Luiz Henrique Harsche

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Experienced **Tech Lead** & **Game Designer** specialized in **software architecture** and high-performance game engineering. Expert in applying **Software Engineering principles** and **Design Patterns** to build scalable applications. Proficient in optimizing runtime performance using **Data-Oriented Design** and structuring multiplayer infrastructure. Proven track record in establishing **DevOps workflows (CI/CD)**, refactoring legacy codebases, and mentoring teams to deliver stable, maintainable projects.

Education

São Paulo, SP	Anhembi Morumbi University	Jan/2020 - Dec/2023

- Bachelor in Game Design, GPA 3.7/4.0
- **Relevant coursework**: Game and Level Design, Programming of Computational Solutions, Multiplatform Game Programming and Engines, 3D Modeling, Texturing and Technical Art, Animation.
- Developed 8 games throughout the degree, encompassing various genres and technical challenges.
- Founded the Capiva Game Studio along with colleagues, acting as the main programmer and technical director.

Work Experience

Lead Developer, Remote	Fogo Games	Aug/2025 - Now

- Led the **engineering strategy** for the launch of *Ghetto Zombies*, coordinating a distributed team and ensuring the **stability** of the final release and post-launch updates.
- Introduced **DevOps practices** and set up **CI/CD pipelines** using GitHub Actions, automating release builds and improving release reliability and consistency.
- Refactored **legacy systems with high technical debt**, proactively identifying and fixing code that posed risks to stability and launch readiness.

Lead Developer, Remote	Monk Monkey	Jul/2024 - Now

- Developed *Chess of Mana*, taking ownership of nearly all in-engine implementations throughout the production cycle.
- Built a custom chess engine from scratch using the **Minimax algorithm**, leveraging Unity Jobs System and Burst Compiler for **multithreaded execution**, enabling advanced AI opponents and customizable chess rules.
- Implemented **relayed peer-to-peer multiplayer** using **Epic Online Services**.
- Led the implementation of critical game systems, including UI from **Figma** designs, audio integration with **FMOD**, and localization workflows using **Google Sheets and Unity Localization.**.

Unity Developer, Remote	Smart Chain City (startup)	Feb/2022 - Mar/2024

- Participated actively in the modeling of a game's database by using Strapi along with other team members.
- Entirely programmed minigames similar to well-known games like Tetris and Pac-Man.
- Implemented and programmed many in-game interfaces, adding feedback animations and sounds, populating views through external API requests and adding functionality.
- Improved user experience by implementing a tutorial feature to guide the player when starting the game.

Unity Developer Intern, Remote	Zoyd Games	May/2023 - Aug/2023

- Delivered **gameplay features**, bug fixes, and refactoring tasks under tight deadlines.
- Implemented **leaderboards and quizzes**, with UI built from **Figma** assets.
- Integrated **Firebase** for login, cloud saves, and remote configuration.
- Contributed to the release of the advergame **SoyCoin**, published on Google Play and App Store.

Software & Projects

Portfolio and personal website: https://luizharsche.wixsite.com/portfolio/en (for additional information and projects)

Patternized
- Ongoing open-source project providing practical, production-oriented implementations of **game programming patterns** in Unity. (https://github.com/Harsche/Patternized)
- Designed full, contextualized code examples demonstrating how common patterns are applied in real gameplay systems.
- Actively mentor interns through **code reviews**, promoting **best practices** in architecture and **maintainable code**.
- <u>Technologies</u>: Unity, C#, Git.

Oquirá - A Quest for Balance
- 2D Metroidvania platformer in development at Capiva Game Studio, where I serve as programmer and technical director.
- Secured the **Sampa Games government grant**, enabling further investment in the studio and continued development of the project.
- Designed and implemented the core game architecture, owning key systems such as player combat, AI behavior, and quest progression, with a focus on modular and maintainable code.
- <u>Technologies</u>: Unity, C#, Git, FMOD, Ink, Python.

Treasure Festival
- Personal project exploring the architecture of an online, real-time strategy game inspired by *Clash Royale*–style mechanics.
- Designed and implemented the multiplayer and backend architecture, including game server logic, APIs, and deployment workflows for online gameplay.
- Used the project to experiment with containerized services, matchmaking, and online infrastructure patterns for real-time games.
- <u>Technologies</u>: Godot, C#, GDScript, Typescript, Git, Python, Flask, Nakama, Edgegap, ASP.NET Core.

Skills

Core Expertise
Unity, C#, Git, Gameplay Programming, Design Patterns, Software Architecture, Performance Optimization

Intermediate
Godot, GDScript, C++, Python, Docker, FMOD, ASP.NET Core, Multithreaded Programming (Jobs/Burst)

Multiplayer & Online
Epic Online Services, Photon, Fish-Net, Nakama, Relayed P2P, Server-Authoritative Architecture

DevOps & Tools
GitHub Actions, GitLab CI/CD, Docker, AWS, DigitalOcean, GitFlow, Scrum

Familiar
Unreal Engine, TypeScript, Nginx, Firebase, TeamCity, Plastic SCM