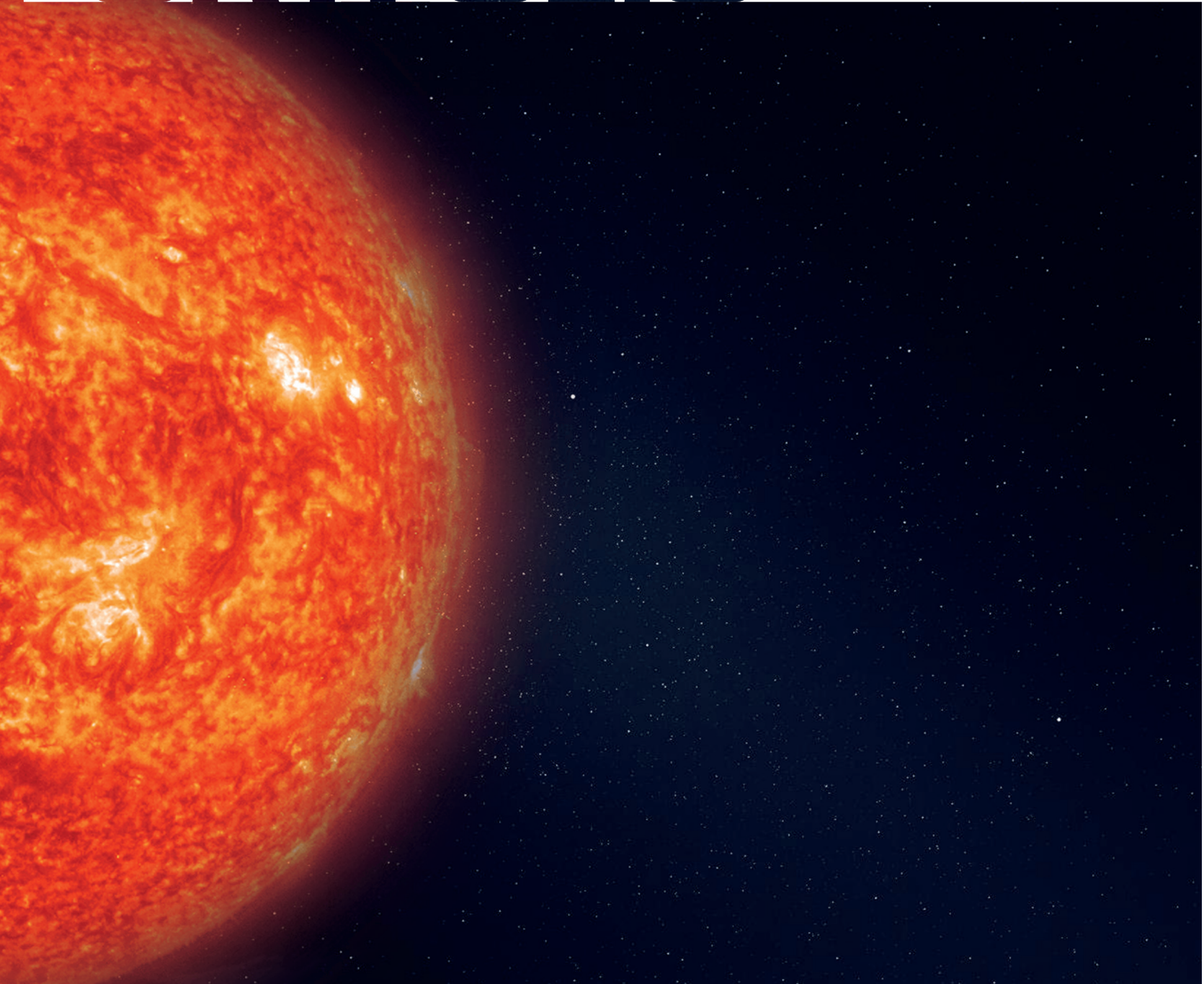


PORTFOLIO





3D BACKROOM ANIMATION

Context & Objective

Creation of a short 3D animation exploring the minimalist and sterile universe of the 'Poolrooms'. The goal was to recreate the unsettling feel of this infinite, tiled, and flooded space, replacing classic backrooms aesthetics with an empty and oppressive pool architecture.

