Guilherme Ribeiro Figueira

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SUMMARY

Highly motivated MSc Computer Science student with a strong foundation in game development. I started making games at the age of 15 as a way to blend my love for programming with creative expression and have been determined to work in the industry ever since. I bring not only technical expertise, but also a keen eye for detail and good game design practices. My respect for this medium is deep and I am determined to be a valuable contribution to this industry.

EXPERIENCE

Unity XR Developer - Curricular Internship

Glartek **March 2023 - July 2023, Leiria, Portugal (Hybrid)**

- Implemented an experimental XR feature for **Microsoft HoloLens 2** using Unity3D and MRTK while collaborating with the web development and design teams, improving user interaction and the project's overall experience.
- Developed **unit and integration tests** for scripts utilizing Zenject dependency injection framework, improving test coverage and code reliability.
- Collaborated using an **AGILE** methodology and used **GitLab** for version control.

PROJECTS

The Naturals' Descent - Video Game

Games and Simulations Course - NOVA School of Science and Technology (FCT NOVA) • grfigueira.github.io/MyPortfolio/projects/tnd • April 2024 - June 2024

- Developed an action-adventure puzzle game in Unity3D as part of a **2 person team**.
- Created a detailed **Game Design Document**, including concept art and a **Gantt Chart** to effectively delegate task between the two of us and ensure we met the project deadline.
- Designed and implemented a **procedurally generated cavern maze** using the **Wave Function Collapse algorithm** adapted to 3D, ensuring natural looking layouts with procedurally spawned enemies, lights, and puzzles.
- **Created a sigil jigsaw puzzle mechanic** with a scalable system and a focus on satisfying UI/UX design. **Designers can easily create new puzzles** by setting their sizes and easily making new sigil pieces, allowing the creation of an unlimited number of puzzles with varying levels of difficulty.
- **Developed a hoverboard riding mechanic** that allows the player to explore an open desert level. The hoverboard takes advantage of Unity's physics engine to simulate a spring-like hovering behaviour.
- The player fights **AI humanoid enemies** that use NavMesh and a **curstom behaviour state machine**.
- Utilized **ShaderGraph** to create custom animated materials and **animation blend trees** for the weapons and enemies.
- A **tweening library** was also used to add simple yet satisfying animations to various elements of the game, providing it with a more polished look and feel.
- The project received a grade of 19.2/20.0

Forlorn - Video Game

Games and Simulations Course - NOVA School of Science and Technology (FCT NOVA) • grfigueira.github.io/MyPortfolio/projects/forlorn • March 2024 (2 weeks)

- Doom-like first person shooter developed in Unity 3D as a solo project, focusing on fast-paced combat and platforming-based level design.
- Created a **responsive player controller** with smooth, fast paced movement.
- **Implemented a jetpack mechanic** for vertical mobility with the goal of making both the combat encounters and the platforming more fun.
- The project received a grade of 20.0/20.0

Phong Lighting Simulator in WebGL

Computer Graphics and Interfaces Course - NOVA School of Science and Technology (FCT NOVA) • github.com/grfigueira/CGI-Projeto3 • December 2022 (2 weeks)

- University group project composed of 2 people.
- I built 3 types of lights using the **Phong Lighting** technique and **HLSL shaders**: Pontual light, Directional light and Spotlight.
- Created a simple 3D scene using **WebGL** to see the effect of the lights.
- The project received a grade of 20.0/20.0

EDUCATION

Integrated Master's Degree in Computer Science and Engineering

NOVA School of Science and Technology (FCT NOVA) • Almada, Portugal • 2020-2025 (ongoing)

- Master Thesis: Video see-through Augmented Reality for Collaboration and Exploration in museum contexts;
- Some relevant coursework include: Games and Simulations, Computer Graphics and Interfaces, Interpretation and Compilation of Programming Languages, Software Engineering
- EQF Level 7

INVOLVEMENT

Volunteer at Expo FCT - Computer Science Department

NOVA School of Science and Technology (FCT NOVA) • EXPO FCT • April 10th 2024

- Introduced the university and talked about the Computer Science degree to attending high school students while answering any questions they had.
- Helped with the recreational activities and setting things up beforehand.

SKILLS

Programming Languages: C#, C++, HLSL, ShaderGraph, UE Blueprints, WebGL, Python, Java, OCaml

Game Engines: Unity3D, Unreal Engine 5

Tools: Git, Unix Bash, Vim, Docker, Blender, Adobe Photoshop, Adobe Premier.

Natural Languages: English (fluent), Portuguese (native), Spanish (Basic understanding)

Other information: Drivers License Category B/B1, theater acting experience, basic musical education