### ****Introduction to RetroStellar****

**RetroStellar** is a retro-style, text-based space strategy game that draws heavy inspiration from classics like **Trade Wars** and **Zork**, while incorporating modern elements from games like **EVE Online**. In this universe, players are tasked with exploring vast star systems, building fleets, negotiating with factions, and conquering entire systems in their quest for galactic dominance. The game’s core mechanics revolve around conquest, exploration, and factional dynamics, all of which blend to create a richly strategic and immersive experience.

The ultimate goal in **RetroStellar** is to control the majority of the galaxy’s 10,000 star systems through combat, diplomacy, or economic domination. Whether you're forging alliances, waging wars, or mining resources from distant planets, the game provides numerous pathways to power. As development continues, elements of economic simulation and advanced strategy will further deepen the player’s experience, offering additional layers of complexity and challenge.

### ****User Interface and Gameplay****

At its core, **RetroStellar** is designed to evoke the feeling of classic, 1980s text-based games. The interface is entirely **keyboard-driven**, with **command line-style navigation** and **text scrolls** that guide the player through the game. There is no mouse interaction—players rely exclusively on keyboard shortcuts and text commands to navigate menus, explore systems, and issue commands to their fleets. This menu-based interface not only pays homage to the game's retro roots but also keeps the focus on strategy and decision-making rather than flashy graphics.

The retro aesthetic, inspired by games like **Trade Wars**, immerses players in a galaxy where their wits and planning skills are their greatest assets. Every interaction, from negotiating trade deals with factions to exploring uncharted star systems, feels like a nostalgic callback to the golden age of text-based gaming, while still offering depth and complexity found in modern strategy games like **EVE Online**.

### **1. Conquest**

**a. Combat Power - Combat Power represents the strength of your personal ship, also known as the flagship of your fleet. It is the primary stat used to determine your offensive capability in battles. Every player's "character" in RetroStellar is embodied by their flagship, and the Combat Power stat reflects the damage output and overall fighting capacity of that ship.**

#### ****How Combat Power Works****:

* **Base Combat Power** is determined by your flagship's inherent attributes, such as its weapons, armor, and technology. This base value can be modified by upgrades, equipment, and rewards.
* **Fleet Power Multiplier**: Your fleet acts as a force multiplier for your Combat Power. Fleet Power adds a percentage of your flagship's Combat Power to represent the combined strength of your fleet supporting your ship.
  + Example: If your flagship's **Combat Power** is 80 and your **Fleet Power** is 75%, your total Combat Power is calculated as:  
    **Total Combat Power = 80 + (80 \* 0.75) = 140**

#### ****Stat Bonuses from Equipment and Rewards****:

* Combat Power can be further enhanced by **rewards** or **loot** found during missions, exploration, or anomalies. Equipment such as upgraded weaponry, specialized shields, or rare artifacts can increase your base Combat Power.
  + **Example Equipment**: Stellar Refractor Crystal (adds +10 to Combat Power).
* **Bonuses from Rewards/Equipment** apply directly to your base Combat Power, making your flagship more potent in combat situations.
  + Example: If your base Combat Power is 80, and you equip an item that gives a +10 bonus, your new base Combat Power becomes **90**, which is then multiplied by your Fleet Power.

#### ****Summary of Combat Power Calculation****:

1. **Base Combat Power** = Flagship’s combat strength (modified by rewards/equipment).
2. **Fleet Power Multiplier** = Adds a percentage of Combat Power based on your fleet's coordination and strength.
3. **Total Combat Power** = Base Combat Power + (Base Combat Power \* Fleet Power Multiplier).

**b. Fleet Power - Fleet Power represents the combined strength and coordination of the ships in your fleet, acting as a force multiplier for your flagship’s Combat Power. Fleet Power plays a crucial role in both offense and defense, making your fleet a vital component in determining your overall combat effectiveness in RetroStellar.**

#### ****How Fleet Power Works****:

* **Fleet Power as an Offensive Multiplier**: Fleet Power multiplies your personal **Combat Power** by a percentage, representing the additional firepower and coordination provided by your fleet. A higher Fleet Power percentage means your fleet enhances your flagship's damage output more significantly.
  + Example: If your flagship's **Combat Power** is 80 and your Fleet Power is 75%, your total offensive **Combat Power** becomes:  
    **Total Combat Power = 80 + (80 \* 0.75) = 140**
* **Fleet Power as a Defensive Multiplier**: Fleet Power also reduces incoming damage by acting as a defensive buffer. In this case, Fleet Power acts as a percentage that mitigates damage taken during combat.
  + Example: If you are hit with an enemy attack of 120 damage and your Fleet Power is 75%, the final damage you take is:  
    **Final Damage = 120 - (120 \* 0.75) = 30**