The Technical Challenge

Translating the disorienting aspect of this minimalist tiled space into Blender required precise attention. The success of this project required strict discipline at every stage of production:

Modeling & Shading:

Creating the repetitive architecture. Focus was on uniform ceramic tiling, massive concrete pillars, and a photorealistic render of the turquoise water.

Lighting:

Complex management of direct and indirect light. The contrast between bright light zones and deep shadows, and the simulation of complex reflections on the water surface, were crucial in sculpting the mood.

Animation & Camera Work:

Applying a 'found footage' aesthetic (with HUD overlay) to heighten immersion and simulate the viewpoint of someone lost.

Outcome

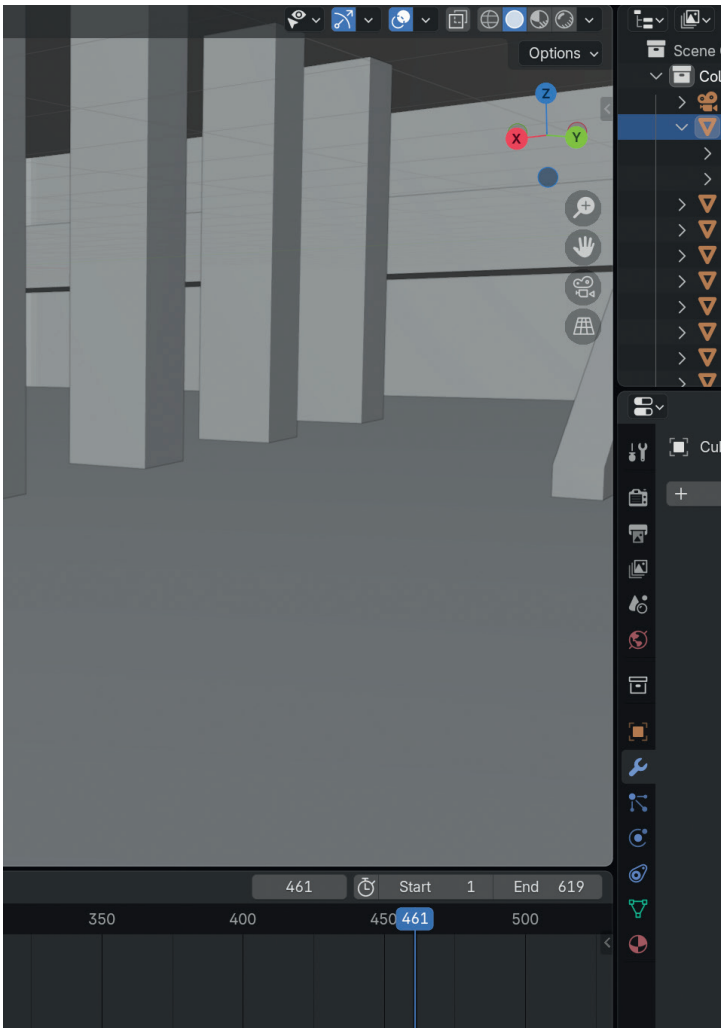
This project provided an opportunity to feed my curiosity for complex, sterile 3D environments. It demonstrates my ability to master a demanding tool and methodically see a project through from conception to final render.

Tools & Skills:

3D Software: Blender

Render Engine: Cycles

Post-production: Premiere Pro



DOS AU MUR

WEB-DOCUMENTARY

Context & Objective

Creation of an interactive web documentary exploring the cultural impact and philosophy of Attack on Titan. The goal was to recreate the moral dilemmas of the series, transforming a complex sociological analysis into an immersive 3D web experience to avoid a static, conventional reading format.

