



[Cover Image]

Starfield Deconstruction

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Game Deconstruction

High Concept

Starfield is an open world RPG with cosmic theme where players explore galaxy, engage in combat and ship customization. Act as a member of Constellation (humanity's last group of space explorers), players will uncover the mysteries of the universe and shape the future of civilization among the stars.

Gameplay Loops

Core (Primary) Gameplay Loop

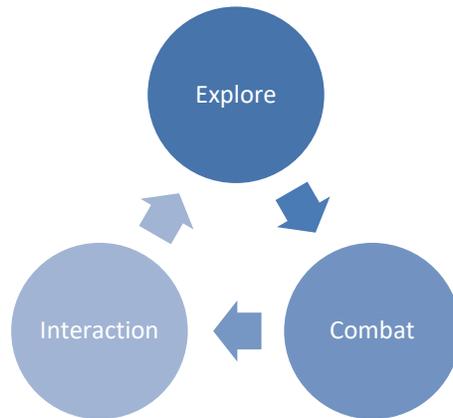


Figure 2: Primary Gameplay Loop

Secondary Gameplay Loop

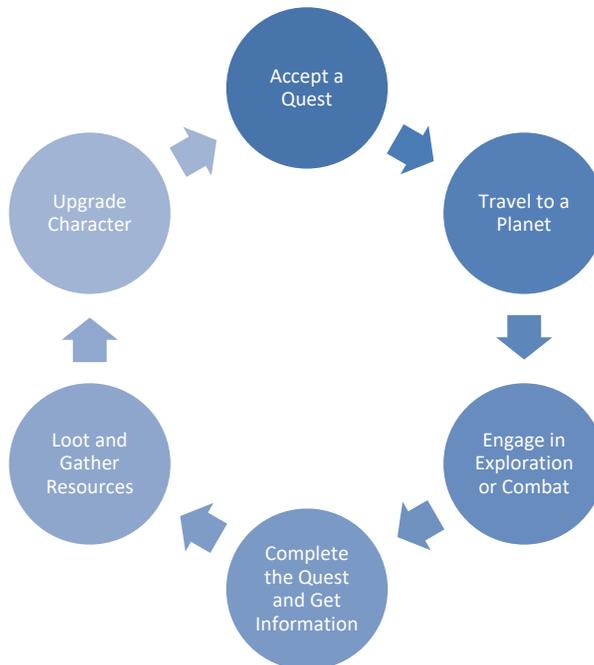


Figure 3: Secondary Gameplay Loop

Tertiary Gameplay Loop

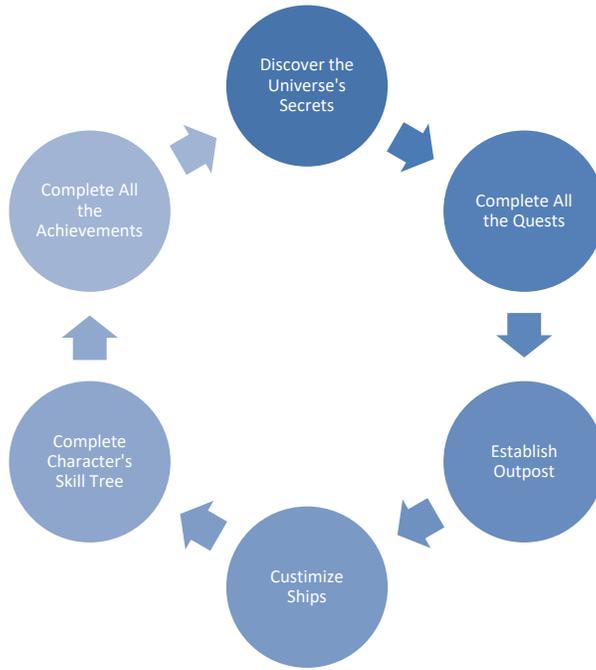


Figure 4: Tertiary Gameplay Loop

Gameplay Styles / Systems

Gameplay Systems

Weapon System

The battles in *Starfield* include ground combat and space combat. In ground combat, players can use different types of weapons to deal with various types of enemies, while also choosing their own combat style (direct confrontation, stealth, etc.) based on the battle’s condition. The information for various weapons in the game is shown in the table below [1]:

Main Type	Type	Range		Damage		Fire Rate		Ammo Capacity		Accuracy	
Heavy	Cutter	Short	N/A	Low	4 [1]	Fast	76 [1]	Unlimited [Energy]	N/A	High	77% [1]
	Microgun	Medium	40 [1]	Low	11.3 [1]	Very Fast	350 [1]	Extreme High	300 [1]	Low	47.2% [1]
	Magstrom	Medium	40 [1]	Low	9 [1]	Very Fast	400 [1]	High	160 [1]	Low	50% [1]
	Reckless Bombardment	Medium	40 [1]	High	120 [1]	Slow	12 [1]	Low	8 [1]	Medium	65.5% [1]
	Bridger	Medium	40 [1]	High	127 [1]	Slow	6 [1]	Low	8 [1]	Medium	65.5%
Rifle	Normal Rifle	Short to Medium	20-40 [1]	Low to High	3-71 [1]	Slow to Very Fast	10-300 [1]	Low to High	6-75 [1]	High	75% [1]
	Laser Rifle	Medium	50 [1]	Medium to High	13-96 [1]	Medium to Fast	20-75 [1]	Low to Medium	12-35 [1]	High	75% [1]
	Sniper Rifle	Very Long	100 [1]	High to Very High	116-223 [1]	Low to Medium	17-25 [1]	Low	5-12 [1]	Very High	85% [1]
Pistol	Normal Pistol	Short	20-40 [1]	Low to High	3-53 [1]	Slow to Fast	12-150 [1]	Low to Medium	6-25 [1]	Medium	70% [1]
	Laser Pistol	Short	30 [1]	Medium	12-21 [1]	Medium to Fast	25-50 [1]	Low to Medium	16-20 [1]	Medium	70% [1]
Explosive	Grenade	Short	N/A	High	60-101 [1]	N/A	N/A	N/A	N/A	N/A	N/A
	Mine	Short	N/A	Low to High	25-101 [1]	N/A	N/A	N/A	N/A	N/A	N/A
Melee	Melee	Very Short	N/A	Low to High	16-85 [1]	N/A	N/A	N/A	N/A	N/A	N/A
Range		Weapon’s engagement distances.									
Damage		The damage dealt to enemies by each bullet.									
Fire Rate		The length of time between each fire of the weapon. (unit: RPM – Rounds per minute)									
Ammo Capacity		The capacity of the individual magazines of the weapons.									
Accuracy		The average probability of hitting an enemy with a shot aimed directly at them.									

Figure 5: Weapon List

Enemy System

The combat system in *Starfield* is flexible, allowing players to a certain degree of freedom to choose their own fighting style. For example, in some specific scenarios, you can use persuasion to avoid

escalating into conflict, also, you can disable turrets and robots through the panel or change their factions to make them attack other enemies.

In the main storyline of *Starfield*, players will encounter various enemies, primarily divided into four categories: humans, creatures, turrets, and robots, as well as Starborn. Among the human enemies, there are different factions, such as the Crimson Fleet, Ecliptic, Spacers, and Va'ruun Zealots. Although the behavior of these human enemies from different factions may vary slightly, the basic values for combat, such as attack methods and movement speed, are generally consistent. Therefore, similar enemies are categorized into one type. Below is a list of some enemies that appear in the main storyline missions:

Main Type	Type	Attack Style	Damage	Health	Moving Speed
Human Enemies	Melee	Melee Attack	Medium	Medium	Medium
	Ranged	Ranged Attack	Medium	Medium	Medium
Creatures	Terrormorph	Melee Attack	High	High	Fast
	Ashta	Melee Attack	Medium	Medium	Medium
	Cataxi Warriors	Melee Attack	Medium	Low	Slow
Robots	Model S	Melee Attack	High	Medium	Fast
	Model A	Ranged Attack	Medium	Medium	Slow
	Robot Model S (Va'ruun)	Melee Attack	High	Medium	Fast
Turrets	MK I	Ranged Attack	Medium	Low	N/A
Starborn	Starborn (Level 30)	Ranged Attack	Medium	High	Medium
	The Hunter	Ranged Attack	Medium	Medium (multiple)	Medium

Figure 6: Enemy List

Pickup & Item System

Starfield contains a complex health system, which includes not only the player's health but also some negative effects, such as bruises or fractures from falling from a high place. Health Aid and Cure Aid respectively heal the player's health points and negative effects, while Chem Aid provides the player with beneficial effects.

