

Chijike Dikeogu

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SELECTED GAME DEVELOPMENT PROJECTS

Library of Alexandria | Serious Game | Game Engine: Unity Engine

11/2024 to Present

<https://chijikedikeogu.com/caretaker-of-alexandria/>

Subjective Reality Studios LLC

- Serving as **Creative Director, Programmer, and 3D Artist** on an educational game focused on reconstructing the **Library of Alexandria** and surrounding districts
- Building **interactive 3D learning spaces, quests, and research driven mechanics** centered on **source evaluation, information literacy, and historical exploration**
- Working with **academic and library partners** including **Ottawa Kansas Gangwish Library, Montana State Library, Virginia Tech, UMass, CSU Bakersfield, UT Austin, and the Kansas Library Association** to support **historical accuracy and curriculum alignment**
- Creating **teaching resources, lesson guides, and discussion materials** for **classroom and remote learning** use
- Implementing **quest, choice, and combat systems** based on **educator and librarian feedback** to improve **accessibility, engagement, and replay value**

City of the Deep Melaris | Ocean Narrative Shooter | Game Engine: Unity

09/2023 to Present

<https://chijikedikeogu.com/election-game/>

Subjective Reality Studios LLC

- Serving as **Creative Director, 3D Level Designer, and Narrative Designer** on an **anime style tactical RPG shooter** set primarily in the **deepest abyssal ocean environments**
- Designing **underwater 3D layouts, combat spaces, and environmental shader work** in Unity
- Supporting **multiplayer, analytics, and QA tracking** through **Microsoft Azure services**

Ley Line Princess | Isometric Action RPG | Game Engine: Unity

06/2022 to Present

<https://chijikedikeogu.com/leyline-princess/>

Subjective Reality Studios LLC

- Designing a **hybrid anime style action RPG** that combines **third person and top down camera modes, tactical party switching, and large scale nation based exploration**
- Built **more than 80 environment layouts** across **11 explorable nations**, supporting **multi region progression, worldbuilding, and layered exploration routes**
- Wrote **dialogue and narrative content** for **more than 650 NPCs and 493 quests**, with **visual novel style presentation and branching narrative support**
- Developed **combat systems** centered on **fast player controlled action, mouse or keyboard driven unit control, party swapping, class and subclass customization, and MMO style ability bar workflows**
- Worked with an **indie team of 14** across **3D art, level design, sculpting, texturing, narrative design, and optimization**

Election Game | Multiplayer Political Simulation | Game Engine: Excel VBA and JavaScript

Released 05/2020

<https://chijikedikeogu.com/election-game/>

Freelancer Team Project

- Designed and implemented a **multiplayer political simulation** with **turn based state capture, economic pressure, state models, economic loops, media influence systems, and decision driven outcomes**
- Integrated **real world historical and modified US election datasets** from **1990 through 2021** via a **custom JavaScript API connected to Excel VBA**, dynamically updating **state populations, voter behavior, and state win possibility outcomes**
- Built **interconnected systems** where **player strategy, resource allocation, and state adjacency** produce **adaptive results and unique playthroughs**

Santa Can't Breathe on Mars | Browser Retro Arcade Game | Game Engine: Pico 8

Released 11/2019

<https://www.lexaloffle.com/bbs/?tid=36226>

Master's Team Project, UC Santa Cruz

- Shipped a **retro survival delivery game** with **reactive terrains** that dynamically blocked routes based on **player behavior**
- Owned **environment art and sound design**, creating **tiles, props, UI, music, and sound effects** entirely within **Pico 8 editor constraints**
- Scripted **gameplay and level logic** in **Lua** within strict platform limitations including **palette, memory, and in engine asset creation**

Strife Dreams | Strategy Card Game | Tabletop and Unreal Engine

Released 04/2017 for table version

<https://chijikedikeogu.com/election-game/>

Personal Project

- Designed **more than 187 unique cards** with **chess inspired passives and multiple balanced abilities per card**
- Released the **tabletop version** and continued **digital adaptation in Unreal**
- Built **morale, terrain, formation, political, and seasonal systems** focused on **positioning, planning, and player decision making** rather than randomness
- Developing **multiplayer features** through **Unreal Blueprint workflows** and **Microsoft Azure networking support**