The Technical Challenge

Translating this dense narrative into an interactive web environment required a seamless bridge between 2D UI and WebGL. The success of this project required strict attention to detail at every stage of production:

3D Optimization & Modeling:

Reducing the polygon count of heavy 3D assets to ensure smooth in-browser performance. Focus was on utilizing Blender's Decimate modifier to maintain the dark, atmospheric aesthetics without sacrificing the frame rate.

Interactive Raycasting:

Complex management of user inputs within the 3D space. Implementing custom Raycasting logic in Three.js was crucial to detect precise mouse interactions with 3D meshes, triggering narrative events and dynamic lighting changes based on the user's choices.

Cinematic Parallax:

Applying a custom layering technique to the 2D interface to heighten immersion. By isolating image planes in Photoshop, a scroll-based parallax effect was coded to give cinematic depth to the introductory sequences.

Outcome

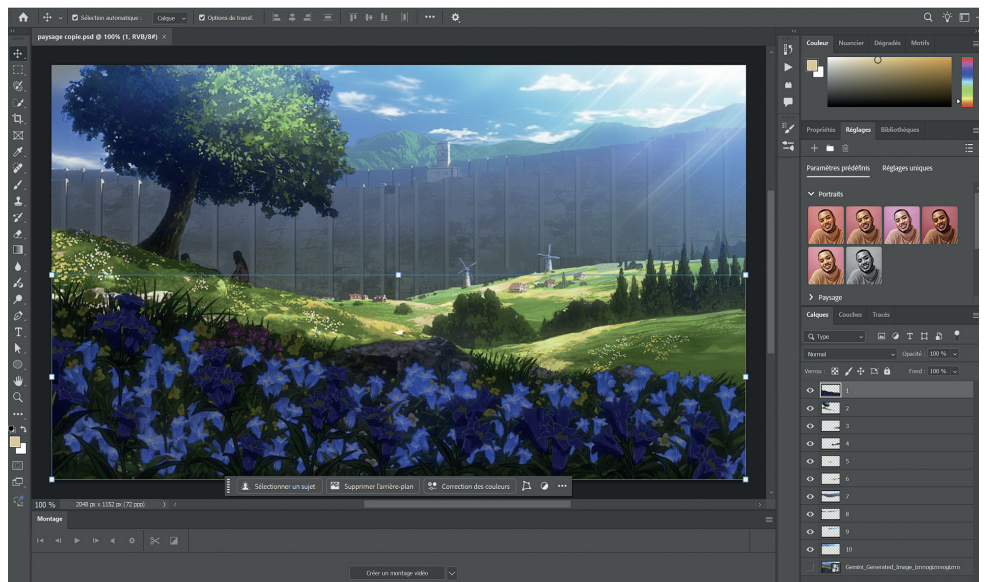
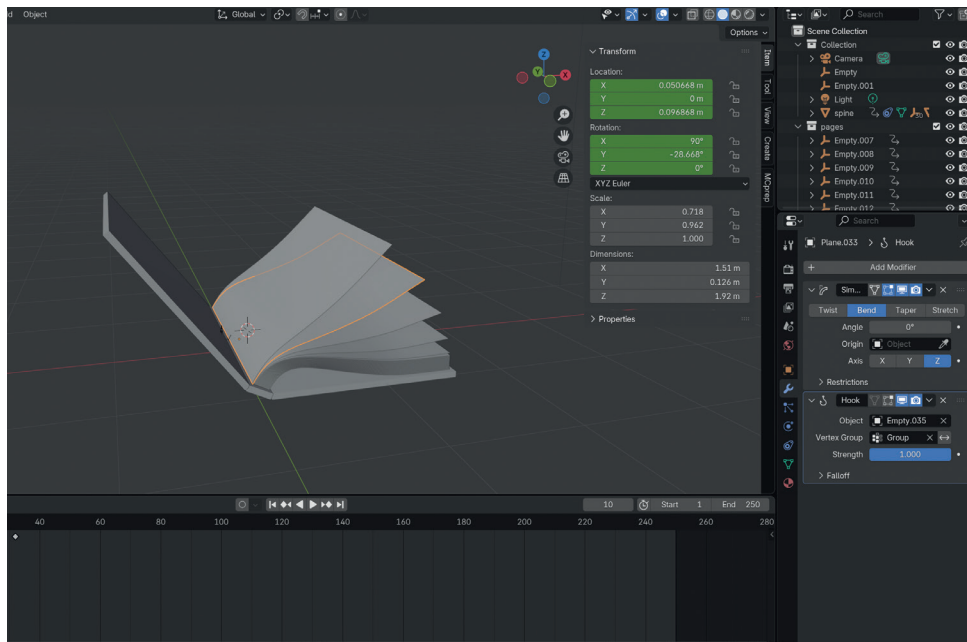
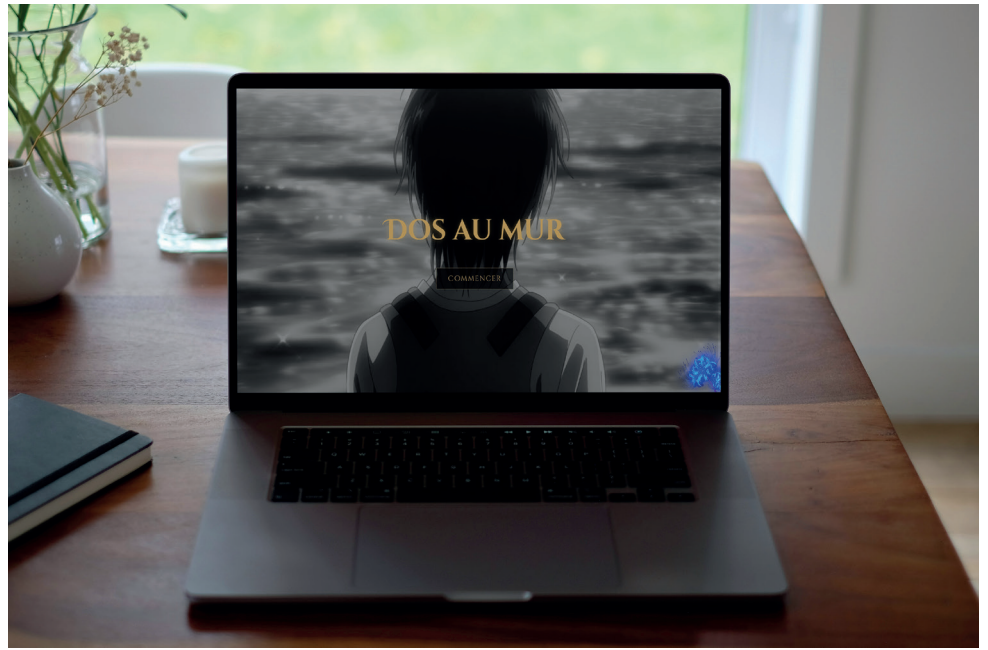
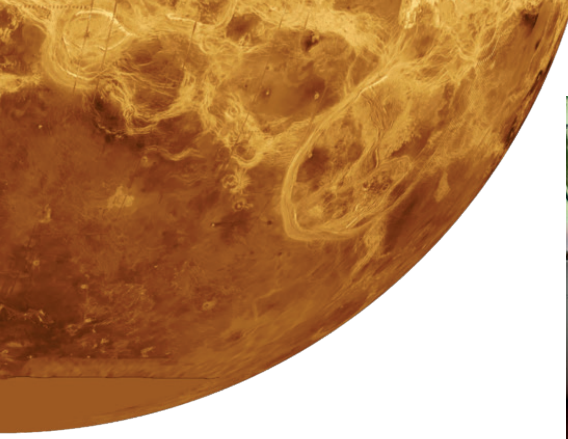
This project provided an opportunity to feed my curiosity for full-stack web development and complex 3D integration. It demonstrates my ability to master demanding tools like Three.js and methodically, with discipline and rigor, see a project through from conception to final deployment.

