SELIM BENNANI

Senior Software & Game Engineer

Versatile technical expert combining engineering precision with creative vision to deliver innovative solutions across gaming and software development.

French - Born on 07/19/1993

Work Experience

04/23 - 03/25

Lead Developer at Neo Haven
Led technical strategy and team management while architecting and developing critical components for multiple gaming projects across Unity and web platforms.
Full details on next page.

02/20 - 04/23

Unity game developer at DragonBox - a Kahoot! company
Contributions spanning gameplay, tools engineering, systems architecture, optimization, shaders, analytics, and accessibility.
Enhanced educational mathematic applications used in thousands of school classes across Europe, and released multiple games.
Full details on next page.

10/17 - 02/19

Consulting engineer at Meritis, assignment at Société Générale
Member of Architecture team in Investment Bank IT Department. Achievements :
- Revamped a mission-critical liquidity risk calculation application, optimizing SQL queries and C# code to improve performance and reliability.
- Collaborated with business analysts to understand complex financial requirements and translate them into technical solutions.
- Followed established maintenance procedures and production monitoring protocols.

2014 - 2017

Early Professional Experiences
- **Internship as Full Stack developer at Version Net:** Contributed to multiple projects involving diverse technologies, wrote functional and technical specifications, optimized SQL queries, configured IIS servers, performed web scraping, conducted scalability testing ...
- **Internship as a R&D Engineer at Dispatcher:** Designed and developed a reporting and data visualization module for Dispatcher's web platform.
- **Internship as a R&D Engineer at HapticMedia:** Developed a specialized library for 3D object manipulation using Babylon.js and WebGL.
- **Junior company:**
  - Developed a reporting module and web application in Node.js for **Hesus**.
  - Developed a web application in Node.js for Saint Louis Sucre, enabling the generation of individual HR documents.
  - Supported multiple projects through independent and collaborative technical development, advisory roles, and specification writing.

Education

2017

MS in computer science and applied mathematics from a French 'Grande École' (engineering school)
ENSIIE Evry, École Nationale Supérieure d'Informatique pour l'Industrie et l'Entreprise

2014

Intensive two-year study course preparing for the competitive entrance examinations to the French 'GrandesÉcoles' (the top French and highly-selective institutions)
Lycée Descartes - Tours: Mathematics, physics, chemistry, computer science courses

Personal Interests

- **Game creation :** Create small games for personal projects and game jams, designing and producing original graphic and audio assets.
- **Music :** Piano - Guitar - Computer music
- **Diverse :** Gaming - Drawing - Video Production and Editing - Improv Theater
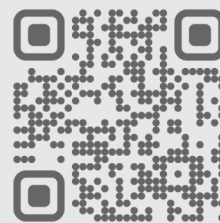- **Sports :** Rock climbing - Swimming - Muay Thai

Personal Details

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Competences

✦ Programming Languages
- C#
- TypeScript
- Bash
- Shader : HLSL, GLSL
- Python
- C++
- SQL

✦ Technologies
- Game Engines: Unity 3D
- Web Frameworks: React
- Web Rendering: WebGL, Phaser.js
- 3D Modeling: Blender

✦ Language
- **French :** Native
- **English :** Full professional proficiency
- **Spanish :** notions

Some of my favorite games :
- God of War
- Slay the Spire
- Final Fantasy 9
- Hollow Knight
- Advance Wars
- Dark Souls
- Smash Bros

Lead Developer - Neo Haven

Led technical strategy and team management while architecting and developing critical components for multiple gaming projects, including web-based and Unity platforms

Technical Leadership & Architecture
- Designed and implemented global architecture across multiple projects
- Developed critical components of the codebases
- Established and enforced code quality standards with systematic code reviews and PR validation

Team Management & Collaboration
- Led a development team, ensuring smooth collaboration and efficient workflows
- Worked closely with design & art teams to align tech with creative vision
- Organized and managed a Kanban system to track development workflow, create and assign tasks to developers, and leverage task cards as platforms for communication, brainstorming, and documentation
- Provided guidance to junior and mid-level developers through occasional knowledge-sharing sessions, code collaboration, and feedback

Engineering Achievements
- Developed Unity solutions across multiple domains including : gameplay systems, custom tooling, rendering, localization, debugging, performance optimization, …
- Architected a web game frontend using Phaser and React, designing component communication and creating a modular system that seamlessly integrated UI with game engine for optimal performance
- Engineered an advanced interactive map system for a Grand Strategy game:
    - Supported 10,000+ provinces with high-resolution textures and adaptive detail levels
    - Implemented dynamic display of contextual information (military, economic, cultural metrics)
    - Created automated bitmap generation to enable map interactivity
    - Designed modular architecture for flexible integration across different game contexts
    - Optimized performance for handling massive data loads
    - Developed streamlined workflows for easy map creation and importing, enabling rapid iteration
- Integrated a game with Steam platform, leveraging API to implement a complex economy with three types of tradable Steam inventory items: eggs (loot boxes), essences (crafting materials), and heroes (collectible playable characters), creating an ecosystem where players could collect, trade, and disenchant items.

Technical Artist Contributions
- Developed and optimized shaders in HLSL (Unity) and GLSL (Phaser)
- Created advanced custom rendering solutions and visual effects including water systems, dynamic lighting, animations, particle effects, and post-processing enhancements (resolution optimization, anti-aliasing, visual refinements)
- Developed specialized Python, OpenCV, and Jupyter tools to streamline art asset integration and automate production workflows, saving months of manual work
- Contributed to the overall game aesthetics with a strong artistic sensibility and a focus on optimization.

Technology Stack
- **Game Development:** Unity (C#), Phaser, React, GPU & CPU Optimization
- **Automation & Tooling:** Python, OpenCV, Jupyter Notebook
- **Web:** TypeScript, React, Firebase
- **Rendering, Shaders & Optimization:** HLSL, GLSL

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Game Developer - DragonBox - a Kahoot! company

Versatile game developer with contributions spanning gameplay, tools engineering, systems architecture, shaders, UX design, analytics, UI, debugging, optimization, and visual effects

Primary Contributions and Achievements :
- Enhanced DragonBox School, a gamified mathematics learning application widely used in thousands of school classrooms across France, Norway, and Finland, through new game mechanics development, debugging, performance optimization, and innovative tool creation.
- Released Kahoot! Multiplication Games while being part of all development stages, contributing to game systems, scene management, learning progression, UI, and custom shaders, directing external composer and sound designer teams while integrating their assets, and managing localization across 13 languages.
- Refactored and re-released several legacy games with modern authentication, payment systems, and unified analytics while resolving critical technical issues and enabling seamless transitions between B2B and B2C contexts.
- Built tools that streamlined level design processes, automated validation of thousands of CSV configurations, and enabled rapid content creation for educational activities.
- Designed and deployed analytics systems across multiple applications using Amplitude, creating custom packages for different platforms and developing dashboards to monitor user engagement and educational outcomes.
- Modernized legacy codebase by refactoring a 10+-year-old internal package into modular components, breaking complex dependencies, and establishing consistent coding standards for improved maintainability.

Technology Stack
- **Game Development & Architecture:** Unity (C#), HLSL, Zenject (Dependency Injection), UniTask (Asynchronous Programming)
- **Tools:** Python, Amplitude (Analytics), Crowdin (Localization)
- **DevOps:** Jenkins, Fastlane, Verdaccio

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