**PBEMGS 4X Game Design Document**

## ****1. Overview****

This is a **turn-based 4X strategy game** designed for PBEMGS, inspired by **Master of Orion 2** with simplified mechanics to allow for **smooth asynchronous play**. Players will **colonize planets, build fleets, engage in diplomacy, and battle for control of the galaxy**.

* **Max Players:** 6 per game
* **Map Size:** Large, procedurally generated
* **Map Wrapping:** Opposite edges connect (e.g., left connects to right, top connects to bottom)
* **Turn System:** One turn per day or per player action (TBD)

## ****2. Galaxy Generation & Map Balancing****

### ****A. Tiered Planet Generation****

Planets are divided into **Tiers (1-5) based on quality:**

* **Tier 5:** Huge, lush, rich planets (rare, central conflict zones)
* **Tier 4:** Strong core worlds, good production/research
* **Tier 3:** Decent but balanced planets (most starting worlds)
* **Tier 2:** Small, poor, or toxic planets (useful, but slow growth)
* **Tier 1:** Barren/dead worlds (can be mined for resources but not settled)

Each player starts near a **mix of Tier 3 and 4 worlds**, ensuring fair balance.

### ****B. Starting Position Fixes****

* Each **homeworld starts with a small defensive fleet** to prevent early rushes.
* Players begin **within X distance** of at least 2-3 colonizable planets.
* No player **should start near an uncontested Tier 5 world**.

## ****3. Planetary Conquest Mechanics****

### ****A. Conquering Planets****

* **Bombardment** reduces **population & infrastructure**, but does not take control.
* **Invasion** grants immediate control, but is **riskier**.
* Conquered planets **lose efficiency**, preventing steamrolling.

### ****B. Defensive Mechanisms****

* **Home Advantage:** Defenders get a **planetary defense bonus**.
* **Defensive Structures:** Orbital batteries & ground forces require investment.
* **Fortifications:** Players can spend turns reinforcing planets, making them harder to capture.

## ****4. Economy & Production System****

### ****A. Production Focus System****

Each planet chooses a focus:

* **Industry** → Faster shipbuilding
* **Research** → Boosts tech
* **Economy** → Generates extra income
* **Defense** → Strengthens troops & shields

Switching focus **costs a turn**, preventing min-maxing every round.

### ****B. Expansion & Colonization****

* **Colonization takes time** (no instant expansion).
* Some planets require **terraforming before settlement**.
* **Specialization matters**—players must balance economic vs. military growth.

## ****5. Fleet Combat System****

### ****A. Turn-Based Fleet Battles****

* **First round auto-resolves**, then players **choose to retreat or continue**.
* **Attrition System:** Fleets aren’t wiped in one round unless vastly outmatched.
* **Retreat Mechanics:** Pursuers may intercept fleeing ships.

### ****B. Special Fleet Tactics****

* **Ambush** → Cloaked ships attack first.
* **Scouting & Intel** → Small ships can scout enemy positions.
* **Fleet Splitting** → Large fleets move slower but hit harder.

## ****6. Diplomacy & Espionage****

### ****A. Alliance & Treaties****

* **Non-Aggression Pacts (NAPs)** prevent attacks for X turns.
* **Alliances** allow **scouting intel sharing**.
* **Breaking treaties damages reputation**, making diplomacy harder.

### ****B. Espionage & Sabotage****

* **Spying** can **steal research** or **disable planetary defenses**.
* If caught, **the enemy is notified**, triggering potential war.

## ****7. Victory Conditions****

To prevent endless games, players must achieve **one of the following**:

* **Domination Victory:** Control **X% of the galaxy**.
* **Tech Victory:** Develop an **endgame superweapon**.
* **Economic Victory:** Accumulate **vast wealth & trade power**.

## ****8. PBEMGS Adaptation Considerations****

* **Turns must be meaningful** but not overwhelming.
* **Expansion is limited** to prevent snowballing.
* **Fleet movement is strategic**, forcing real commitment.
* **Diplomacy and trade allow soft power plays**.

### ****Final Notes****

This game is designed to **blend classic 4X strategy with PBEM-style multiplayer**, making for a **deep, strategic experience without excessive micromanagement**.