Tools & Skills:

Web Technologies: Three.js, WebGL, HTML5 Canvas, Vanilla JS

3D Software: Blender

Graphics: Photoshop



SPACE DRAFT

WEB GAME

Context & Objective

Creation of a custom 1v1 turn-based tactical web game. The goal was to build a multiplayer engine from scratch, translating complex game state logic into a seamless web experience without relying on heavy frameworks.

The Technical Challenge

Bridging synchronous game mechanics with an asynchronous web environment required a robust architecture and strict attention to detail:

Server-Side Logic & API:

Built a REST-like PHP API to centralize game rules. To prevent client-side cheating, complex calculations like Manhattan distance for the Fog of War and energy validations were strictly processed on the server.

Dynamic DOM Manipulation:

Engineered a responsive 20x20 interactive grid using Vanilla JS and the Fetch API. Precise user inputs instantly trigger real-time UI updates, dynamic CSS classes, and keyframe animations.

Database Modeling:

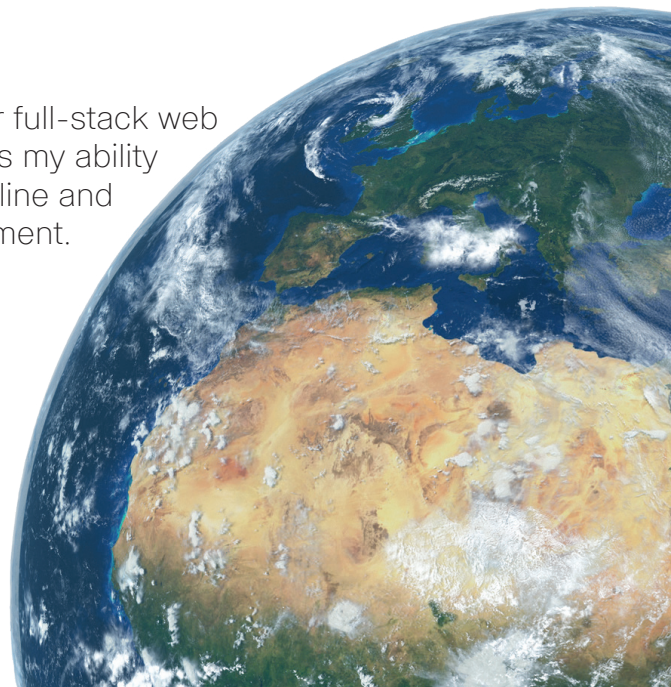
Designed a secure MySQL relational database via PDO to handle highly volatile data (X/Y coordinates, procedural loot spawning) and utilized JSON formats to store binary crew statuses.

Outcome

This project provided an opportunity to feed my curiosity for full-stack web development and complex algorithmic logic. It demonstrates my ability to master native environments and methodically, with discipline and rigor, see a project through from conception to final deployment.

Tools & Skills:

Web Technologies: Vanilla JS (ES6+), PHP 8, HTML5, CSS3 (Grid/Flexbox)
Database: MySQL, PDO (Prepared Statements)
Architecture: REST-like API, Object-Oriented Programming (OOP)



DATAVIZ

Context & Objective

Creation of an interactive data-driven web dashboard to visualize over a century of climate change in France. The goal was to build a comprehensive data analysis and visualization engine from scratch, translating complex historical and projected meteorological state logic into an intuitive web experience without relying on heavy frameworks.