EXPERIENCE

Remote 3D Environment Technical Artist and Indie Game Design Founder

Subjective Reality Studios LLC, Bakersfield, CA

09/2021 to Present

- Modeled and built **3D environments, props, and modular assets** using **Blender, Autodesk Maya, ZBrush, Rhino 3D, and Substance Painter**, with emphasis on **hard surface work, organic sculpting, UV unwrapping, and PBR texturing**.
- Used **Revit, AutoCAD, Rhino 7, and SketchUp** during **preproduction** to establish **architectural layouts, structural interiors, real world scale, and modular building plans** before final environment assembly.
- Created **regional cartography and world layouts** through **Inkarnate, Cartographer 3, Azgaar's Fantasy Map Generator, and Watabou's Progen Arcana**, then translated layouts into **Unity ProBuilder blockouts and level preproduction**.
- Produced **cloth and simulation based environment detail** in **Marvelous Designer and CLO 3D**, creating **banners, draperies, layered fabrics, garments, and other scene dressing elements**.
- Built **terrain workflows** in **World Machine, Gaea, Vue, and L3DT** using **heightmaps, splatmaps, erosion simulation, water flow analysis, and slope masking**, while using **ArcGIS and Cesium.io** for **elevation validation and geospatial reference**.
- Supported **environment readability and level staging** through **blockouts, modular environment creation, gameplay flow design, environmental storytelling, spatial composition, and scale referencing**.

- Developed material and rendering workflows using ShaderMap 4, Material Maker, HLSL, and SHADERed to support shader prototyping, surface breakup, material definition, and lighting response.
- Implemented gameplay systems, encounter logic, and prototypes through C# /.NET (Primary), C++, JavaScript, Lua, HLSL Shader Programming,, SQL, SQLite, Unreal Blueprints, PlayMaker, FlowCanvas, Lua, Python, swift, and Unity Bolt visual scripting.
- Developed projects across Unity, Unreal Engine, CryEngine, RPG Developer Bakin, Smile Game Builder, and RPG Maker MZ depending on prototype scope, genre, and production needs.
- Authored narrative design, lore, and preproduction documentation spanning idea capture, world structure planning, geographic map development, template drafting, and core narrative database organization using Google Docs, Microsoft Word, Inkarnate, Natural Crit Homebrewery, and Articy Draft X.
- Produced screenplay, scene development, branching dialogue, and character voice documentation including script drafts, dialogue variation notes, personality testing records, and review materials using NovelAI, Character.AI, Final Draft, and Articy Draft X.
- Created technical and implementation documentation including style guides, asset requirements, pipeline notes, presentation materials, and export ready knowledgebase content for long term project organization using Gamma, World Anvil, LegendKeeper, WordPress, and Google Docs.v

Contract Biophotonics Test Engineer and Database Designer

Apple Inc. via Mindlance Staffing, Cupertino, CA

07/2023 to 08/2023

Successfully completed a planned one month contract, providing QA support and a custom database solo for an R&D team.

- Operated and calibrated an automated microscope system to scan transparent gel samples on glass slides.
- Monitored waveform outputs during automated scans and recorded signal spikes and anomalies in Excel.
- Assisted with tracking test fixture behavior and verifying optical equipment performance.
- Performed PCB testing with SMT processing and cross sectioning to check board quality.
- Applied thermal cycling and potting analysis to reveal weaknesses in material reliability.
- Built fixture software and a desktop database prototype in C Sharp, SQL Server, PostgreSQL, and Docker.
- Automated test result uploads from Biophotonics fixtures operating across two lab sites, replacing a manual workflow that relied on USB transfers and conversions. Each fixture produced unique data formats, so I designed a CRUD layer for every system to collect, translate, and normalize outputs. All results were intended to be funneled through a isolated network into a centralized database on the manager's machine.
- Wrote documentation and standard operating procedures so Apple's software team could continue development.
- Noted unfinished features and team Wishlist ideas such as security modules and MATLAB integration.
- Developed custom UI navigation, file parsing, querying, and some storage editing tools to give managers oversight.

Contract Early Field Failure Analysis Hardware Test Engineer and EE Technician

Apple Inc. via Mindlance Staffing, Sunnyvale, CA

08/2022 to 03/2023

Supported AppleCare's Early Field Failure Analysis (EFA) Quality Control team through a contract with Mindlance Staffing.

