Ariya Bayat – UNITY DEV, PROGRAMMER

ariyabayat20@gmail.com 073 983 571 03 LinkedIn

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.

- ✓ **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 | Unity 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