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## Reedham Patel

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

Game Programmer

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Montreal, Quebec

English | Hindi | Punjabi | Gujarati

### PROFILE

Game developer with 3 years of experience in game development with enhanced knowledge of various programming languages like C#, C++ and Java with extensive expertise in Unity and Unreal engine. Proficient in various platforms, Languages, Algorithms, Architecture, and making tools for game engines. Experienced with the mobile game development. Able to self-manage during independent projects, as well as collaborate as part of a productive team.

### EXPERIENCE

#### Mobile Game Developer

Maruti Games, Ahmedabad / April 2018 – November 2019

- Create game architecture. (**Microsoft Visio**)
- Design UI and integrate in game. (**Photoshop**)
- Design level progression system.
- Integrate ads plugin in game. (**Unity Monetization**)
- Design actor movement.

### TECHNICAL SKILLS

#### Programming languages:

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

#### Advanced Math

Quadratic Numbers, Matrices and Determinants, Sequences and Series, Integral/Differential Calculus, Vector Algebra, Coordinate Geometry, Three-Dimensional Geometry, Vector Algebra, Probability, Trigonometry, Mathematical Reasoning.

#### Design patterns

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

#### 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.

#### Database Server and Database:

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

#### Unity

Unity ECS-DOTS, Editor Scripting, Editor Variables/Menus, UI, Physics, Animations, Sound, Particle Systems, Controller Support, Nav Mesh, Image/Tile Filling, Materials and Lighting, Shader Development,

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Rewired, Unity New Input System, Local Multiplayer Support, Lambert Lighting, PBR (Physically-Based Rendering), Pro Builder.

### Unreal Engine

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

### IDE and Other tools:

Visual Studio, VS Code, Eclipse, Unity Engine, Unreal Engine, IntelliJ Idea, PyCharm, Microsoft office, Excel, Davinci Studio, Photoshop, Vuforia.

## 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 (Xbox)** 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](#)

### 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](#)

### 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-Shader Development](#)

### 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.

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- **Flocking AI** Follows a highly scalable Architecture so it supports an infinite number of flocks Also each and every flock is 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