- Supported manual and automated quality assurance testing for iPhone (12 through 14 series), AirPods, and Apple Watch, validating both prerelease global factory builds and immediate post launch customer return units.
- Completed throughput of 34 AirPods per day or 20 to 45 iPhones per week, depending on assignment. Each device was tested at least three times and, in some cases, retested up to 15 cycles for failure reproduction.
- Operated over 60 proprietary, domain specific manual and automated hardware test fixtures, each dedicated to a single functional area including camera systems, NFC, FaceID, acoustics, Bluetooth, E-Noise, GPS, Button Pressure, wireless, motion sensors, proximity sensors, battery charging, automotive charging, display, and compliance.
- Managed automated test pipelines with strict sequencing requirements for state sensitive domains such as camera validation and compliance testing, while routing nondependent stations out of order when permitted to optimize and prevent invalid state results.
- Performed device triage by scrutinizing Apple Retail and Genius Bar database reports, reproducing reported failures, assigning severity rankings, and coordinating with Product Quality Managers and the Project Coordinator to route devices into appropriate fixture pipelines. I also contacted retail stores or customers when more info was required.
- Conducted firmware stability and update validation on AirPods to confirm reliable upload, download and rollback behavior across multiple test cycles without data loss, errors or device corruption.
- Executed environmental, safety, and government compliance testing including water ingress protection, fire resistance, electrical safety, and warranty integrity verification to meet Apple, government, and industry standards.
- Performed nondestructive failure analysis using Matrix X2.5L industrial X ray systems and 2D and 3D digital microscopy with Keyence to identify hidden solder defects, PCB trace failures, ball grid arrays beneath series processors and other chips, voids, misaligned components, corrosion, and internal battery faults not detectable through surface testing.
- Validated AirPods motion sensor and wireless connectivity reliability using enclosed rotational test fixtures that simulate real world movement, executing controlled orientation changes on multiple devices simultaneously to assess sensor accuracy, software and electronic stability, and Bluetooth performance during sustained dynamic operation.
- Documented test results, failure analysis findings, and triage outcomes in FileMaker, Apple Radar, and Apple Manufacturing Insight, the team's primary QA databases and issue tracking systems.
- Updated and audited Standard Operating Procedures for fixture operation, calibration, safety, and Gage R&R.
- Created and maintained technical documentation using Apple Pages and Quip to be later stored in Box cloud, and coordinated triage updates, escalations, and follow ups across divisions and subsidiaries through Slack and email.
- Conducted daily and weekly fixture calibrations and audits to ensure test accuracy and minimize downtime, performing station setup for new hardware generations and applying fixture specific calibration procedures such as testing against known good units to isolate whether failures originated from the devices being tested or the test fixture stations.
- Utilized security stations used to detect rooting, unauthorized openings, air leaks, and warranty breaches, as well as acoustic and pressure systems requiring precise robotic microphone adjustment and alignment of small mechanical and electronic components using accelerometers, Gyroscopes and other tools.
- Troubleshoot industrial control and test station software using Beckhoff TwinCAT to ensure fixture accuracy, availability, and test integrity across daily QA pipelines.

- **Prepared devices for reassignment, inventory storage, or shipment** to other Apple facilities by verifying removal of internal Apple software and checking for missing parts and creating printable labels with tracking data within Filemaker.

Automation Systems Specialist & Assistant eCommerce Manager

Safeway, San Jose, CA

11/2019 to 07/2022

- Supported **automated grocery fulfillment operations** by monitoring **daily order flow**, resolving **order issues**, and coordinating **substitutions and account corrections** tied to **eCommerce transactions**.
- Oversaw **micro fulfillment center output** of roughly **800 to 900 online grocery orders per week** and about **130 to 200 customer orders per day** across **OSR Evo shuttles, AMRs, conveyors, and RFID linked storage systems**.
- Operated **KiSoft WMS, KiSoft SCADA, and Snowflake Retail Data Cloud** to coordinate **automated retrieval, manual picking, and final order consolidation**.
- Diagnosed and resolved **production stopping faults** including **shuttle misroutes, power interruptions, weight sensor drift, elevator lockouts, conveyor jams, and identifier mismatches**.
- Performed **preventive maintenance on automated storage and retrieval equipment**, inspected **lifts, belts, and conveyor paths**, and flagged **worn components before failures disrupted output**.
- Recalibrated **robots and storage systems** cleared **SCADA errors**, and adjusted **layout parameters** to improve **picking accuracy**, reduce **stockouts**, and lower **tote fragmentation**.
- Managed **AI driven storage defragmentation** and **SKU placement workflows** to **free capacity, shorten retrieval paths**, and reduce **incorrect or empty tote movement**.
- Worked with **Takeoff Technologies and KNAPP engineers** through **Zendesk tickets, live diagnostics, and onsite troubleshooting**, while revising **SOPs** to reflect **recurring field conditions and edge cases**
- Trained **day and night eCommerce teams** on **KiSoft storage workflows, RFID scanning, tote labeling**, and safe handling of **ambient, refrigerated, and frozen goods**.

