JUSTIN LEONARD BUZON
Programmer & Artist
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EDUCATION

Masters of Information and Cybersecurity, May 2021 matriculation – UC Berkeley
Bachelor of Science Degree: Visual and Game Programming, December 2011 – The Art Institute of California - SF

CERTIFICATE & AWARDS

CSU Chico Cybersecurity for Executives certificate - 2021
TestDome certificate - C# Algorithms, Ranking in top 25% - 2021
TestDome certificate - C#, Ranking in the top 10% (100% score) - 2018
The Art Institute Best Portfolio Award - 2011

PROGRAMMING & ART SKILLS

- Exceptional Knowledge of Unity3d Engine - mobile, virtual reality, custom editor creation; animator/state machine, particles; UI, some shading and lighting
- Very strong knowledge in C# & JavaScript - gameplay, front-end, backend-for-front-end, UI/UX, prototyping; full feature development, audio implementation, various APK implementation.
- Project management: Git; Jira, Asana, Zoho, Microsoft Teams
- Very strong knowledge in Information Technology
- Motion Capture - data creation and manipulation in Rokoko/MotionBuilder
- Maya - debugging rigs, fixing animation, MEL & Python scripting
- Photoshop - batch-processing, textures, digital painting

RELATED EXPERIENCE (26 shipped titles)

Sama Learning - Nevada City, CA / Remote - 2/1/2019 - Present
1 Shipped Title: *Sama Learning - VR Education Platform* (Steam, SideQuest, WebGL)
Lead Developer

- Full-Time Remote; managed team size of (4-6)
- Led full development cycle from ground up- prototype to release.
- Core architecture; VR headset & controllers; 3D object translation
- Responsible for all features governed by scientific principle, formula, and theory
- Modular Features and Tools that can be used across any lesson
- Implementation of various Virtual Reality API/SDK
- UI & Audio creation/ implementation
- Mentored engineers, conducted code review
- Responsible for build-release versioning and updates (SteamWorks)
- Multi-platform port from HTC Vive and Oculus to WebGL: https://www.samalearning.net/web

Periodic Trends:
An interactable Periodic Table with sub features including grid row and column highlights; selection emphasis; electron configuration, notation, properties, and compounded building of orbitals to display a complete element in 3D. An understanding of the relationship between orbitals (s,p,d,f) and its quantum values, gave rise to an agile system that allowed full and partial text electronic configurations to be parsed into workable bits that can be passed around as definitions to other features such as displaying positive and negative charge; adding or subtracting orbitals; completing partial electron configurations; and determining electronic and molecular geometry. These definitions also followed scientific theory including Aufbau Principle, Pauli-Exclusion Principle, and Hund's Rule which allowed my system to include interactions with exceptional and man made elements on the periodic table. Since the periodic table is the keystone of every lesson, the table was made to function in and out of runtime as a source to check values and debug other features.

Balancing Chemical Equations:
I created a chemical equation "calculator" where unbalanced products and reactants of a formula can be plugged into a system as text. The text is immediately parsed into individual elements and their quantities

resulting into a balanced equation. At run-time the parsed tokens are displayed as UI elements in the virtual environment in which the user is required to balance. The user's equation is checked with the system on every interaction to provide immediate visual feedback on the current quantity of each element and whether the solution is correct. Custom Editor hooks allow this feature to run before runtime in the editor.

Atomic Orbital Theory:
A series of tools that allow the user to manipulate Quantum Values to display the change in an electron's location probability; also known as Orbitals or Electron Cloud - displayed as 3D interactable shaded geometry. The shaded geometry can be virtually grabbed, rotated and expanded to get a better look inside of the orbital's shape and electron dot diagram. Behind the scenes, each 3d object file, 2d diagram, and image equation are named corresponding to their quantum values. Once the user enters a correct series of quantum values on the control console, the values are converted into text and rearranged into a readable file name to instantiate the related objects in scene. A recycle component manages the scene by allowing only one instance object of each quantum value and reusing the object across the length of the session.

Valence Shell Electron Pair Repulsion Theory (VSEPR):
Similar to drawing Lewis Dot Diagrams by hand, my feature allows a user to add, subtract, and bond elements together from a bank of electrons. Having re-created the electronic geometry table for Sama, I developed a particular relationship nomenclature procedure that when parsed, described the electronic geometry; quantity of electrons, position, and type of bond of each element. The text can be broken down into smaller tags used to grab the art assets needed. Each art asset has components to handle electron counts and provide visual feedback accordingly. A managing script determines when the dot diagram is complete and allows hooks into the periodic table and electron configuration diagram as a means to display more information.

Hybridization:
Definitions transcribed from the Periodic Table allowed for a modular 3D lego-like building system to explain electron and molecular geometry. The same nomenclature procedure in VSEPR was used to grab the art assets for each molecule. Each art asset has components to determine what type of bond is needed; when the bond occurred; and visual feedback of the attempted bond. A molecule would have a master script that governed how the object moved and rotated as a whole. The text nomenclature parsing allowed for endless carbon chains and other molecule possibilities. The text was also used to spawn the correct quantity of pieces in the virtual environment.

Molecular Orbital Theory:
Modular design; interfacing and inheritance. The tools in this lesson are all made from "lite" versions of previous features. A similar text parsing system is used to determine the pi and sigma (bond and antibond), position (s,p,d,f) and model on the diagram. Left and Right hand selections would trigger a script that calculates the orientation and position required to bond the orbitals.

