

# GCD (Game Concept Document)

GeeksInstitute - LaStartupStation

Project Name: Tbourida



Name	Role
Abdellah Aoukrad	Gameplay Programmer/Game Designer/Producer
Zakaria Rezki	Graphic Designer / 3D / 2D
Soufiane Mjadi	Graphic Designer / 3D / 2D

## Version Table

Version No.	Date	Author(s)	Description
1.0	2025-12-18	Yassine Ait Ahmed	Draft GCD with same sections as the game idea docs.
2.0	2025-12-23	Abdellah Aoukrad	Final GCD Version with proper GCD/GDD sections.
3.0	2026-01-08	Abdellah Aoukrad	Alpha version GCD.

Version No.	Date	Author(s)	Description
4.0	2026-01-25	Abdellah Aoukrad	Gold version GDD

## Summary of the Project

Field	Description
Genre	Sports / Rhythm / Cultural Simulation
Universe	Moroccan Heritage (Tbourida/Fantasia)
Marketing Target	Cultural enthusiasts, Casual Mobile Gamers, Rhythm fans
Platform(s)	PC (Windows), Mobile (Android/iOS)
Number of Players	Single Player (leading an AI Sorba)
Game Modes	Career, Quick Charge, Shop/Customization
Camera View	Dynamic Chase Cam (Back view) and Side View (Shooting Phase)
USP(s)	Authentic technical simulation of Sorba synchronization using standard deviation math.
Main Gameplay	Maintaining formation alignment against Perlin-noise drift while timing a collective gunshot.
Key Features	Sorba Manager (AI flocking), Customizable Jelaba colors, Optimized Stadium/Crowd system.
Graphic Style	3D Stylized Low-Poly with vibrant traditional textures.
Main Tech Brick	Decoupled Manager-based architecture (Game, Session, Movement, and Shooting Engines).

## Pitch

"Lead your Sorba to glory in Tbourida, a rhythm-simulation game where the thundering hooves of horses meet the precision of the pulse. As the Mokaddem, you must master the formation, counter the natural drift of the arena, and trigger the gunpowder blast in perfect unison to achieve the ultimate score and honor your heritage."

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## USP (Unique Selling Point)

"The only game that utilizes high-precision timestamping and mathematical standard deviation to simulate the authentic judging of a Moroccan Tbourida charge, delivered through a high-performance low-poly lens."

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## KSP (Key Selling Points)

- 1. Technical Sorba AI:** Lead a team of 10+ AI riders that follow your lead with realistic damping and slight human-like delays, creating a living formation.
  - 2. Traditional Customization:** A dedicated system allows players to customize the color of their Jelaba and choose from different horse textures (Black, White, Brown) in the Khzana shop.
  - 3. Dynamic Drift Physics:** Experience the challenge of the charge through a Perlin-noise-driven drift system that requires constant active steering to maintain alignment.
  - 4. Optimized Performance:** Fully rebuilt environment assets (Mud Houses, Nakhla trees, Stadium) designed specifically for a stable 60 FPS on mobile devices.
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## 3C (Character, Camera, Controls)

- **Character:** The Player controls the Mokaddem (Leader).
  - **Visuals:** Stylized rider with customizable traditional clothing and a modeled Mkohla rifle.

- **Logic:** Movement is governed by a dedicated MovementEngine handling acceleration, braking decay, and state transitions (Gallop/Charge).
  - **Camera:**
    - **Chase Cam:** Follows the horse with speed-based FOV zoom and a "braking dip" effect for weight.
    - **Shot Phase:** Transitions to a cinematic side-view to capture the collective "Baroud."
  - **Controls:**
    - **PC:** WASD or Arrow Keys for steering and speed control; Movement keys during lineup to start countdown; Spacebar to trigger the collective shot.
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## Win/Fail Conditions

- **Win:** Successfully reach the finish line and achieve a synchronization score (based on the deviation of all riders' timestamps) that meets the level's difficulty threshold.
  - **Fail:**
    - **Safety/Out of Bounds:** Colliding with the stadium boundaries or the crowd.
    - **Timing Violation:** Firing the Mkohla before the start line or after the finish zone.
    - **Speed Failure:** Failing to maintain the required gallop intensity through the alignment zone.
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## The Obstacles (Gameplay Brick)