The Technical Challenge

Bridging synchronous meteorological data formats with real-time, dynamic visualizations in a browser-native environment required robust architecture and strict algorithmic precision:

Advanced Spatial Interpolation:

Engineered a custom, high-performance spatial interpolation engine from the ground up. Leveraged Inverse Distance Weighting (IDW) algorithms to render dynamic, real-time temperature heatmaps directly on an HTML5 Canvas layer within Leaflet.js.

Data Parsing & ETL:

Formulated a native JavaScript data ingestion pipeline. Managed the direct client-side parsing and validation of volatile, multi-source CSV files from data.gouv.fr. Complex data normalizations, record cleaning, and seasonal averages were strictly processed on the client to optimize performance and data flow.

Predictive Modeling:

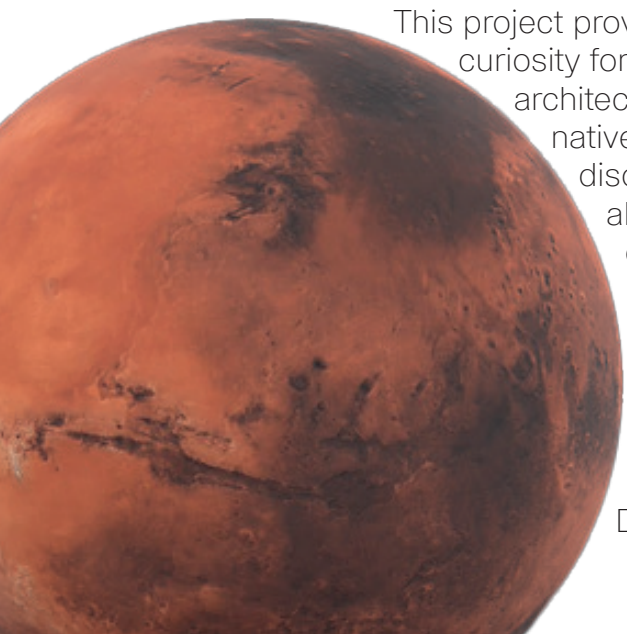
Conceptualized and conceptualized predictive analysis models based on linear regression logic to extrapolate decades of historical data into meaningful future projections (up to 2060). Integrated these projections as seamless data narratives within interactive Chart.js comparators.

