a tertiary source of motivation for the player because they can spend them to upgrade and customize their fighter-starship and repair bay, which gives the player the ability to **personalize** the game and change parts of their ship to their liking.

Rewards	Penalties	Difficulty Levels
Credits – Earn credit from missions, winning death matches, and completing repairs. **Components** – Salvage components from hitting an enemy ship and flying through it to pick it up. You can sell these components for credits or use them to repair your ship. **Upgrades** – Player rewards themselves by purchasing upgrades with their credits. **Story Progression** – For those players who are invested in the story they will be rewarded by developments in the campaigns story.	**Damage** – Every hit they take in battle is another part the need to repair. **Repair** – Take too much damage in battle and your ship will automatically warp back to the repair bay. If this happens, you fail the mission and need to spend credits, components, and time to repair. You attempt the mission.	**Missions** - Difficulty increases as you complete missions. First missions are easy, and the final missions are hard. By playing the game you level up your skills and get upgrades to help you beat the late game. **Deathmatch** – Players will be put into matches with similar skill levels. **Mechanic** – The amount of damage and difficulty of the minigames to attach components will scale with the credit reward for completing repair jobs.

Gameplay Mechanics and PC Controls

Character Movement – The player controls the character from a first-person perspective. They can walk around with the WASD keys, jump with space bar, and sprint by holding left shift.

Repair – Damaged parts of the ship are indicated by fire, smoke, and sparks. When the player enters the sphere trigger collider around the repair node a prompt appears, stating they can repair it by tapping [E]. Each repair node needs to be hit an *x* number of times before it is repaired. This number is randomly generated when the player first interacts with it and is between 3 – 10. Once repaired, the fire, smoke and sparks stop, and the component required to complete the repair is revealed.

Pick up Items – In order to complete a repair, the player needs to bring the correct component to the damaged part of the ship. The player can pick up and carry components by holding the left mouse button.

Attach Components – When the player brings the correct component to the ship a 2D minigame appears on the screen using Unity's Canvas. Each component has a different minigame, however, they all involve, clicking buttons and dropping and dragging images to solve a puzzle, which represents attaching a component.

[Stretch goals for Assignment #3]

Missions – When the player walks up to the Commander, a prompt "Press [E] to talk" appears. Doing so will trigger some dialogue and a menu of available missions will appear. The player can see what the mission involves and what it pays. When the player accepts, the mission is added to their Objectives list which they can view using the [O] key.

Piloting – The player can control their fighter-starship. They're able to speed up, slow down, spin, roll, dodge, and warp to and from missions.

Shooting – The player can use the guns on their ship to fire rockets and plasma projectiles at the enemy.

Salvaging – A direct hit on an enemy ship will result in a random component falling off it. Flying through the component will 'salvage' it (add it to the player's inventory). Likewise, if the player's ship is hit, they will lose a component.

