

GALAXY GEAR

Game Whitepaper — v1.0

Race the orbit. Master the gravity. Find another gear.

1. Overview

Galaxy Gear is a browser-native 3D arcade cycling racer set across the orbital highways of a futuristic galaxy.

Players control cosmic cyclists racing around planets, moons, asteroid belts, orbital stations, and artificial gravity tracks. Unlike traditional cycling, every course exists in an environment where gravity, momentum, drafting, and planetary terrain can completely change the fastest racing line.

The objective is simple:

Pedal. Draft. Boost. Survive the orbit. Finish first.

But mastering Galaxy Gear means understanding when to conserve momentum, when to sit behind another rider, and when to burn everything for one final orbital sprint.

2. The Universe

Traditional roads disappeared when humanity moved beyond Earth.

Cycling didn't.

Across newly inhabited planetary systems, engineers began constructing enormous orbital circuits around planets. Originally designed for transportation and physical training, these structures eventually became the home of the galaxy's fastest competitive sport.

The **Galaxy Gear Championship** was born.

Riders from different colonies now travel from planet to planet competing across environments where normal racing rules no longer apply.

One race may take place above the rings of a gas giant.

Another may send riders through an asteroid field.

The next could drop the entire peloton into low gravity.

Every planet creates a different race.

Every orbit demands a different strategy.

3. Core Gameplay

Galaxy Gear is built around fast arcade racing with accessible controls and deeper momentum mechanics.

Players race against other cyclists across multi-lap orbital circuits.

During each race, players must balance several systems:

Pedaling Build and maintain speed through continuous movement.

Steering Choose efficient racing lines around orbital bends, obstacles, and changing terrain.

Drafting Ride behind another cyclist to reduce resistance and build additional speed before overtaking.

Stardust Collection Collect Stardust scattered across racing lines to charge the bike's energy system.

Galaxy Boost Convert accumulated energy into temporary acceleration.

Gravity Zones Different parts of a circuit may increase, decrease, or redirect gravity, changing bike handling and acceleration.

Slipstream Attacks Stay behind a rival, build momentum, then break from the draft at the right moment.

Winning is not only about maximum speed.

It is about **managing speed better than everyone else.**

4. Racing System

Each Galaxy Gear track is designed around a combination of racing lines, drafting opportunities, environmental hazards, shortcuts, and boost routes.

A typical race follows this loop:

START → Build Momentum → Draft Rivals → Collect Stardust → Charge Boost → Find Racing Line → Overtake → Final Sprint → FINISH

Players constantly make small decisions.

Take the safe racing line or chase Stardust?

Stay inside the slipstream or attack?

Spend your boost now or save it for the final sector?

The best riders learn that the fastest player is not always the player currently in first place.

5. Galaxy Gear System

The bicycle is the core progression system.

Each bike contains several performance characteristics:

Speed

Maximum velocity.

Acceleration

How quickly the bike reaches racing speed.

Handling

Responsiveness during orbital corners.

Energy

Maximum boost capacity.

Draft Efficiency

How effectively the bike gains momentum inside another rider's slipstream.

Different setups allow players to develop different racing styles.

A high-speed build may dominate long straights.

A handling-focused build may perform better on technical planetary circuits.

An energy-focused bike may rely heavily on Stardust and repeated boosts.

There is no single perfect Gear.

The track determines the machine.

6. Stardust & Boost

Stardust acts as the primary resource inside a race.

Glowing Stardust trails appear throughout each circuit.

Collecting them charges the bike's **Galaxy Core**.

Once enough energy has accumulated, players can activate a temporary boost.

However, Stardust placement creates risk.

The shortest racing line may contain less Stardust.

A wider and slower line may contain significantly more.

Players must therefore decide between:

Immediate speed

or

future acceleration.

This creates a constant strategic tradeoff throughout every race.

7. Drafting

Drafting is one of Galaxy Gear's defining mechanics.