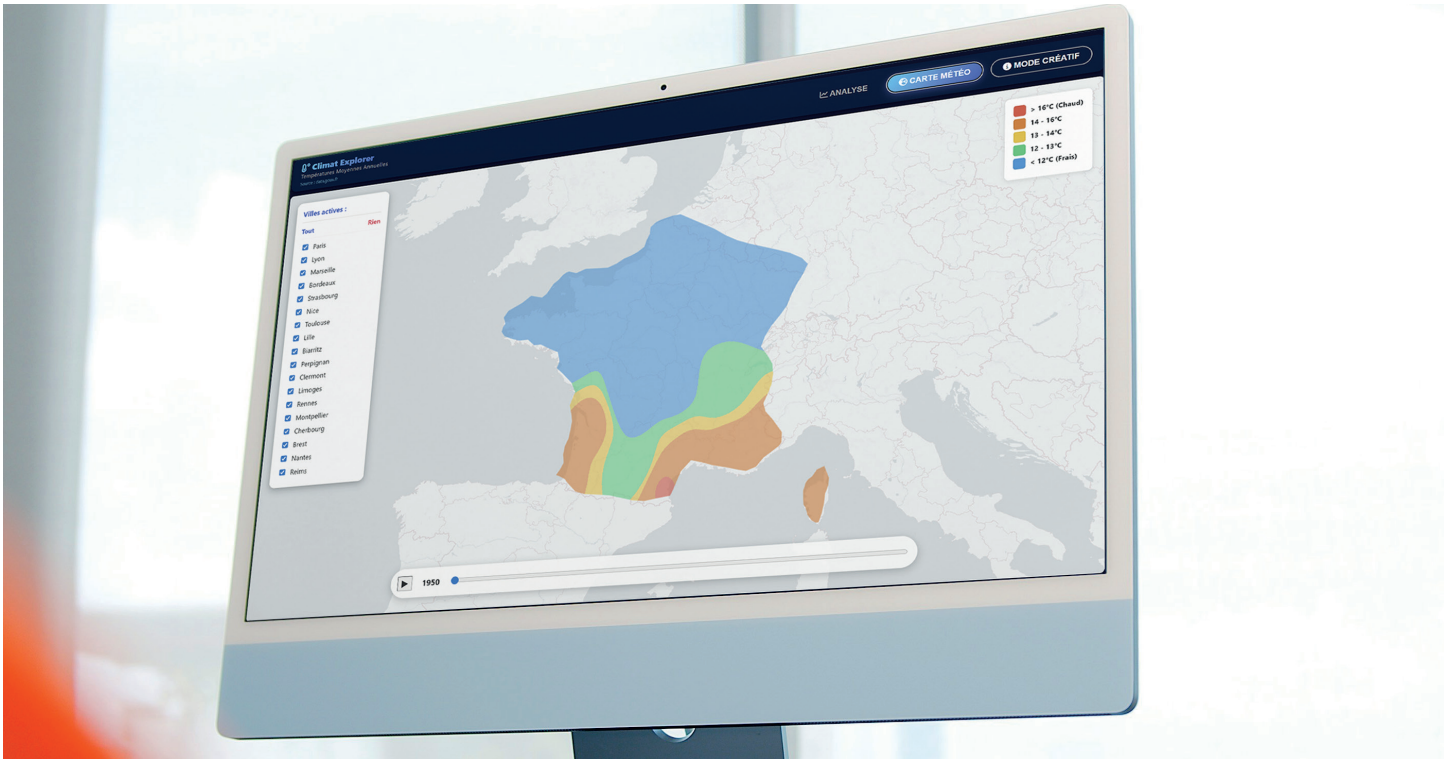
Outcome

This project provided an excellent opportunity to feed my curiosity for data storytelling and masterful JavaScript architecture. It demonstrates my ability to master native web environments methodically, with discipline and rigor, and to see a complex, algorithm-driven project through from conception to final deployment.

Tools & Skills:

Web Technologies: Vanilla JS (ES6+), HTML5, CSS3 (Grid/Flexbox)
Data Visualization: Chart.js, Leaflet.js, HTML5 Canvas
Data: CSV Parsing, GeoJSON, Open Data





3D MODELING PERFUM

Context & Objective

Creation of a high-end 3D visual campaign for a fictional luxury fragrance. The goal was to establish a strong brand identity centered around floral aesthetics, blending the crystalline purity of glass with fluid elements to achieve a captivating, photorealistic render.

The Technical Challenge

Reproducing the optical complexity of transparent materials and light interactions (caustics) within a minimalist environment in Blender:

Modeling & Shading:

Developed a physically accurate glass shader with precise Index of Refraction (IOR = 1.45). Engineered the bottle's geometry with sharp beveling to catch specular highlights and define the silhouette.

Fluid Simulation:

Designed a dynamic water surface in the foreground to break the composition's rigidity. Utilized displacement maps and refraction shaders to simulate ripples and the bottle's reflection on the liquid.

Lighting & Color Theory:

Implemented a three-point studio lighting setup complemented by a rim light to separate the bottle from the background. Focused on a monochromatic palette (gradient pinks and purples) to reinforce the product's olfactory identity.

Outcome

This project demonstrates my mastery of the Cycles rendering engine and my ability to translate an abstract concept into a high-fidelity visual product. The emphasis was placed on «Still Life» composition to evoke both the softness and the elegance of the fragrance.

Tools & Skills

Software: Blender 4.0 (Cycles Engine), Adobe Photoshop (Post-processing)
Techniques: Hard Surface Modeling, Procedural Shading, Studio Lighting, Caustics Simulation.