Level Design

There are basically two types of environments in FRC, inside the **space-station** (with the repair bay, warehouse, deck and living quarters) and out in **space,** controlling your fighter-starship.
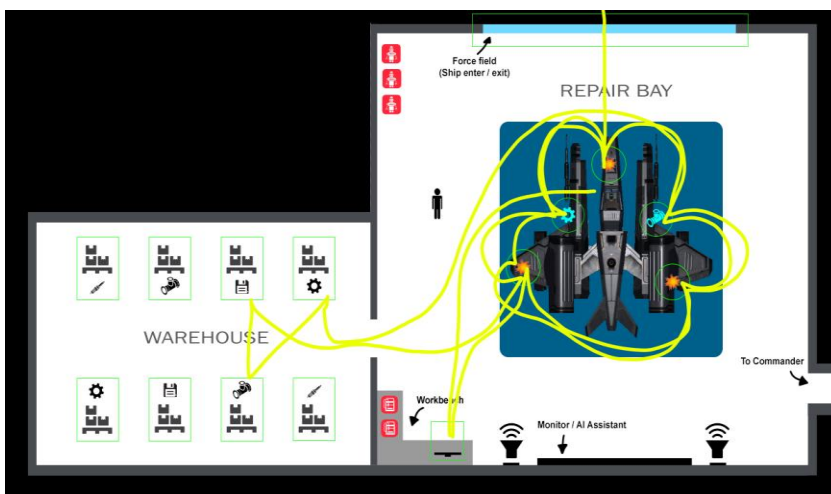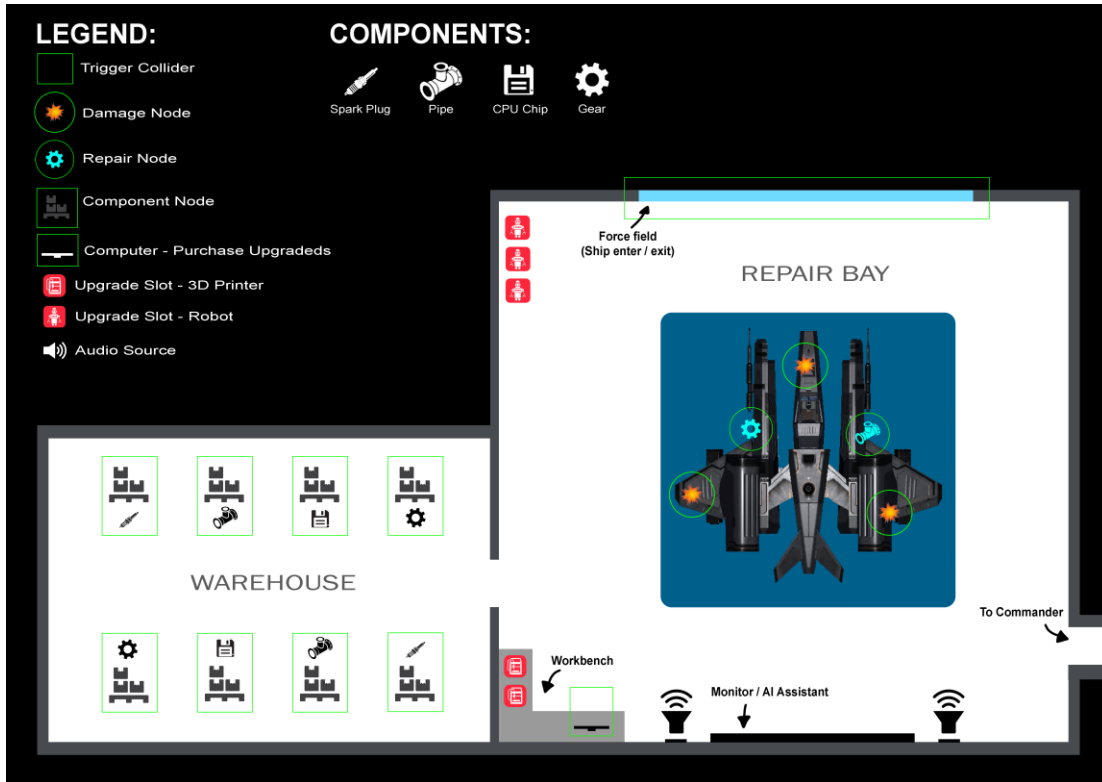
Above is the Map Mockup of the repair bay and warehouse where the player spends their time repairing their ship after missions. The ship enters and exits through the force field towards the north. On the south wall the player can see the components they need to complete the repairs on the monitor, this is also where the AI Assistant communicated with you.

Above is the repair bay's golden path, as you can see there is a lot of back and forth repairing the ship.

As for the levels in space, they will be the exact same, except the sky box will change depending on which factions' 'turf' you are fighting in - showing either Earth, Mars, or asteroids in the background. As for the enemies, they are spawned in at different amounts and waves depending on the mission's type and difficulty.

