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**Reedham Patel**

Game Programmer

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[GitHub](#) | [LinkedIn](#) | [Portfolio](#)

## PROFILE

Game developer with enhanced knowledge of various programming languages like C#, C++, Java and had a great experience in 2D and 3D game development (Unity Engine & Unreal Engine). Proficient in various platforms, Languages, Algorithms, Architecture, and making tools for game engines. Experienced with the latest cutting-edge development tools and procedures. Able to self-manage during independent projects, as well as collaborate as part of a productive team.

## TECHNICAL SKILLS

### Programming languages:

C#, C++, JAVA, Python, SQL, C, HTML, CSS, SASS, CG(HLSL).

### Design patterns

Factory Pattern, Object Pool, Singletons, State Machine, Top-down Single Flow, observer.

### Collections

Dictionaries, Array lists, LinkedList, Stack, Queues, Enumerable.

### Concepts

Generics, Multi-threading, Reflection, PropertyGroups, MethodGroups, Lambda/Anonymous/Delegate, Params, Attributes.

### Serialization

XML, JSON, Binary, Text.

### AI

Genetic, Flocking AI, State Machine, A\*, GOAP, Binary Tree.

### Framework & Architectures

Java MVC, J2EE, C#.NET MVC, Bootstrap 4

### External Libs/Langs/Software

OpenGL, Git, GitHub, SourceTree, Github for Desktop.

### Management/Debug

Agile, Agile Scrum, Jira, Breakpoints.

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## Unity

Editor Scripting, Editor Variables/Menus, UI, Physics, Animations, Sound, Particle Systems, Controller Support, NavMesh, Image/Tile Filling, Materials and Lighting, Shader Development, Rewired, Unity New Input System, Local Multiplayer Support, Lambert Lighting, PBR(Physically-Based Rendering), Pro Builder.

## Unreal Engine

Online Multiplayer Support, UI, Blueprint, Animations, Sound, Particle System, Material Creation(Intermediate), Lighting.

## Database Server and Database :

MS SQL Server workbench, SQL Server, JSON, XML, Binary.

## IDE and Project Management tool:

Visual Studio, VS Code, Eclipse, Unity Engine, Unreal Engine, IntelliJ Idea, Pycharm,

## PROJECTS

### Arrow Maniac

- **Arrow Maniac** is a **2D-platformer couch co-op local multiplayer game** with a fast-paced environment. Where up to two-player can connect their **controller** to the same system in order to play the game. Also Game Used To follow **Top-down singleton architecture** with Highly scalability.
- [Arrow-Maniac](#)

### Hospital Simulation

- Simulation-based on **Goal-oriented action planning (Smart AI)**, GOAP is an artificial intelligence system for agents that allows them to plan a sequence of actions to satisfy a particular goal.
- **AI Or NPC** Will Plan Their Own Plan And Follow The Action Sequence For It.
- **Custom Editor tool** That Will Indicate Their Current Action and Their Future actions.
- NPC can have certain beliefs or Subgoals and based on that NPC change their plan its totally **dynamic AI** rather than following hard structured **state machine-based AI**
- All agents Follow the **A\* pathfinding** algorithm to reach the destination.
- [Hospital-Simulation-Github-Link](#)

### Cyber redemption

- Cyber redemption is a **multiplayer campaign game**.
- Cyber redemption is made with an **unreal engine** and supported by the power of **C++** programming.
- In the game, multiple players can join a local server and complete the campaign or can play as **CO-OP**.
- [Cyber-redemption-Github-Link](#)

### Unreal Advance Shader Development

- AAA Standard **shaders** for the Snow with Different material Combination.
- Also Created Different Shaders for **Hologram Effect**, **Ultra-realistic seawater material**, Blending between Different textures For landscape and **Terrain Creation**.
- [Unreal-ShaderDevelopment](#)

## Unity CG(HLSL)

- Using pixel and lighting manipulation created different kinds of material like **Normal And Bump** Material, **Holographic** material, **Water Shaders**, Decal Texture, **Rim Material**, **PBR(Physically-based rendering)** Material, and Outline Material.
- [Unity-CG](#)

## Flocking AI

- Fish Flock is an easy-to-use **asset** that manages a shoal of fish. The fishes move in the **flock** and keep themselves as a group and also avoid colliding with each other as they swim. Also, They Follow the **Predator and Prey relationship**, Big Fishes try to hunt down small fishes and a flock of small fishes tries to escape them also is dependent on the prey's Food attraction factor.
- Flocking AI Follows a highly scalable Architecture so it supports an infinite number of flocks Also each and every flock use to maintained by 9 plus factors.
- [Flocking AI](#)

## Space Bomber

- Space Bomber is a **Top-down -3d-shooter** game. IN the Game player has to survive waves of enemies and get a high score.
- There is a **UI** indication in the top right that indicates the player's score. Also, there are varieties of bombs in the game which used to spawn after some time.
- [Space-bomber-link](#)

## EDUCATION

*Institute supérieur d'informatique ISI, Montréal*

**Video Game Programming (A.C.S)**

Jan 2019–Dec 2021

*Gujarat Technological University, India*

**Bachelor of Engineering in Computer Science (B.E)**

Aug 2015–Jun 2019

## REFERENCES

- References available upon request.