#### ****Fleet Power and Fleet Size****:

* As you **level up** in RetroStellar, your **Fleet Size** will grow, allowing you to add more ships to your fleet. At **Level 1**, you only control your flagship. When you reach **Level 2**, your fleet can grow by one ship. Each additional ship increases your **Fleet Power** by 50% of the new ship's **Base Combat Power**. This gives a tangible boost to your overall combat effectiveness.
  + Example: If your Combat Power is 100 at Level 1, and you buy a small ship with a **Base Combat Power** of 20 at Level 2, your Fleet Power will increase by 50% of the new ship’s value, adding 10 to your overall Fleet Power.
* **Diminishing Returns**: As you level up and add more ships to your fleet, the percentage increase from new ships will follow a **sliding scale**, representing the **law of diminishing returns**. This ensures balance and prevents overpowering fleets as players progress, maintaining fair gameplay.

#### ****Fleet Power Modifiers****:

* **Fleet Power** can be improved through research, fleet upgrades, equipment, and special rewards. Certain technologies or loot can boost your **Fleet Power**, making your fleet more coordinated and powerful.
  + **Example Reward**: Fleet Coordination Module increases Fleet Power by 10%.
* **Fleet Size and Efficiency** also factor into Fleet Power, meaning a well-managed fleet will have a higher **Fleet Power** multiplier, resulting in greater offensive and defensive effectiveness.

#### ****Summary of Fleet Power Calculation****:

1. **Offensive Multiplier**:  
   Total Combat Power = Base Combat Power + (Base Combat Power \* Fleet Power Percentage).
2. **Defensive Multiplier**:  
   Final Damage = Incoming Damage - (Incoming Damage \* Fleet Power Percentage).
3. **Fleet Size Growth**:  
   Each new ship added to the fleet increases **Fleet Power** by a percentage of the ship’s **Base Combat Power**, but future levels introduce diminishing returns to maintain balance.

**c. Conquest Rating - Conquest Rating is a critical stat in RetroStellar, representing both a player's ability to conquer star systems and a system's total defense against attacks. The ultimate win condition in RetroStellar is to take control of the majority of the galaxy's 10,000 star systems. This can be achieved by defeating the system's defenses through strategic use of Fleet Power and a player's Conquest Rating.**

#### ****How Conquest Rating Works****:

* **System Conquest**: When attacking a system, a player's **Conquest Rating** combines with their **Fleet Power** to determine their total power in the battle. The goal is to match or exceed the system's defense power, which is also referred to as the system's ****System** Rating**.
* **System Assets and Base Conquest Rating**:  
  Each system is defended by various assets such as planets, asteroid fields, and stations. Each of these elements has a base value (e.g., 20) that contributes to the system's overall **Conquest Rating**. These values can be increased through upgrades, loot, or special rewards, making the system harder to conquer over time.

#### ****System Hazards****:

* Certain systems have a hazard level determined by the nature of the star they orbit. Hazards like radiation can reduce an attacking fleet’s effectiveness by lowering both **Combat Power** and **Fleet Power** by a percentage. For extremely hazardous systems, this reduction can be as high as 30%.
  + **Example**: An attacking fleet enters a system with a hazard level of +2 (High Radiation). This reduces the fleet's total **Combat Power** and **Fleet Power** by 20% unless they have mitigation systems in place.

#### ****Fleet Power and Conquest Rating in Combat****:

* When engaging in a system conquest, the attacker’s **Fleet Power** and **Conquest Rating** are combined to form the total attacking power. This must match or exceed the system's defense, which is the sum of the system's ****System** Rating** (based on assets) and any hazard effects.
  + **Example**: A system with four planets, four asteroid fields, two stations, and a hazard level of +2 has a total ****System** Rating** of 1200. The attacking player has a **Fleet Power** and **Combat Power** that sum to 1000, with an additional **Conquest Rating** of 50. Their total power is 1050, which is not enough to conquer the system, and they lose the battle.