1. Health Aid

Health Pickups can restore health when the player's health decreases due to combat or environmental hazards, and they directly affect the player's health, but they cannot heal any negative effects [2]:

Name	Effects Overview	Effect Data
Med Pack	Restores a small amount of health.	Restores 4% Health/s for 10s [2]
Trauma Pack	Restores a significant amount of health.	Restores 8% Health/s for 4s [2]
Emergency Kit	Best for Healing and provides immediate and substantial health recovery.	Restores 8% Health/s for 5s [2]

Figure 7: Health Aid List

2. Status Affliction Cure Aid

The unique damage mechanism in *Starfield* means that after suffering certain types of damage (such as fractures or poisoning), the Health Kit cannot fully heal your injuries, while some items are specifically

designed to treat certain negative status effects or ailments that players may encounter. (Some of them may have side effects.)

These medicines can be obtained through scavenging, purchasing, and crafting, the list of these items [2]:

Type	Effects
Analgesic Poultice	Treats Burns, Contusions, Frostbite, Infections, Lacerations, and Puncture Wounds. [2]
Repairing Immobilizer	Treats Contusions, Dislocated Limb, Fractured Limb, Fractured Skull, Lacerations, Puncture Wounds, Sprain, and Torn Muscle. [2]
Boosted Injector	Treats Brain Injury, Concussion, Heatstroke, Hernia, Hypothermia, Lung Damage, Poisoning, and Radiation Poisoning. [2] Extra oxygen recovery ability for five minutes.
Panacea	Cure all the status ailments. [Side Effect] Consumes all the user's oxygen.
Heal Paste	Treats Burns and Frostbite.
Antibiotics	Treats Infections.
Antibiotic Paste	Treats Burns, Frostbite and Infections. [2]
Infused Bandages	Treats Burns, Contusions, Frostbite, Lacerations and Puncture Wounds. [2]
Antibiotic Injector	Treats Brain Injury, Concussion, Heatstroke, Hernia, Hypothermia, Infections, Lung Damage, Poisoning, and Radiation Poisoning. [2]
Anchored Immobilizers	+150 Damage Resistance for 5 minutes. Treats Dislocated Limb, Fractured Limb, Fractured Skull, Sprain, and Torn Muscle. [2]
Heal Gel	+150 Damage Resistance for 5 minutes. Treats Dislocated Limb, Fractured Limb, Fractured Skull, Sprain, and Torn Muscle. [2]
Injector	Treats Brain Injury, Concussion, Heatstroke, Hernia, Hypothermia, Lung Damage, Poisoning, and Radiation Poisoning. [2]
Snake Oil	+20% Oxygen Recovery for 2 minutes. Treats Brain Injury, Concussion, Heatstroke, Hernia, Hypothermia, Lung Damage, Poisoning, and Radiation Poisoning. [2]
Antibiotic Cocktail	+20% Oxygen Recovery for 5 minutes. Treats Infections. [2]
Bandages	Treats Contusions, Lacerations, and Puncture Wounds. [2]
Penicillin X	+20 Oxygen for 2 minutes. Treats Infections. [2]
Zipper Bandages	+150 Damage Resistance for 5 minutes. Treats Contusions, Lacerations, and Puncture Wounds. [2]
Immobilizer	Treats Dislocated Limb, Fractured Limb, Fractured Skull, Sprain, and Torn Muscle. [2]

Figure 8: Status Affliction Cure Aid Items List

3. Performance Enhancements (Chem Aid)

Performance enhancements will temporarily enhance the player's certain abilities, such as increasing movement speed, damage resistance, or others.

The cost is, some of the performance enhancements may have side effects, and some can even lead to addiction. Additionally, they may be considered contraband and could cause you trouble when your ship is scanned before landing on some city.

