Parikshit Saraswat
Computer Science and Engineering
Indian Institute of Technology, Patna
Email - ID : parikshitsaraswat@outlook.com
Online Portfolio - Parikshit Saraswat

Undergraduate 3rd Year (B. Tech.)
LinkedIn : in.linkedin.com/in/parikshitsaraswat
Contact : +91-9631353008
Github : https://github.com/parikshit6321

ACADEMIC QUALIFICATIONS

- Secured **93.6 %** in Class X Board Examination (ICSE)   - 2011
- Secured **90.2 %** in Class XII Board Examination (CBSE)   - 2013
- Secured **AIR 3289** in JEE Advanced 2013 among 1.23 lakh students in India - 2013
- Secured **8.09 CPI** at Indian Institute of Technology, Patna   - 2013 - 17

TECHNICAL SKILLS

- Strong proficiency in **C++**.
- Working knowledge of **C**, **C#, Java** and **GLSL.**
- Experience with **MIPS Assembly**, **Python** and **UnrealScript**.
- Experience with **OpenGL**, **Allegro** and **Django Framework**.
- Experience with **Unreal Engine 3** and **Irrlicht 3D Engine**.
- Familiar with **Visual Studio** and **Eclipse** IDEs.

PROJECTS UNDERTAKEN

1. **Top – down Shooter using Unreal Engine 3 SDK.**
   - Implemented the Gameplay Logic and State Machine using UnrealScript.

2. **CubeWars - A Top - Down Shooter built on SumoDX Engine.**
   - Modified the existing SumoDX engine, created in the MVA online course ' **Introduction to Game Development using DirectX and C++** ' and added relevant data structures.
   - Added **Dynamic Texture Mapping** and **Mesh Creation** for run-time creation of enemies.
   - Added **Gameplay elements** and a **State Machine** for Difficulty and Wave Management.
   - Attached camera to the player and added functionality for selecting nearest target.

3. **Breakout game using C++ and OpenGL for Android.**
   - Implemented a **basic 2D Game Engine using C++, OpenGL ES and Android NDK**.
   - Used pass-through Vertex and Fragment shaders for processing position and color attributes.

4. **Island Survival - Third Person Action game using Irrlicht.**
   - Used Irrlicht 3D Engine and implemented a **third-person camera system**.
   - Implemented **Enum-based State Machines** for **Enemy AI** and **Wave generation**.
   - Implemented a custom **Event Reciever** and custom **User Interface** using Irrlicht's event management API and Irrlicht's 2D drawing API.

5. **LightEngine - A C++ and OpenGL 3D Graphics Engine.**
   - Uses **diffuse, specular, normal, cube** and **environment texture maps**.
   - Implements a simplistic **Particle Engine** using **billboarded textured quads**.
   - Implements lighting using the **Blinn-Phong model**.
   - Generates **Shadow Maps** using **depth maps**.
   - Imports models in Wavefront's **.obj format** using **Assimp's importer**.
   - Renders **text** using glyphs generated from **TrueType** fonts using **Freetype 2.6**.
   - Generates final output after **HDR Rendering**, **MSAA Anti-aliasing** and a soft **Kernel Blur** effect.

   Third-Party libraries : OpenGL 3.3, GLM, GLFW3, GLEW, AssImp, SOIL and FreeType 2.6.