#### ****Defeat Consequences****:

* If the attacker’s total **Conquest Rating** and **Fleet Power** don’t match the system's defense, they automatically lose the battle. As a penalty, the attacker loses ships in their fleet based on the percentage difference between their total attacking power and the system’s defense power.
  + **Example**: If the attacker’s total power is 20% lower than the system’s defense, they lose 20% of their fleet.

#### ****Conquering a System****:

* If the attacker successfully matches or exceeds the system's **System Rating**, they conquer the system and gain control of all its assets (planets, asteroid fields, stations).
* Upon conquering a system, the player receives a flat bonus to their **Conquest Rating** (amount yet to be determined), which boosts their ability to conquer future systems. The system's asset values (planets, asteroid fields, stations) remain independent of this bonus and continue to contribute to the system's defense if it's attacked in the future.

**2. Explore**

**a. Resource Gathering - Resource Gathering is the stat that determines how quickly and efficiently a player can mine resources from planets, moons, and asteroid fields in RetroStellar. It affects both the speed of resource extraction and the amount of resources gathered during each mining cycle.**

#### ****How Resource Gathering Works****:

* **Mining Cycles**: Every resource in the game is mined over a set cycle time of **10 seconds**. The amount of resources gathered during that cycle is based on the ship's equipment and the type of resource being mined.
* **Resource Value**: Each resource has a **static value** that determines how long it takes to mine a full amount of that resource. Common resources, such as **Common Ore**, have a 100% value, meaning that it takes the full 10 seconds to mine the designated amount of that resource. Rarer resources, such as rare metals, could have a higher value (e.g., 200%), meaning it takes **20 seconds** to mine the same amount.
  + **Example**: If your ship's mining equipment can extract 100 units of **Common Ore** in 10 seconds, it would take the same equipment 20 seconds to mine 100 units of a rarer resource with a 200% value.

#### ****Resource Gathering Stat Calculation****:

The **Resource Gathering** stat directly reduces the time needed to mine resources by increasing the efficiency of your mining operations. The higher your **Resource Gathering** stat, the faster you can extract resources.

* **Boosting Resource Gathering**: Upgrades, loot, and equipment can permanently increase your **Resource Gathering** stat, allowing you to extract more resources in less time.
* **Rarity Scaling**: As your **Resource Gathering** stat improves, you will need to focus on rarer resources for progression, which will take longer to mine due to their increased resource value.

#### ****System Hazards and Penalties****:

* Systems with high hazard levels (e.g., radiation) impose penalties on resource gathering by increasing the time it takes to complete a mining cycle. The penalty can increase the gathering time by **up to 100%**, depending on the system’s hazard level, but it does not reduce the resource yield.
  + **Example**: A system with a +2 hazard level might increase the time required to mine a resource from 10 seconds to 12 seconds.

#### ****Ownership Benefits****:

* Players who fully control a system receive a **20% reduction** in resource gathering cycle time. This benefit stacks with other bonuses and upgrades, making owned systems highly valuable for efficient resource extraction.

**b. Mission Chance - Mission Chance Explanation**

**Mission Chance** is a stat in RetroStellar that controls the availability, type, difficulty, and rewards of side missions that players can undertake. These missions are separate from the main campaign arc and act as optional objectives that players can complete to earn additional rewards.

#### ****How Mission Chance Works****:

* **Mission Availability**: The **Mission Chance** stat directly affects both the number and variety of missions available at any given station or hub. A player with a low **Mission Chance** may only have access to a small number of basic missions, while a player with a higher **Mission Chance** will unlock more missions across various types.
  + **Example**: At **Alpha Station**, a Level 1 player with a low **Mission Chance** may only see 1 mining mission and 1 exploration mission, with low-tier rewards such as 100 credits or a small piece of equipment. A Level 10 player with a high **Mission Chance** would see multiple mission types with much more valuable rewards.
* **Mission Types**: There are several types of missions in the game, including:
  + **Archeology**
  + **Combat Operations**
  + **Research**
  + **Exploration**
  + **Diplomacy**
  + **Mining**  
    The **Mission Chance** stat impacts how many missions are available within these categories, but the specific mission types available at each station depend on the type of station, not the **Mission Chance** stat itself.