Name	Effects
Heart+	+20% Health for 2 minutes +200 Damage Resistance for 2 minutes [2]
Hippolyta	+20% Persuasion chance for 5 minutes [2]
Infantry Alpha	+25% Ranged Damage for 2 minutes +25% Weapon Accuracy for 2 minutes [2]
Squall	+20% Damage for 2 minutes +20% Movement Speed for 2 minutes [2]
Synapse Alpha	Research Projects require fewer resources for 10 minutes [2]
Aurora	(Contraband) Slows time by 40% for 10 seconds [2]
CQB-X	+25% Melee Damage for 5 minutes [2]
Whiteout	+25% Damage for 2 minutes +35% Movement Speed for 2 minutes [2]
Battlestim	+250 Damage Resistance for 5 minutes [2]
Alien Genetic Material	+500 Damage Resistance for 30 seconds +500 Energy Resistance for 30 seconds [2]
Dwarf Star Heart	+50% Power Recovery for 5 minutes +250 Damage Resistance for 5 minutes +250 Energy Resistance for 5 minutes [2]
Subgiant Heart	+300% Power Recovery for 10 seconds Slows time by 35% for 10 seconds +40% Damage for 10 seconds +50% Movement Speed for 10 seconds [2]
Black Hole Heart	+200% Power Recovery for 10 seconds Slows time by 25% for 10 seconds +35% Movement Speed for 10 seconds [2]
Amp	+35% Movement Speed for 2 minutes 2x Jump Height for 2 minutes [2]
Red Trench	+40% Melee Damage for 3 minutes +300 Damage Resistance for 3 minutes [2]
Panopticon	+40% Ranged Damage for 3 minutes +35% Weapon Accuracy for 3 minutes -50% Movement Noise for 3 minutes [2]
Paramour	Companion Affinity increases faster for 10 minutes +25% Persuasion chance for 10 minutes [2]
Neurajack	Research Projects require fewer resources for 10 minutes +50% chance of Research Sudden Developments for 10 minutes [2]
Frostwolf	+40% Damage for 2 minutes

	+50% Movement Speed for 2 minutes -50% Movement Noise for 2 minutes [2]
Boudicca	+30 O2 for 3 minutes +300 Damage Resistance for 3 minutes [2]
Junk Flush	Cures all Addictions [2]
Giant Heart	+75% Power Recovery for 5 minutes +350 Damage Resistance for 5 minutes +350 Energy Resistance for 5 minutes [2]
Hypergiant Heart	+100% Power Recovery for 5 minutes +500 Damage Resistance for 5 minutes +500 Energy Resistance for 5 minutes [2]
Supermassive Black Heart	Slows time by 50% for 10 seconds +75% Movement Speed for 10 seconds +500% Power Recovery for 10 seconds +50% Damage for 10 seconds [2]
Addichrone	Suppresses Addiction symptoms for 10 minutes [2]
Pick-Me-Up	+50 Carry Capacity for 5 minutes [2]
Reconstim	-30% Movement Noise for 10 minutes [2]
AddiJack	Suppresses Addiction symptoms for 15 minutes Research Projects require fewer resources for 15 minutes +50% chance of Research Sudden Developments for 15 minutes [2]
BattleUp	+40% Ranged Damage for 3 minutes +25% Weapon Accuracy for 3 minutes +300 Damage Resistance for 3 minutes [2]
O2 Shot	+500% O2 Recovery for 2 seconds [2]
RedAMP	+50% Melee Damage for 2 minutes [2] +50% Movement Speed for 2 minutes 2x Jump Height for 2 minutes +400 Damage Resistance for 2 minutes [2]
S.T.E.V.E.	Slows time by 40% for 10 seconds +40% Ranged Damage for 10 seconds +50% Weapon Accuracy for 10 seconds [2]
Unprocessed Aurora	-5 Health per second for 10 seconds [2]

Figure 9: Chem Aid Items List

Hacking System

The hacking system in *Starfield* enables the player to use Digipicks to unlock the locked containers, locked doors, and locked computers (panel).



Figure 10: Digipick of A Weapon Case [3]

To unlock these containers or doors, the players need to select different numbers of Digipicks to match the notches to unlock them. The Locks have different security levels, more difficult levels need more steps' Digipicks to solve.

Ship System

Overview

In *Starfield*, spaceships are essential transportation tools for players' travel, which can be acquired by purchasing at spaceports or shipyards, or through completing quests.

Ships are equipped with gravity drives that help players jump between star and systems, with the jump distance depending on the ship's jump range. Additionally, ships serve as players' shelters and weapons, protecting them from enemy raids or acting as weapons for attacking other ships.