1. **Perlin Noise Drift:** The game applies a lateral force that mimics uneven terrain and wind; players must fight this "Natural Drift" to stay in the green alignment zone.
  2. **AI Variance:** AI agents fire with a randomized delay (10ms to 50ms) to simulate real-world coordination. The player must fire at the peak moment to minimize the group's total deviation.
  3. **Momentum Decay:** The horse has realistic weight. Abrupt braking or steering causes a loss of formation stability that takes time to recover.
  4. **Formation Recovery Minigame:** When formation breaks, players must complete a timing-based minigame to restore cohesion. Difficulty scales with stage level (Easy/Medium/Hard).
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## OCR Loops (Micro/Mid/Macro)

- **Micro (Seconds):** Actively steering against the Perlin drift; maintaining the "Optimal" speed bar; triggering countdown from lineup.
  - **Mid (Minutes):** Completing a full "Talka" (charge) through lineup, countdown, and shooting phases; seeing the synchronization rating and tournament standings.
  - **Macro (Hours):** Progressing through regional tournaments, unlocking new regions, and using earned credits to unlock premium traditional gear and more spirited horses.
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## Universe & Story

The game is set in a vibrant, stylized Morocco. In **Career mode**, players progress through five distinct regions (Doukkala, Haouz, Nassiria, Chekaouia, etc.), each hosting three-stage tournaments. Each tournament progresses from Easy to Medium to Hard, with increasing difficulty and sorba size. Players must place first to unlock the next region.

The narrative focus is on the prestige of the **Mokaddem**, the collective pride of the **Sorba**, and becoming the champion of Morocco. **Classic mode** offers free play across all arenas without progression restrictions.

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## Graphic Art Direction

- **Style:** Stylized Low-Poly with realistic proportions.
  - **Key Assets:** Rebuilt optimized stadium, traditional Moroccan mud houses, Nakhla (palm trees), and the "Khzana" (ceremonial tent).
  - **Visual Effects:** High-impact muzzle flashes for the Mkohla and dust particles during the charge.
  - **UI:** Migrated to Unity UI Toolkit, featuring a clean Gold and Crimson palette inspired by Moroccan textiles.
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## Sound Art Direction

- **Dynamic Audio:** Hoofbeat sounds are pitch-shifted and layered based on the MovementEngine's current velocity.
- **The Baroud:** A heavy, crisp gunshot sample that represents the synchronized fire of multiple rifles.
- **Atmosphere:** Traditional Bendir and Tbal percussion that builds in intensity, culminating in crowd "Zaghroutas" (ululations) upon a successful shot.

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## Menus, Interfaces, HUD

- **HUD:**
    - **Sorba Alignment Indicator:** Real-time feedback on how well the team is centered.
    - **Speedometer & Progress:** Gauges for current velocity and distance to the shooting zone.
    - **World-Space Lines:** 3D rendered Start, Optimal, and Finish lines integrated into the arena.
  - **Interactive Menu:** A 3D shop environment (**The Khzana**) where players can visually inspect and buy different equipment.
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## Level Design

- **Structure:** Linear tracks (80m-120m depending on stage) with three distinct functional zones: Acceleration, Alignment (where Drift is strongest), and Shooting. Each stage within a region uses a unique arena configuration.
- **Regions:** Five playable regions with three stages each:
  - **Doukkala:** Traditional rural arena with moderate difficulty progression.
  - **Haouz:** Mountain-themed arena with varied terrain.
  - **Nassiria:** Desert environment with high drift and sand aesthetics.
  - **Chekaouia:** Coastal region with unique visual elements.
  - **Fifth Region:** Ultimate challenge with imperial stadium atmosphere.
- **Arenas:** Configured via `ArenaData` `ScriptableObjects`, each defining spawn points, distance to target, difficulty, and environment objects. Managed by `ArenaManager` for

seamless transitions.