#### ****Mission Difficulty****:

* **Scaling Difficulty**: Higher **Mission Chance** also unlocks harder missions. Each mission type has a minimum **Mission Chance** stat threshold that determines when it becomes available. As players increase their **Mission Chance** stat, more difficult and rewarding missions will open up.
  + **Example**: A Level 1 player may only have access to low-difficulty exploration or mining missions. At higher levels, combat operations or diplomacy missions with complex objectives will become available.

#### ****Mission Rarity****:

* **Rarer Missions**: The **Mission Chance** stat also increases the likelihood of encountering rare and unique missions. These missions often offer higher-value rewards or present special challenges. Players with higher **Mission Chance** will see rarer missions more frequently.

#### ****Rewards and Loot****:

* **Better Rewards**: In addition to more and rarer missions, a higher **Mission Chance** stat will also lead to better rewards from completed missions. This includes more credits, higher-tier equipment, and rare items that are not available through the campaign arc.
  + **Example**: A high-level player could receive rare starship components, unique upgrades, or large sums of credits, depending on the mission.

#### ****Summary****:

* **Mission Chance** is a dynamic, scaling system that acts as a gatekeeper for side missions, controlling their availability, difficulty, and rewards. Players with higher **Mission Chance** will see more missions, harder challenges, rarer opportunities, and better rewards.
* The **Mission Chance** stat does not affect the main campaign arc, which is available to all players regardless of their **Mission Chance**.

**c. Anomaly Interaction - The Anomaly Interaction stat controls how players encounter and interact with anomalies in RetroStellar. Anomalies are randomly occurring events in unoccupied or controlled systems, designed to temporarily halt player progress and introduce challenges or rewards. These anomalies can range from abandoned ships with hidden loot to cosmic phenomena that block navigation.**

#### ****How Anomaly Interaction Works****:

* **Spawn Rate**: The **Anomaly Interaction** stat affects how often anomalies appear in a system. A higher **Anomaly Interaction** stat reduces the frequency of anomalies, making them rarer. Conversely, a lower stat means anomalies will spawn more frequently.
* **Severity and Danger**: Higher **Anomaly Interaction** stats increase the severity and danger of the anomalies encountered. These anomalies might involve tougher enemies, more challenging obstacles, or hazardous environments. Lower **Anomaly Interaction** stats result in less dangerous anomalies that are easier to handle.
* **Loot Chance and Quality**: The **Anomaly Interaction** stat also impacts the type of rewards players can find. A higher stat increases the quality and rarity of the loot found in anomalies, while a lower stat results in more common, less valuable rewards.
  + **Example**: A player with a high **Anomaly Interaction** stat might discover rare ship upgrades or valuable artifacts, while a player with a lower stat may find basic equipment or fewer credits.

#### ****Balancing Spawn Rate and Severity****:

* **Trade-off**: The **Anomaly Interaction** stat creates a balance between how frequently anomalies appear and how dangerous they are. Players with a higher stat will encounter fewer but more dangerous anomalies, while those with a lower stat will encounter more frequent, but less severe anomalies.
  + **Example**: A high-level player may only encounter an anomaly occasionally, but when they do, it could involve a hostile alien force or an unstable star with significant rewards at stake. In contrast, a lower-level player might face more frequent, less dangerous anomalies with simpler rewards.

#### ****Anomalies in Controlled Systems****:

* **Controlled Systems**: Anomalies are less likely to appear in systems controlled by factions, with the spawn rate reduced by **75%**. However, the severity, danger, and loot quality of anomalies remain the same in controlled systems as in unoccupied systems. The **Anomaly Interaction** stat still applies in these systems, determining the rarity and danger of anomalies.

#### ****Mitigating Anomalies****:

* **Equipment**: Players can purchase specific ship equipment that further reduces their chance of encountering anomalies. However, the **Anomaly Interaction** stat only controls spawn rate, severity, danger, and loot chance. It does not affect how players handle or bypass anomalies once they appear.

