Waldron Wang

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github.com/Waldron-Wang

SUMMARY

Collaborative game developer and UW-Madison student proficient in JavaScript and Object-Oriented Programming, bringing hands-on experience building scalable web applications and engineering internal development tools for game design teams.

Personal Website

EDUCATION

University of Wisconsin-Madison — Madison, WI
B.S. in Computer Science (College of Letters and Science) — Expected 2028
Relevant Coursework: Algorithms, Computer Graphics, Machine Learning, Data Structures, Game Design, Digital Art, Folklore and Video Games

SKILLS

Programming: Java, JavaScript, HTML, Python, C#, Git
Tools: Visual Studio Code, Unity, Photoshop, Maya
Other: Game Design, 3D Modeling, Digital Art Design

PROJECTS

Kamikiu Mura | *Programmer & Artist* — Play Link
C#, Unity, 2D Adventure
- Implemented enemy AI using A* pathfinding and finite state machines (patrol, chase, attack states).
- Integrated AI behavior with Unity animation and collision systems.
- Created digital art assets for the main characters.
- Organized activities for playtests, and debugged based on players' feedback.

Black and White | *Team Leader, Programmer & Artist* — GitHub Repo
Independent Game Project, C#, Unity, Maya, 2D Platformer & Action, High-quality Pixel Art
- Led distributed team of 5 using version control and task delegation.
- Designed a 3D-to-2D pixel animation pipeline using Maya and Unity to generate high-frame-count sprite sheets (60+ frames).
- Implemented input buffering and 3-strike combo combat system for responsive gameplay.

Computer Graphics Projects Gallery | *Programmer* — GitHub Repo
JavaScript, HTML5 Canvas, Real-Time Animation, Interactive Systems
- **Firework Physics Simulation:** Implemented real-time particle system with 50–250 particles per explosion; modeled projectile motion under gravity and drag with analytical launch velocity computation; designed reverse-integrated motion trails and stochastic alpha decay effects.
- **Quadcopter Flight Simulator:** Implemented parametric motion models (circular, figure-eight, banked weave); built frame-rate independent animation system using delta-time normalization; developed WASD-controlled navigation with projectile system.

Interactive Narrative & Game Design Projects | *Narrative Designer, Programmer & Visual Designer* — GitHub Repo
Twine (Harlowe, SugarCube), HTML/CSS, Interactive Story Systems
- **Mímisbrunnr (IKEA Variant) (Harlowe):** Designed atmospheric interactive narrative inspired by Norse mythology using Harlowe passage architecture; implemented animated UI transitions (rumble, shudder, fade, flicker) to synchronize visual effects with narrative tension beats; structured branching progression with modular passage nodes to control pacing and thematic escalation.
- **The Elevator Ritual (SugarCube):** Engineered a rule-driven interactive horror system replicating the "Elevator Ritual" urban legend using SugarCube's state variables and conditional macros; implemented ritual-sequence validation mechanics where incorrect input branches alter narrative outcomes and tension pacing; designed multi-ending structure driven by hidden state flags and progression thresholds; structured player decision loops to build escalating psychological tension through constrained choice architecture.