Figure 12: The Energy Points of The Ship [3]

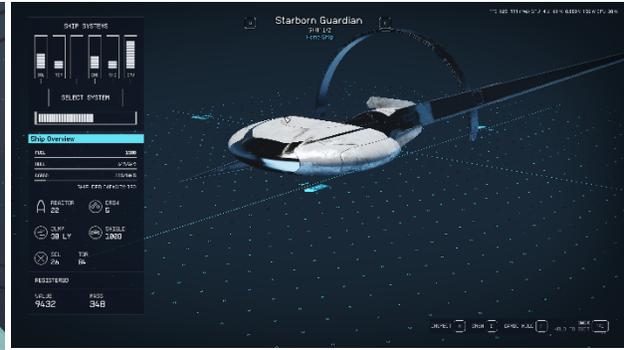


Figure 11: The Ship's Property [3]

Additionally, players need to allocate energy points wisely during battles or travels. The power of the reactor determines the total energy of the spaceship, which in turn decides the energy points that players can allocate.

1. Shelter

Besides the transportation tool, the ship can serve as a temporary safe house for players after landing on a planet. The resources and workbench (For making equipment and Aids) on the ship can provide supplies for players. In addition, the storage space of the ship can store various items and resources for players.

2. Weapons

In *Starfield*, players may sometimes encounter attacks from hostile fleets in space, such as the Crimson Fleet and Va'ruun Zealots, at which point the spaceship can serve as a means of defense and offense.

3. Customize

Players can use the ship editor to modify the ship's attributes by customizing the existing components of the ship. Below is a list of the types of ship modules [4]:

Modular Name	Description
Ballistic Weapons	Standard ballistic weapons that continuously fire bullets to deal damage to enemies' ships.
Particle Beam Weapons	Fire high-energy particle beams that can deal balanced damage to shields and ships' hull.
Energy (Laser) Weapons	Continuously fire lasers to deal damage.
Missile Weapons	Launch guided missiles that cause high explosive damage.
EM Weapons	EM Weapons effectively incapacitate the systems of enemy ships, which are most suitable for capturing enemy vessels.
Engines	The engine provides power to the ship, determining its speed and maneuverability. In addition, all engines will also increase crew capacity by 0.25. [4]
Shield Generators	Provide energy shields for the ship, absorbing enemies' attacks.
Reactors	The reactors generate power for the whole ship.
Grav Drives	Extend the Max Power, Grav Jump Trust of the ship.
Fuel Tanks	Enable the ship to jump between stars and galaxies further or more frequently.

Hab Modules	Provide living modules for the ship, such as a kitchen and beds.
Armory	Provide storage space for Weapon Display, Weapon Cases, Backpack Display and other items. [4]
Captain's Quarters	Provide living modules for the ship, such as a kitchen, beds and containers. [4]
Computer Core	Provide Space for Storage Box, First Aid and other items. [4]
Control Station	Provide Space for Storage Box, First Aid and other items. [4]
Infirmary	Provide the Research Station, Pharmaceutical Station, Pharmaceutical Kit, First Aid and other modules for the ship. [4]
Living Quarters	Provide space for Galley, Beds, Ammo case, First Aid and other modules. [4]
Science Lab	Provide modules like Research Station, Pharmaceutical Station, Cutter Crate and Pharmaceutical Kit [4]
Scan Jammers	Increase the ship's evasion chances when being scanned [4]
Docker	Module for docking to other ships or stations
Landing Bay	Ship appearance adjustment.
Landing Gear	Bear the mass of the spacecraft, one landing gear can support a hull mass of 200 kilograms. [4]
Cockpits	Ship appearance adjustment.
Cowlings	Ship appearance adjustment.
Cargo Modules	Ship appearance adjustment.
Cargo Hall	Ship appearance adjustment.
Storeroom	Ship appearance adjustment.
Companionway	Ship appearance adjustment.
Mess Hal	Provide modules like Cooking Station and Galley for the ship [4]
Engineering Bay	Provide Storage Boxes [4]
Brig	Ship appearance adjustment.
Battle Stations	Ship appearance adjustment.
Workshop	Provide space for Storage Box, Research Station, Industrial Workbench. [4]

Figure 13: Ship Modulars List

Skill Progression System

By acquiring skill points to enhance skill levels, players can unlock new skills or strengthen existing skills. Skills include five types: Physical, Social, Combat, Science, and Tech.