**3. Trade**

**a. Diplomacy - The Diplomacy stat in RetroStellar controls a player’s interactions with factions and determines how successful they are in gaining favor, negotiating alliances, and influencing faction missions. While Faction Points accumulate separately, Diplomacy acts as a modifier, shaping the player’s relationship with factions over time.**

#### ****How Diplomacy Works****:

* **Impact on Faction Missions**: The **Diplomacy** stat influences the type, difficulty, and outcome of faction-specific missions. Higher **Diplomacy** makes it easier to gain favor with factions, improving the chances of successfully completing faction missions and earning higher rewards.
  + **Example**: A player with a low **Diplomacy** stat might only receive basic faction missions with limited rewards. A player with a higher **Diplomacy** stat can unlock more complex missions, such as diplomatic negotiations or high-risk combat operations, with greater rewards.
* **Switching Faction Allegiances**: During faction missions, a player with a high **Diplomacy** stat can convince systems to switch allegiance to their faction without combat. This only occurs during faction missions dedicated to negotiations; it cannot happen during normal travel. The higher the player’s **Diplomacy**, the better their chances of peacefully flipping control of a system.

#### ****Influence on Faction Points****:

* **Faction Points Gain/Loss**: While **Faction Points** are rewarded separately for completing faction missions, the **Diplomacy** stat influences how many **Faction Points** are gained or lost based on player actions. A higher **Diplomacy** stat amplifies positive outcomes, making it easier to gain points, while also reducing potential losses when things go wrong.
  + **Example**: Completing a mission with a faction could yield 100 Faction Points by default, but if the player has a high **Diplomacy** stat, they may receive an extra 20% (120 total points). Conversely, if the mission fails, a higher **Diplomacy** stat could reduce the penalty.

#### ****Forming Alliances and Ending Wars****:

* **Future Development**: The **Diplomacy** stat will eventually be integral to forming alliances with factions and ending wars. Higher **Diplomacy** will give players the ability to navigate tricky political situations, smooth over faction relations, and avoid unnecessary conflicts.

#### ****Increasing Diplomacy****:

* **Growth Over Time**: The **Diplomacy** stat can be increased in several ways:
  + Completing a certain number of faction missions over time.
  + Equipping specific ship equipment that boosts **Diplomacy**.
  + In the future, events on planetary colonies or special diplomatic missions will offer chances to boost **Diplomacy**.

#### ****Summary****:

The **Diplomacy** stat is crucial for players who want to influence faction relations, peacefully conquer systems, and maximize their rewards from faction missions. It acts as a gatekeeper to more complex faction interactions and helps players build stronger alliances across the galaxy.

**b. Trading - The Trading stat in RetroStellar determines how favorable the player’s interactions are with vendors when buying and selling items. A high Trading stat gives players access to better prices and more lucrative markets, while a low Trading stat limits their market options and increases the cost of transactions. This stat is crucial for players looking to maximize their profits through commerce and efficient resource management.**

#### ****How Trading Works****:

* **Pricing Influence**: The **Trading** stat provides a percentage-based bonus or penalty to the prices players encounter when buying or selling goods. At maximum, the stat can give players up to a **75% bonus** when buying (lower prices) and selling (higher prices). Conversely, players with a lower **Trading** stat may face up to a **75% penalty**, paying more for items and earning less from sales.
  + **Example**: A player with a high **Trading** stat might be able to purchase a ship upgrade for 1,000 credits instead of the base price of 2,000 credits, while selling resources for 1,500 credits instead of 1,000.
* **Market Access**: Players with lower **Trading** stats are restricted to common marketplaces, where basic goods and services are available. However, as players improve their **Trading** stat, they will gain access to elite interstellar exchanges, which offer rare and powerful items.
  + **Note**: These elite markets are part of future game development and will provide additional opportunities for players with advanced **Trading** stats.

#### ****Haggling and Bargaining****:

* **Negotiating Prices**: The **Trading** stat also affects how likely a vendor is to accept a player's offer during a transaction. Players can attempt to haggle with vendors for a better price on goods they wish to buy or sell. A higher **Trading** stat increases the success rate of these negotiations, making it easier to secure favorable deals.
  + **Example**: A player with a high **Trading** stat might be able to convince a vendor to accept a 10% lower price on a resource they wish to buy or offer 10% more credits on a resource they are selling, improving their profit margins.

#### ****Trading Stat Limitations****:

* **No Impact on the Black Market**: The **Trading** stat does not affect interactions with the Black Market. Players will need to rely on their **Economic Power** stat for those transactions.
* **Universal Effect**: The **Trading** stat applies universally across all faction and non-faction vendors, providing the same bonus or penalty in every market the player accesses.