Deta Play LLC - Sausalito, CA / Remote - 11/27/2016 - 8/1/2018
Chief Technology Officer

- Remotely manage and direct team sizes of 2 - 5 for a pipeline consisting both artist and programmers.
- R&D - plugins, SDKs, prototyping, and providing up to date technology that would best fit project scope.
- Pipeline & Planning - tasking, milestones and deadlines via Asana / Jira; sub-versioning with Git/ BitBucket; development projection from start to release for a feasible launch date.
- Art- storyboarding; 2D concepts; UI/UX design; 2D puppet rigging; 3D retopology; VFX, motion capture acting, recording, and cleaning animations; Maya tool scripting in both Mel & Python; game documentation.
- Programmer- C# Unity Engine: core gameplay; AI for combat systems, procedural generation; various game world to player interaction; implementation for root motion animation, sound, UI, store and inventory systems.

Various Prototype Feature Accomplishments:

- Mobile particle mesh painting to texture
- Mobile touch/drag movement of objects
- Simulation - Car and pedestrian traffic system
- Mobile First Person Mechanics

    - AI Driven IK aiming system for camera and body rotation
    - Screen touch translation to IK Aim
    - Ammo conservation / reload rules/ weapon fire differentials
    - Hand swipe gestures to swap weapon
    - Physics projectile trajectory - throwing system
- 3rd Person RPG Mechanics:
    - Character Stat allocations based on permutations
    - Full AI Driven Combat with reactive Match Target animations
    - Point & Click Nav Meshing & Navigation
    - NPC Vision and hearing systems
    - NPC Behaviours using RNG and State Machines
    - Player & NPC Terrain/Obstacle traversal
    - Basic foot & hand IK implementation
    - Inventory system & hand equipping
    - Mobile - P$ Point-Cloud Recognizer for spell casting
    - Character creation / customizer
    - Twin stick shooting - movement and orientation
- Environment Creation:
    - Procedural room and pathing generation
    - Procedural furniture and house clutter generation
- Motion capture to Unity animation with Rokoko

Super Lucky Casino Inc. - San Francisco, CA - 01/01/2015 - 11/26/2016
24 Shipped Titles (iOS / Android): *VIP Deluxe Slots; Hot Vegas Slots; Epic Jackpot Slots; Double Up Slots; Fast Fortune Slots; Slots: Favorites; Get Rich Slots; Jason Aldean Slots; No Limit Slots; President Trump Slots; Slots Classic; Slots!; Pharoah's Plunder; Video Poker; BlackJack!; Solitaire; Baccarat!; Bingo Heaven; Slots FairyTale; Slots Romance; Bible Slots; Lil Wayne Slots; Slots Heaven*
Lead UI Engineer & VFX Artist - 01/01/2015 - 11/26/2016
- C# Unity Engine
- Managed UI & UX designs, and pipeline from artist and tech artists to engineers.
- Designed and created proprietary core systems responsible for ease and robust production of all slot games.
- Created proprietary core systems in the engine for VFX and UI.
- Hooked core gameplay infrastructure to client-front-end.

Game Programmer & VFX Artist - 03/07/2013 - 01/01/2015
- C# Unity Engine
- Gameplay, full features, UI programming and implementation
- Custom scripting, creation and implementation of VFX and various animation API.
- Taught and instructed employees new to Unity3d Engine.

SiXiTS, Inc. – Novato, CA - 01/01/2012 – 01/01/2013
1 Shipped Title: *CrazyFan: College Football* (iOS/Android), Release Date: October 16, 2012
Gameplay Programmer
- C# Unity Engine
- Projectile trajectory & Wind Resistance simulation
- Inventory system, character customizer
- Player store
- Custom animation & audio player tool

VOLUNTEER
CSU Chico Cybersecurity for Executives - 12/6/2020 - Present
Advisory Council Member
- Provide feedback on the program's effectiveness
- Preserving and enhancing the reputation and quality of the School through strategic review of credit and non credit offerings to the community, as well as helping build program value to the business community

- Offering benefits of my experience to faculty, and students through occasional classroom visits, forums, conferences, and input on programs
- Promoting the School's goal of linking industry with academia to help ensure that the program is relevant and benefits the business community

Marin County Sheriff's Department Search & Rescue - San Rafael, CA - 07/6/2019 - Present

Technology Manager

- Management role - R&D, regular inspection and maintenance
- Technology Logistics - RF, HB, MERA radios, Inreach, GPS, Plotters, Thermal Binoculars, parabolic mics
- Experience using Decision for Heroes (D4H): Incident, Readiness & Response Management System

Type II Ground Searcher

- Rugged Conditions, Altitude generally under 7000', Heat, Cold concerns, Moderate to Heavy Ground Cover.
- Emergency Medical Responder (EMR), CPR, First Aid certified
- Map & Compass navigation, technical rope knowledge, patient care & packaging, radio etiquette
- 24/7 on call urgent response in Marin County and out of county as Mutual Aid
- Knowledge of Incident Command System (ICS) and practices
- Experience using IAmResponding (IAR): Team Notification & Response tool for fire, EMS, police, dispatch, emergency management, search & rescue, specialty teams, and more
- Passive Q&A/ experience in CalTopo/SarTopo: specialized mapping and georeferencing tool with rescue management