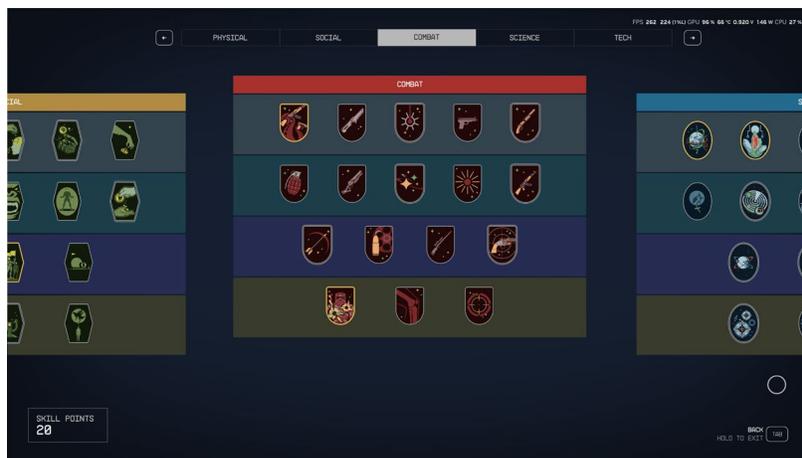


Figure 14: Skill Tree of Starfield [3]

1. *Physical Skills*

1. Improving player's movement endurance and stealth.
2. Increasing the player's health point cap and enhance health recovery speed.
3. Enhancing the player's unarmed attack capability.
4. Reducing negative effects received by the player.

2. *Social Skills*

1. Increasing the probability of persuasion.
2. Gaining an advantage in trading goods.
3. Improving the relationship between players and crews (partners).
4. More Outposts.

3. *Combat Skills*

1. Obtain Certificate for a specific category of weapon to increase the damage of them.
2. Increasing the armor-piercing capability of specific kinds of weapons.
3. Mention the ammunition capacity of specific kinds of weapons.
4. Increasing the critical hit chance of specific kinds of weapons.

5. *Science Skills*

1. Enhancing players' resource collection capabilities and improve scanning skill.
2. Improving the effects of medication.
3. Improving the efficiency of production and research.

6. *Tech Skills*

1. Enhancing the ship's attributes, such as weapon systems and payloads.
2. Increasing damage to specific types of enemies, such as, learning Robotics will increase the player's damage against robots.
3. Improving player's hacking skills.

Gameplay Styles

Multiple Playstyle

In *Starfield*, players often have more than one combat style to choose from, including aggressive, stealthy, and avoidance styles. The game is designed with various mechanisms to support this multiple playstyle:

1. *Level Design: Multiple Pathways to Success*

Many key plot points in *Starfield's* narrative give players the freedom to make choices based on their own playstyle. For example, in the chapter "No Sudden Moves," players have multiple options to obtain the Artifact from Petrov. Players can choose from three routes:

1. Actively seize it (aggressively).
2. Persuade Petrov and steal it.

3. Bribe Petrov's subordinate and steal it.



Figure 15: Choice of Dialogue [3]

2. *Player Character Development*

By upgrading specific skills, players with different play styles can customize their character attributes to support their play style.

For example, Sniper players can enhance their relevant attributes in the Combat attribute panel.