#### ****Future Market Development****:

* **Dynamic Pricing**: In future game development, market prices will become more dynamic, fluctuating based on supply and demand. The **Trading** stat will help players navigate these market changes, giving them an edge in buying low and selling high in volatile economic conditions.

**c. Economic Power - The Economic Power stat in RetroStellar functions as a financial force multiplier, influencing a player’s ability to control economic outcomes across the galaxy. It impacts passive income, tax rates, fleet maintenance costs, and the ease of economic dominance over systems. Economic Power is a key stat for players looking to expand their control over trade routes, sector economies, and large-scale financial decisions.**

#### ****How Economic Power Works****:

* **Influencing Economic Outcomes**: The **Economic Power** stat impacts economic factors by a percentage. For example, when building a fleet in a system, the cost of materials remains constant, but **Economic Power** affects the system’s tax rate, potentially reducing the total cost for players with higher Economic Power.
  + **Example**: A system with a 20% tax rate could have that rate reduced by a player’s **Economic Power**, allowing them to pay fewer taxes on their purchases and fleet maintenance.
* **Passive Revenue and System Control**: Higher **Economic Power** generates more passive revenue from controlled systems and reduces the maintenance costs associated with managing those systems. Players with a high **Economic Power** stat are better equipped to sustain larger fleets and more systems.
  + **Example**: A player with high **Economic Power** could reduce fleet maintenance costs by up to 50%, turning a 1,000-credit cost into 500 credits.
* **Seizing System Control**: **Economic Power** also influences how easily players can take control of a system’s economy from another faction. The higher the stat, the more likely a player can convince a system to switch allegiance without conflict, especially when combined with the **Diplomacy** stat.
  + **Example**: A player with high **Economic Power** could convince a system to join their faction during a diplomatic mission, without needing to engage in combat.

#### ****Fleet Maintenance and Economic Leverage****:

* **Fleet Maintenance**: **Economic Power** provides a percentage-based reduction in fleet maintenance costs, similar to how **Fleet Power** works in combat. At its maximum, the **Economic Power** stat can reduce fleet maintenance costs by **50%**, allowing players to manage larger fleets at a lower cost.
* **Leverage in Diplomacy**: In addition to influencing passive revenue, **Economic Power** gives players economic leverage in negotiations with factions. It works alongside **Diplomacy** to tip the scales in a player's favor when forming alliances, influencing trade deals, and securing control over valuable systems.

#### ****Control Over Trade and Galactic Economy****:

* **Trade Routes and Large-Scale Purchases**: **Economic Power** enables players to establish control over key trade routes, giving them dominance over sector economies and influencing large-scale purchases such as fleets, starbases, and entire planetary systems. Players with higher **Economic Power** can monopolize certain trade routes and industries, expanding their influence across the galaxy.

**4. Research**

**a. Research Speed - Research Speed is a global stat in RetroStellar that reduces the time required to complete research projects. The stat functions as a percentage-based speed modifier, similar to the Resource Gathering stat, and it applies to all areas of research, from basic technologies to advanced endgame breakthroughs.**

#### ****How Research Speed Works****:

* **Base Research Time**: Common research areas have a flat base research time of **1 hour**, while more advanced research areas can take significantly longer (e.g., 10 hours for endgame research). The **Research Speed** stat reduces this time based on the player’s stat value.
* **Percentage-Based Reduction**: The **Research Speed** stat can reduce the time required for research by up to **95%**, meaning that research can be completed in as little as 5% of the original time.
  + **Example**: A player with a high **Research Speed** stat could reduce a 1-hour research project to just 3 minutes (5% of 60 minutes), or a 10-hour project to 30 minutes (5% of 600 minutes).

#### ****Temporary Equipment Bonuses****:

* **Temporary Modifiers**: Certain equipment or upgrades can temporarily boost the **Research Speed** stat while they are equipped. Once the player loses access to these bonuses (e.g., by unequipping the item), they also lose the associated research speed improvements.

#### ****Diminishing Returns****:

* **Scaling and Balance**: To maintain a challenge, **Research Speed** is subject to diminishing returns as players progress through the game. While the stat can greatly reduce research times, there will be limits in place to prevent research from being completed too quickly, especially in the later stages of the game.

