Sean Wagemans
UI Programmer

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Portfolio: **www.SeanWagemans.com**   in **/in/seanwagemans/**

Project Skills

- ❖ 2D/3D Math (Linear Algebra)
- ❖ Teamwork & Communication
- ❖ Willingness to Ask for Help
- ❖ Problem Solving
- ❖ Rapid Prototyping
- ❖ Cross-Discipline Cooperation
- ❖ Documentation & Skill-Sharing

Tool Proficiencies

- ❖ Unity / Unity UI Systems
- ❖ Unreal / UMG (Familiar)
- ❖ Visual Studio
- ❖ Perforce & Git
- ❖ Photoshop
- ❖ Microsoft Office
- ❖ Engineering Design ANSI Certified

Programming Skills

- ❖ C/C++
- ❖ C#/.NET
- ❖ Unreal C++ Classes with Blueprint Interface
- ❖ Event-Driven Systems
- ❖ Polymorphic/Templated Systems
- ❖ Component Based Architecture
- ❖ IMGUI
- ❖ Version Control
- ❖ Code Clarity & Expandability
- ❖ Perf/Big-O Mindfulness
- ❖ JavaScript (Familiar)
- ❖ Action Script (Familiar)

Education

Studied BS Comp. Sci. & Game Design
DigiPen Institute of Technology

Cert. Engineering Design Technology
Renton Technical College

Professional Experience

Gameplay Engineer, Bungie inc.   7/20 - Present
Destiny 2's Investment Systems & Workflow (ISW) team. Created and maintained architecture of player data/items/equipment, including UI backend, design tools and networking. Proprietary C++ & C# engine & tools.

Instructor, DigiPen Institute of Technology   6/16 – 7/20
Game design and computer science teacher, K12 and college. Created visual drag-and-drop/component frameworks for students to build their own games from. Unity & Zero Engine (Action Script).

Notable UI Projects

SPACE! Character Sheet – *Digital TTRPG character sheet. Unity, C#.*
Scrolling skill and inventory lists with descriptive tooltips, dynamic resources bars/counters, customizable virtual dice roller with animated success/failure display, and text fields for custom character description.

Bayou Beatdown – *2D Top-down network shooter. Custom C++ engine.*
Player Health/Weapon/Ammo HUD, reload minigame, enemy health bar, damage display, inventory, shop, core menus, and IMGUI game editor.

Kobolds and Caverns – *AI colony survival game. Zero Engine, Action Script.*
Popup radial UI for commanding colonists, population stats HUD, environmental hazard HUD, mouseover tooltips, and core menus.

Roll20 Mods – *D&D virtual tabletop mods. Roll20 API, JavaScript.*
- ❖ Automatic display of damage and combat conditions to players.
- ❖ UI to quickly link stats-blocks to custom character art.
- ❖ Command to add random descriptive prefixes to NPC names.

Unity Extensions – *Reusable UI features, Unity C#.*
- ❖ Scoped Events - Fire-and-forget UI event system with scope control. Designed for complex UI behavior without relying on hard references.
- ❖ UI Effects - 2D particle system for Unity UI, supporting UV texture manipulation for interesting animated UI effects.
- ❖ Cached Scalar – System for caching expensive operations for frequent reuse. Ideal for UI elements, such as scrollable-tables and timers.
- ❖ 2.5D Animator - Animation system to render 2D sprite-sheets and UI with Unity's 3D shaders and postprocessing effects.
- ❖ Serializable Polymorph – Editor field allowing polymorphic class selection and serialization, which Unity does not support. Allows designers to set derived behavior with a drop-down menu.
- ❖ Lazy Wave - Sin-wave Perlin-table to cheaply calculate animation curves.