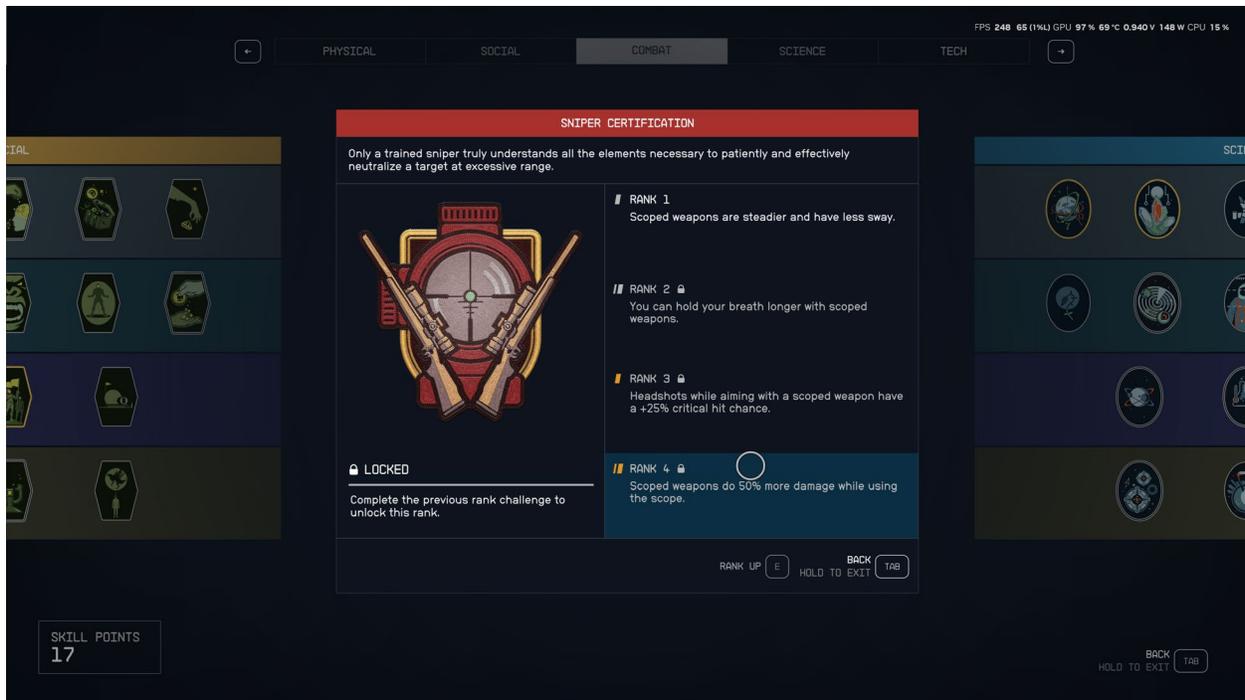


Figure 16: Sniper Certification Attribute Progression [3]

Space Exploration

In addition to combat, as an open-world game, *Starfield* allows players to freely explore various planets and stations in the game beyond just completing the main storyline. To encourage players to explore the game world on their own, *Starfield* supports this through the following design:

1. Random Events in the Map

Players can encounter randomly generated events while exploring planets, including hostile ships, distress signals, and randomly generated outposts on the planets.



Figure 17: Automatically Generated Station with Enemies in Pluto [3]

2. Outpost & Resource

Starfield allows players to establish outposts on different planets and automate the collection of minerals and resources, such as iron and helium, by setting up power and crew in the outpost.

At the same time, the collected resources can be used to craft components, make and upgrade equipment at the outpost's research facility, further supporting players in their exploration.

Conveyances/Affordances

1. Visual Language

Color

- In *Starfield*, it uses colors to represent the state of an object
 - a. Using a red HUD Title to indicate enemy and ally relationships



Figure 18: Red HUD of Enemies [3]

- b. Using red light to represent the Gate is Locked



Figure 19: Red Light near an Locked Door [3]

2. Landmarks

- Landmarks can inform players of the final objectives, letting them know where to go



Figure 20: Landmarks in the Chapter: Into the Unknown [3]

3. Gates and Frames

- The door frame provides players with a preview of future battles and captures their attention



Figure 21: Door Frame in an Interior Cell [3]

4. Leading Lines

- Using leading lines to guide the player where to go
 - a. The Lines on the wall and floor guide the player to head to the caves



Figure 22: Leading lines in the Cave [3]

5. Lighting

- Using Lighting that creates a strong contrast with ambient light, or lights of different colors, to attract players' attention and guide them forward



Figure 23: Lighting for Guiding Players [3]

Feedback

1. Vision Feedback

- a. Bullet hitting HUD



Figure 24: Bullet Hitting HUD [3]

- b. Explosion VFX



Figure 25: Explosion VFX [3]

- c. The enemy's death animation
- d. Enemies bleeds or burns

2. Audio Feedback

- a. The enemies' voice
- b. The bullet's hitting sound
- c. Explosion Sound
- d. XP Gaining Sound
- e. Quest Completed Sound

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