EDUCATION

- **Bachelor of Arts (BA), Management Information Systems** | Ottawa University, KS | 01/2019

SKILLS

GAME ENGINES & VISUALIZATION FRAMEWORK SKILLS

Engines & Development Environments: Unity Engine, Unreal Engine, CryEngine, RPG Developer Bakin, Smile Game Builder, Visual Novel Maker, RPG Maker MZ, Wicked Engine, Source Engine, Ren'Py, Pico-8, UPBGE, Virtual Reality Toolkit, GB Studio 3, CopperCube, RPG Paper Maker, Flare, SRPG Engine, FalcoEngine, Wave Engine, Pixelbox, MANU, RPG in a Box

3D MODELING SKILLS

3D Modeling & Sculpting: Blender (Primary), Autodesk Maya, ZBrush, Cinema 4D, Cascadeur, Daz Studio, Rhino 3D, Plasticity, ShapeLab, Instant Meshes, CLAV1CULA, Verge3D, Z-Modeler, hard surface modeling, organic sculpting, retopology, topology cleanup, UV unwrapping, modular kit creation, prop modeling, architectural modeling, low poly modeling, high poly detailing

Vegetation, Terrain, and Worldbuilding: SpeedTree 9, TreeIt, World Machine, Gaea, Vue, L3DT, Earth Sculptor, ArcGIS, Cesium.io, Inkarnate, Cartographer 3, Azgaar's Fantasy Map Generator, Watabou's Progen Arcana, Aerialod, procedural terrain generation, heightmap and splatmap workflows, erosion simulation, water flow and slope analysis, terrain texturing, biome and climate mapping, regional cartography,

Level Design & Environment Creation: blockouts, modular environment creation, gameplay flow design, sightline and cover validation, systemic level design, environmental storytelling, collision and navigation mesh setup, interactive object placement, spatial composition, lighting and atmosphere balance, scale referencing, 2.5D and 3D level preproduction

Cloth, Fashion, and Simulation Based Environment Detail: Marvelous Designer, CLO 3D, cloth simulation, fabric behavior setup, drapery and banner creation, garment visualization, leather and layered fabric material simulation, environmental cloth detail

Texturing & Materials: Substance Painter, ShaderMap 4, Material Maker, Materialize, ArtEngine, Ucupaint, HLSL, SHADERed, trim sheets, texture atlases, PBR texturing, baked normal workflows, roughness and metallic channel control, decal workflows, material blending, shader setup, shader prototyping, surface breakup, texture map editing

Lighting, Rendering & 3D Visualization: Twinmotion, Maxon Redshift, Lumion, Octane Renderer, Light Tracer

Effects, Atmosphere, and Real Time Visual Development: EmberGen, BlastFX, TouchDesigner

CAD & Architectural Design for Preproduction: AutoCAD, Revit, Rhino 7, Autodesk Forma, Mastercam, blueprint referencing, structural interior planning, real world scale validation, modular building layout design, architectural visualization, drafting

DIGITAL ART & MOTION MEDIA SKILLS

Digital & 2D Art Tools: Adobe Photoshop, Clip Studio Paint, ArtRage, Aseprite, Piskel, PixiEditor, Game Texture Viewer, Sprite Fusion, Sprite Illuminator, Texture Packer, Laiter texture map editing, concept sketching, sprite creation, compositing

Animation, Motion Graphics & Interactive Media: Endorphin 2.7.1, TouchDesigner, Adobe After Effects, Sony Vegas Pro, animation sequencing, motion compositing, particle effect visualization, cinematic preview design, real-time VFX prototyping

AI Assisted Art & Image Analysis Preproduction Art: NovelAI (Primary), ChatGPT, CivitAI, KichangKim / DeepDanbooru, nax.moe, Stable Diffusion with Automatic 1111 web UI, Sloyd, Kohya_ss, UX Pilot

DOCUMENTATION SKILLS

Documentation Systems: Gamma, FrameMaker, Obsidian, Quip, Office 365, Excel, Articy Draft X CMS, World Anvil, Final Draft, Twine, Inkewriter, Natural Crit Homebrewery, Google Workspace, WordPress, NovelAI, Legend Keeper

Structured Documentation Artifacts: Design Documentation, SOPs, System Documentation, Technical Writing, Reference Guides, Style Guides, Asset Requirements, Art Bibles, Lighting Sheets, Shader and Rigging Guidelines, Story Bibles

QUALITY ASSURANCE SKILLS

Gameplay & Interactive QA: Game design quest and balance testing, gameplay testing, triage processes, level progression validation, event scripting verification, player guidance and signposting checks, frame rate, performance and stability profiling

2D & 3D Environment Validation (Game QA): Collision and navigation mesh testing, lighting and shadow consistency, texture and UV validation, shader and material optimization, LOD (level of detail) transitions, environmental interaction testing

Software & Functional Testing: Manual testing, functional testing, regression testing, stress testing, soak testing, non-functional testing, ad hoc testing, white box testing, black box testing, cross platform testing (PC, VR, Mobile, Oculus), Prototype testing

Automation & Test Systems: GameDriver.io, Appium, Selenium, PlayTest Cloud, Beckhoff TwinCAT, Postman, RPA frameworks

QA Reporting & Data Analytics: FileMaker (QA database), Apple Radar, GameAnalytics Data Suite, Microsoft Azure PlayFab, Tableau, Camtasia, Sony Vegas Pro, QA data governance, data stewardship, data privacy compliance, defect tracking