Game Aesthetics & User Interface

FRC is a sci-fi game set in space where humankind is fighting over the solar system, killing themselves and the planets in the process. Considering this, **dystopian sci-fi** sounds like it would make a good fit for the game's aesthetic. The game itself will have stylized graphics, below are some examples to better convey the look and feel:

Space Station:
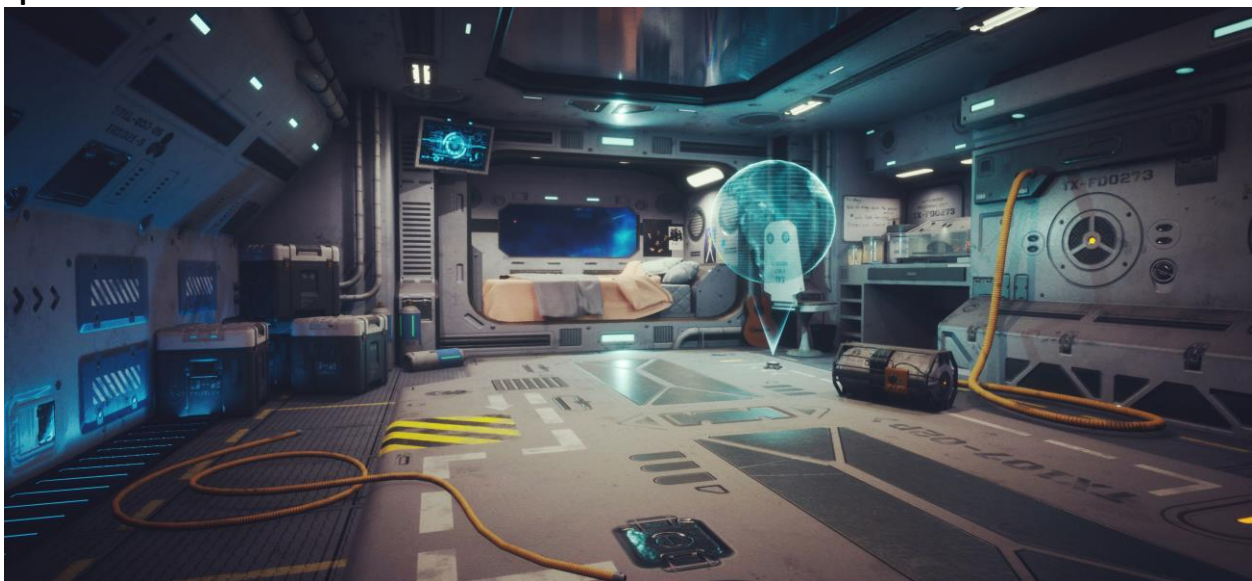
Repair Bay:


Controlling fighter-starship:

Ships:

As mentioned earlier in this document, FRC is inspired by fictional worlds such as Star Wars, Star Trek, and The Expanse (to name a few). Therefore, the game's aesthetic will look similar to these settings especially inside the space-station. In particular the repair bay will be inspired by a combination of Peli Motto's garage in the Mandalorian and the large imperial hangers in the Death Star.

User Interface:

The UI will change depending on if the player is in space controlling their fighter-starship or on the space-station repairing their ship. When repairing the ship, the players HUD will mimic a helmet display with AR features. In the top left the player will be able to see their credits, and when they look at their ship, they'll be able to see the damage points and the components they need (if they have been revealed).
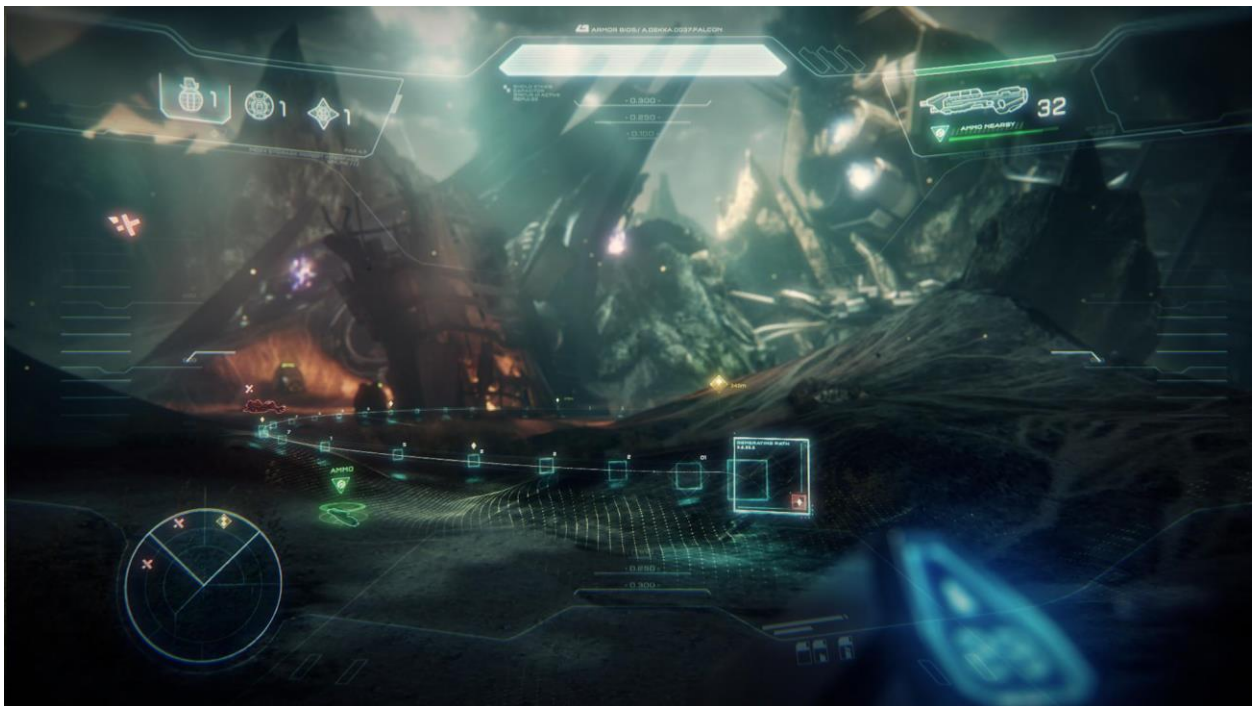
When the player talks to the Commander, they will be able to see the Commander's NPC on one side of the screen and the quest's they are offering on the other. Similar to how The Cycle: Frontier does it:
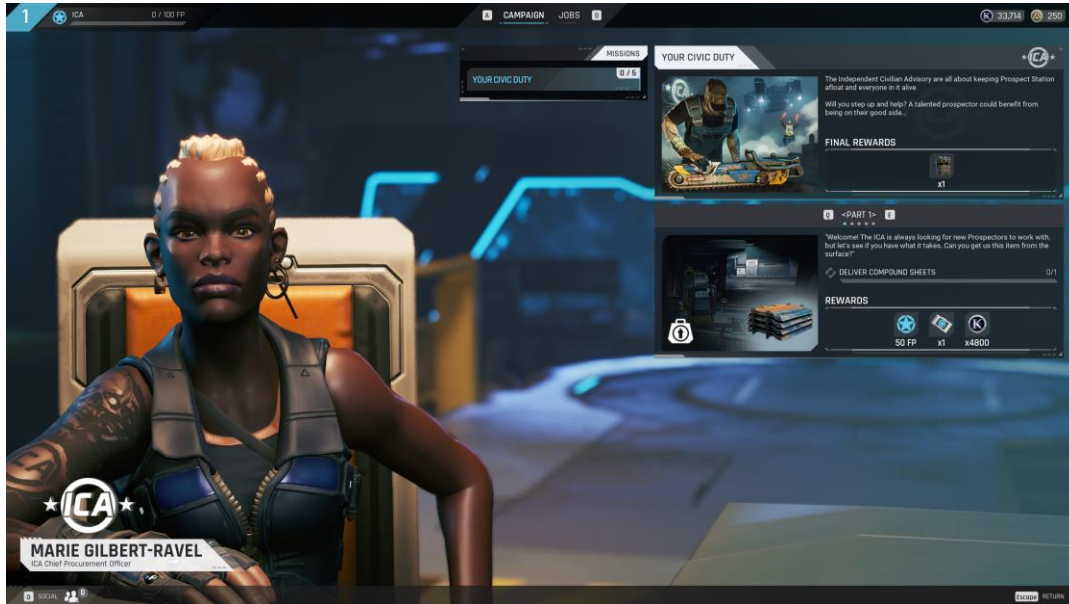
When it comes the player's UI when they are controlling their ship, most, if not all the information won't be on the UI but will be displayed on the ship's control panel with screens, dials and flashing lights. Star Wars: Squadrons is a great example:
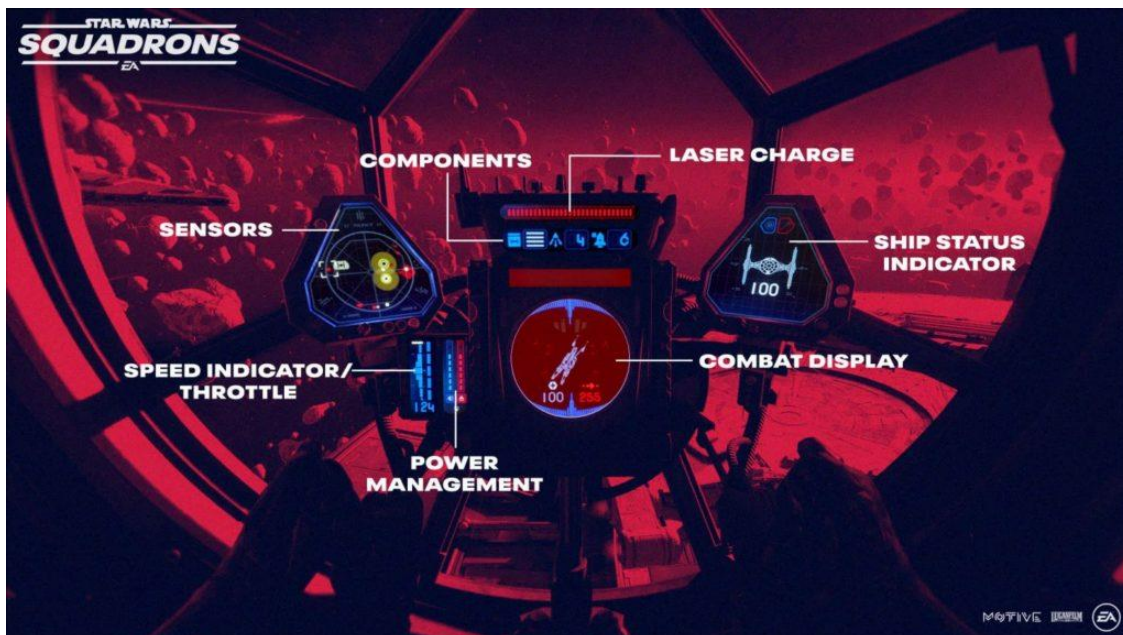
Schedule & Tasks

