

Ariya Bayat - UNITY DEV, PROGRAMMER

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Personal Summary

Seasoned Unity Developer with over 7 years of XP, from transitioning a multiplayer card game from Alpha to Closed Beta, to publishing an exciting high-speed anime platformer. Currently making AR games & experiences for Android and PC alongside artists, designers and fellow devs through technical and creative solutions, and I am keen to take on new challenges.

TECHNICAL SKILLS

GENERAL	Unity C#
AUGMENTED REALITY	OpenCV AR Foundation (ARCore + ARKit) Python
WEB DEVELOPMENT	JavaScript HTML CSS
BACK-END	GitHub Firebase
PRODUCTIVITY	Trello Miro Notion Microsoft Office
IDE	Visual Studio PyCharm VS Code Android Studio
OTHERS	Java WebGL

Review these projects and the code in my portfolio: <https://shadyleegamer.github.io/>

WORK EXPERIENCE

Humanitarian Operations | Unity Developer (AR Educational Platform)

OCT 2023 - PRESENT

Working closely with tablets, mini computers and a cross-functional team on R&D focused projects to optimise solutions for CPU and memory limitations. Assisting the Unity manager in developing core systems

- ✓ **Enhanced performance at nurseries by fixing crashes through memory management using Addressables, leading to successful next day testing sessions.**
- ✓ **Greatly reduced product cost by £80.33 per unit by replacing depth sensor cameras with minimum webcams using OpenCV.**
- ▶ **Architecting the integration of Python and OpenCV in Unity for simulating hand and gesture tracking:**
 - Boosted performance from **30 FPS** to **200+ FPS** by incorporating multithreading to separate image processing and video capturing into Python.
 - Built a two-way TCP connection between the Unity and Python program for transferring real-time camera feed and track data.
- ▶ Assisted the music department by developing a system that **automatically** generates musical notes from their MIDI files for a rhythm game.
- ▶ Implemented UI systems from design documents as well as UI tools including a Timeline skipper to assist game testers.
- ▶ Mentoring and managing tasks of junior developers and optimising their features and solutions to encourage best practices.

Okainos | Lead Developer (Online multiplayer card game)

JAN 2021 - OCT 2021

- ✓ **Transitioned from Alpha to Closed Beta.**
- ▶ **Development & maintenance of back-end systems** - Integrated real-time database with over **25** accounts, multiple method OAuth authentication, web hosting and cloud storage to the game and website.
- ▶ **Reduced manual updates** - Developed **automatic** update system for card changes (buffs, nerfs, tweaks) with card data assets.
- ▶ **Optimization of data process** - Automated the writing and reading of card data between the editor and database in JSON with

Rest API through custom editor scripts.

- ▶ **Launched Closed Beta testing campaign through web dev** – Built a website that attracted over **20** players resulting in valuable feedback and live testing:
 - Firebase-integrated authentication system linked to game database, enabling users to login via a single account.
 - Managed game access for beta testers to a **100** key group generated with Itch.io, stored in cloud storage.
 - Signed up to **13** accounts via mailing list, stored in real-time database.
- ▶ **Card deck builder (SerDes)** – Designed a code containing details of card decks which is imported and exported by the game.
- ▶ Other systems such as a friends manager synced with accounts, team planner for filtering cards by properties (rarity, tribe, stats), and battle system.

PROJECTS

Edge Runner (*High-speed anime platformer*)

JUNE 2022 – AUG 2023

Recently published an exciting high-speed platformer game on Itch.io, featuring complex gravity-bending physics,

- ▶ **Spline-based character controller:**
 - Greatly optimized player movement by minimizing collision detections and replacing engine-physics with a custom physics solution utilizing splines.
 - **Consistent physics** – Stress tested against extreme movement speeds and very low frame rates.
 - **Assist system** – Aids inputs to better achieve desired actions through input buffering, dash extension and environment snapping.
- ▶ **Reusing flexible systems** – Control lock system used to manage and prevent interruption of different special events.
- ▶ **Extensive use of splines** – Developed a custom extension for Unity's Sprite Shape API that breaks splines down to segments and points for full control and flexibility. Used for:
 - **Suitable movement system** – Solved multiple problems of custom physics through elegant use of spline points.
 - Aiding level design through real-time visualization of splines points.
- ▶ **Dynamic camera** – Utilized Cinemachine to follow a target influenced by player movement and state to tweak the feel of each.
- ▶ **Profiler analysis** – Maintained performance of **283** changing transforms, reducing frame time impact from **45.7%** to **2.6%**.

13 Game Jams

MAY 2020 – MAY 2022

Worked with other programmers in teams on **13** game jams, including one ranked **15th** place out of **158** entries! **6** of them were exported to WebGL. Highlights of Systems I developed:

- ▶ **Dungeon level generator** – Random level generation sequence inspired by Spelunky.
- ▶ **Object pooling** – Maintained performance of over **100** objects of different types present in a scene.
- ▶ **Combo system** – Featuring a basic attack and two different special attack combos with pc, mobile and controller support.
- ▶ **Isometric grid movement** – Displays movement tiles with collision detection for movable and immovable objects blocking path.

EDUCATION

Ark Walworth Academy

SEP 2019 – JUL 2021

(**Distinction****) BTEC Level 3 National Extended Diploma in Information Technology

Relevant units included: Computer Games Development | Programming | Mobile Apps Development | Website Development | Using Social Media in (Game Studio) Business

Hobbies: BJJ | Dancing | Music Production | Sculpting | Table Tennis | Anime