**b. Innovation Potential - Innovation Potential would represent the player's capacity to discover breakthrough technologies, rare research opportunities, or unique upgrades that aren't available to everyone. It would tie into the Research Speed stat by offering chances to unlock special or hidden research projects that normal progression wouldn’t reveal. Essentially, it would be a stat that governs how innovative or creative the player's research team is, giving them an edge in tech development.**

#### ****How Innovation Potential Could Work****:

1. **Unlocking Unique Research**:
   * Players with a high **Innovation Potential** stat would have a greater chance of discovering rare or unique research projects. These might not be part of the standard research tree and could offer advanced or exotic technologies that give players an edge in certain aspects of the game, like experimental weapons, advanced AI systems, or hyper-efficient starship engines.
2. **Breakthroughs**:
   * **Innovation Potential** could trigger research breakthroughs, allowing players to complete research projects faster or uncover additional research benefits during the process. For example, while researching a new weapon system, players with high **Innovation Potential** might also unlock a related armor system as a bonus.
3. **Quality of Research Outcomes**:
   * It could also impact the **quality** of the technologies or upgrades developed through research. Higher **Innovation Potential** might mean that when a player finishes researching a project, the resulting technology is more powerful or efficient than it would have been with a lower **Innovation Potential**.
   * **Example**: If two players research the same starship engine, the one with higher **Innovation Potential** might end up with a faster, more fuel-efficient version.
4. **Chance for Unique Technologies**:
   * This stat could influence the probability of unlocking unique technologies that are not part of the main research tree. For example, it might give players a chance to unlock alien technology, lost ancient tech, or other rare advances that provide special in-game advantages.

#### ****Scaling and Progression****:

* **Scaling with Progress**: Early in the game, **Innovation Potential** might simply give players a chance to unlock minor bonuses or techs. But as players progress, a higher **Innovation Potential** would unlock more powerful, game-changing discoveries.
* **Temporary and Permanent Modifiers**: Just like **Research Speed**, **Innovation Potential** could be affected by temporary equipment or ship upgrades that boost the player’s chance of discovering breakthroughs for a limited time.

### ****Summary of Innovation Potential****:

**Innovation Potential** would represent a player's ability to innovate beyond the standard research tree, discovering hidden technologies, triggering research breakthroughs, and improving the overall quality of their research outcomes. Players with a high **Innovation Potential** stat would have a distinct advantage in the technology race, unlocking rare and powerful discoveries that give them an edge in the galaxy.

### ****Conquest Scenario 1: Fleet vs. Fleet Attack with System Hazards****

**Scenario**: Two fleets of equal strength, led by Player A and Player B, engage in a battle within a high-radiation system with a hazard level of +3 (30% reduction to Fleet Power and Combat Power). Both fleets have a **Combat Power** of 200 and a **Fleet Power** of 75%.

**System Hazard**: +3 (High Radiation) reduces both fleets' total power by 30%.

#### ****Combat Calculations****:

1. **Player A’s Fleet**:
   * Base **Combat Power**: 200
   * **Fleet Power** multiplier: 75% → Total before hazard: 200 + (200 \* 0.75) = **350**
   * **Hazard Reduction**: 30% → 350 - (350 \* 0.30) = **245 Total Combat Power**
2. **Player B’s Fleet**:
   * Base **Combat Power**: 200
   * **Fleet Power** multiplier: 75% → Total before hazard: 200 + (200 \* 0.75) = **350**
   * **Hazard Reduction**: 30% → 350 - (350 \* 0.30) = **245 Total Combat Power**

#### ****Battle Outcome****:

Since both fleets are evenly matched and reduced equally by the system hazard, the battle drags on, and neither side gains a decisive victory. Eventually, Player A withdraws to repair ships, while Player B secures temporary control of the system. In future battles, improvements to hazard mitigation or additional fleet reinforcements will be required to break the stalemate.

### ****Conquest Scenario 2: Fleet Attacking a High-Power System****

**Scenario**: Player C is attacking a high-powered system with a **System Power** of 1800, spread across five planets, three asteroid fields, and two space stations. The system has a hazard level of +2, reducing **Combat Power** by 20%. Player C has a **Combat Power** of 900 and a **Fleet Power** of 80% (720 bonus), making their total power **1620**.