Riding directly behind another cyclist creates a slipstream.

Remain inside it long enough and your rider gradually gains additional momentum.

At the right moment, players can leave the slipstream and convert that stored momentum into an overtake.

This creates a racing environment where second place can sometimes be more dangerous than first.

The final seconds of a race become a battle of positioning rather than simply raw speed.

8. Galactic Circuits

Galaxy Gear is designed around multiple planetary environments.

Saturn Ring Run

Race alongside enormous planetary rings while Stardust particles drift across the circuit.

Long straights make drafting extremely powerful.

Lunar Velocity

A low-gravity technical course built across a moon colony.

Reduced gravity changes cornering and allows riders to cross large gaps.

Asteroid Belt Rush

A high-risk course where moving asteroids constantly interfere with racing lines.

Players must react quickly while maintaining momentum.

Solar Highway

A high-speed orbital track located dangerously close to a star.

Heat zones periodically close parts of the optimal racing line.

Void Circuit

A dark deep-space championship course with minimal environmental lighting and extremely high speeds.

Designed for advanced riders.

9. Progression

Players begin as unknown rookie riders entering their first orbital competition.

Completing races unlocks:

- New planetary circuits
- New bicycles
- Rider cosmetics
- Gear configurations
- Higher championship divisions
- Time Trial challenges
- Advanced Galaxy Cups

Progression moves from local orbital competitions toward the highest racing championship in the galaxy.

Rookie Circuit → Planetary League → Orbital League → Stellar Championship → Galaxy Gear Cup

10. Game Economy

Galaxy Gear follows a **play-first economy**.

Players generate progression through racing performance rather than passive systems.

Rewards can be based on:

Race Placement

Higher positions provide better rewards.

Stardust Collected

Rewards exploration of alternate racing lines.

Clean Racing

Efficient racing without collisions or track exits.

Fastest Lap

Rewards mechanical mastery.

Championship Progression

Major milestones unlock new content.

Daily Challenges

Special objectives encourage different playstyles.

The economy exists to push players back toward the game's most important activity:

racing.

11. Game Technology

Galaxy Gear is designed as a lightweight **browser-native 3D racing experience**.

The game architecture focuses on:

- Real-time 3D environments
- Arcade bicycle physics
- Momentum-based movement
- Dynamic slipstream calculations
- Gravity-zone modifiers

- AI racing opponents
- Checkpoint and lap systems
- Real-time position tracking
- Boost-energy management
- Web-based instant access

Instead of requiring large downloads or complex onboarding, players should be able to enter Galaxy Gear directly from their browser and begin racing.

The technical philosophy is simple:

Low friction outside the race. High skill ceiling inside it.

12. Controls

Galaxy Gear is designed around a simple control scheme.

W / ↑ — Accelerate / Pedal

A / D or ← / → — Steer

S / ↓ — Brake

SPACE — Galaxy Boost

SHIFT — Sprint / aggressive acceleration

The controls are intentionally easy to understand.

The depth comes from racing lines, momentum, drafting, boost timing, and track knowledge.

13. Design Philosophy

Galaxy Gear is not designed as a cycling simulator.

It is an **arcade racing game that happens to use bicycles in an environment where bicycles should probably never exist.**

That contrast is the identity.

Human-powered machines.

Planet-sized circuits.

Impossible gravity.

Ridiculous speeds.

Simple controls.

Competitive racing.

Every system exists to create one feeling:

one more lap.

14. Vision

Galaxy Gear turns cycling into an interplanetary racing sport.

The long-term vision is to build a universe where every new planet can introduce a new racing mechanic.

Gravity can change.

Tracks can move.

Asteroids can collide.

Routes can split.

Weather can become cosmic radiation.

But the fundamental competition remains unchanged:

Two wheels.

One rider.

One finish line.

And an entire galaxy between them.

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Race the orbit.

Draft the stars.

Find another gear.