WEEK	PROJECT TASK & DESCRIPTION	ASSIGNMENTS	TICK
1	**Create Game Brief**: Start thinking about the what the game might be about.		☐
2	**Character Design and Unity Asset Store browsing**: Break down the different characters in the game and search the Unity Asset Store for useful assets.		☐
3	**Unity Project:** Created the Unity project and make a Git repository for source control. Import Assets from Unity Asset Store and start thinking about the level's layout.		☐
4	**Game Level:** Sketch out some bird's eye view maps of the level and start creating the scene/level in Unity.		☐
5 (Study Break)	**Player Controller:** Import a First-Person Player Controller and start thinking about and making some interactions.		☐
6	**Map Mockup & Game Design Document:** Make a digital high-fidelity Map Mockup to further support level design and start fleshing out the Game Brief into a Game Design Document		☐
7	**Repair Feature:** Give the ship damage nodes and make them repairable.		☐
8	**Pick Up Items Feature:** Import components and make it so the player can pick them up and bring them to the required repair node.	**Game Map Mockup** (12th September)	☐
9	**Complete and submit Game Design Document**	**Game Design Document** (16th September)	☐
10	**Attach Component Minigame:** Make a simple minigame to represent attaching components per component type.		☐
11	**Main Menu & Cutscene:** Create a Menu to start the game and a cutscene of the ship coming into the repair bay. Also add the AI Assistance voice lines.		☐
12	**Sounds and VFX:** Add sounds and VFX where possible to improve the games experience. If there is time, work on other features like missions and controlling the ship.		☐
13	**Polish and Submission:** Continue working on the game. Improve areas that I might have rushed. Submit the project	**Game Level Design** (24th October)	☐