#### ****System Hazard and Combat Calculation****:

1. **Player C’s Fleet**:
   * Base **Combat Power**: 900
   * **Fleet Power** multiplier: 80% → Total before hazard: 900 + (900 \* 0.80) = **1620**
   * **Hazard Reduction**: 20% → 1620 - (1620 \* 0.20) = **1296 Total Combat Power**
2. **System Power**:
   * Total **System Power**: 1800 (based on assets and hazard level)

#### ****Battle Outcome****:

Player C's **Total Combat Power** of 1296 is still significantly below the system’s **System Power** of 1800. They face heavy losses and cannot conquer the system outright. However, Player C initiates diplomatic negotiations to convince the local system leaders to join their faction.

**Diplomacy Influence**:

* Player C's **Diplomacy** stat of 60 gives them a 40% chance of successfully switching the system’s allegiance without further combat.
* They roll successfully, and the system peacefully switches to Player C’s faction, ending the battle without further losses.

### ****Exploration Scenario 1: High Mission Chance Stat****

**Scenario**: Player D, with a **Mission Chance** stat of 80, docks at Delta Station, a mission hub that offers a variety of side quests. Due to their high **Mission Chance**, they are presented with the following missions:

* **Combat Operation**: Defeat a pirate fleet (high difficulty).
* **Archeology Mission**: Investigate ancient ruins on a nearby planet (medium difficulty).
* **Mining Mission**: Extract rare metals from an asteroid field (low difficulty).
* **Diplomatic Mission**: Negotiate peace between two warring factions (very high difficulty).

#### ****Outcome****:

Thanks to their high **Mission Chance** stat, Player D has access to a wide variety of mission types, ranging from high-risk, high-reward tasks like the diplomatic mission, to simpler tasks like mining. The high stat ensures not only variety but also valuable rewards, including rare faction reputation boosts and advanced equipment.

### ****Exploration Scenario 2: Low Anomaly Interaction Stat****

**Scenario**: Player E has a **Low Anomaly Interaction** stat of 20 and is traveling through unoccupied systems. They encounter multiple low-level anomalies within a short period, including:

* A derelict spaceship containing common loot (e.g., basic ship components worth 100 credits).
* An unstable wormhole that temporarily slows their ship’s movement.
* A small cosmic nebula containing low-value resources (50 units of Common Ore).

#### ****Outcome****:

Due to their low **Anomaly Interaction** stat, Player E faces frequent but low-danger anomalies, none of which present significant challenges. The rewards are equally modest, consisting of common loot and resources that don’t offer significant progression advantages.

### ****Trade Scenario 1: Diplomacy in Trade****

**Scenario**: Player F, with a **Diplomacy** stat of 75, is negotiating a trade deal with the Shogunate 3072 faction. They are trying to establish exclusive trade rights in exchange for rare starship components.

#### ****Negotiation****:

* The **Diplomacy** stat of 75 increases Player F's chance of securing a better deal, allowing them to haggle for a 10% reduction in trade tariffs and exclusive rights to the faction’s starship production.

#### ****Outcome****:

Due to their high **Diplomacy** stat, Player F successfully negotiates a favorable trade deal, securing exclusive access to valuable ship components and boosting their faction reputation.

### ****Trade Scenario 2: High Economic Power Stat****

**Scenario**: Player G controls several systems with a high **Economic Power** stat of 85. They are looking to dominate trade routes and control a key sector of the galactic economy by monopolizing shipping lanes.

#### ****Economic Influence****:

* The **Economic Power** stat allows Player G to secure control over multiple trade routes by reducing system taxes by 30% and making large-scale purchases of trade ships and infrastructure.

#### ****Outcome****:

Thanks to their high **Economic Power**, Player G establishes control over a key sector of the galactic economy, generating passive revenue from shipping lanes and influencing trade prices across several systems.

### ****Research Scenario: Innovation Potential Leads to a Breakthrough****

**Scenario**: Player H has a high **Innovation Potential** stat of 70 and is conducting research on a new hyperdrive system. The research project has a base research time of 8 hours.

#### ****Breakthrough****:

* Due to their high **Innovation Potential**, Player H experiences a research breakthrough midway through the project, reducing the remaining research time by 50% and improving the efficiency of the hyperdrive by an additional 10% beyond the original design.

#### ****Outcome****:

Player H completes the hyperdrive research in 4 hours instead of 8, and the resulting hyperdrive is faster and more efficient than the standard version. The breakthrough gives them a distinct advantage in long-range travel.

**RetroStellar Rules and Gameplay Guide**  
A Comprehensive Guide to Conquest, Exploration, Trade, and Research in RetroStellar

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