NEERAJ SINGH THAKUR

Game Programmer

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Publications

Reactive Display for Virtual Reality: Proposed/Built 3D interface to browse through 360° contents in VR and instigate feeling of discovery while exploring 360° and normal content and tackles the problem of nausea caused by existing interfaces like photospheres by providing a natural intermediate interface before changing 360° content using Homography mathematics and dynamic field of view of cameras. Poster Paper published at ISMAR (IEEE Symposium on Mixed and Augmented Reality)

Work Experience

Centre for Content Creation, Jr. Game Programmer, *(20-Jan-18 to Present)*

- Using IP characters to build game aiming to teach biology to younger audience in Unity3D and C#.
- In-charge of builds and debugging of Android platform. Used Git version control and VS code IDE.
- Built special skills attack, weapon auto-toggle feature, entity status and hit VFX, in-game alert system
- Helped in maintaining AI, 3Cs, Animations, UI, Optimization, non-combat zones and Bug fixes
- Actively participated in discussions and proposed new methods to improve and optimize game

Build Corner, Unity Programmer, Freelancer, *(7-Nov-17 to 15-Jan-18)*
Tile Visualizer

- Wrote Surface Shaders in Cg/HLSL (Unity3D) for VR Occulus Go to create realistic Tile Visualiser with dynamic patterns(chess, horizontal-vertical alternate, x-Shifted, random) and grouts settings
- Helped team to set-up for most optimized yet best quality Unity3D settings

Mech Mocha Game Std. Pvt. Lim., Game Programmer Intern, *(7-May-16 to 21-July-16)*
Multiplayer unitypackage

- Built a communication layer using Java and Android Studios which uses Bluetooth API & Nearby Connections API for offline and Nearby Messages API for online communication for Unity3D and C#

Indie Game Development *(May 2014 to Present)*

- **Retro Snake3D:** Casual android game with custom and procedural level generation by building polygons with cubes and mesh renderer and parameter exposed for design or level changes
- **Chemical Carriageway:** Infinitely running 2D Android game. Used concepts of laws of motion, vectors, calculus, AI, aesthetic and non-aesthetic designing, file handling, OOP, GUI, sound editing
- **Mixed Reality Encyclopedia:** Virtual & Augmented Reality education encyclopedia built in 24-hour Microsoft Code.fun.do hackathon. Designed 3D environment of all planets of the Solar System with feature to view surroundings of the planets using Google Cardboard in VR environment

(Visit my portfolio for more information and projects)

Technical Skills

Programming Languages	C#(>3 years), C++, Java, Js(>1 years), C, Python, MATLAB(<1years)
Game Engines and IDEs	Unity3D, Android Studio, MonoDevelop, Sublime Text, VS Code
SDKs	Google Cardboard, Vuforia, Google Nearby Connections & Messages
APIs	Open GL API, Bluetooth API
Version Control and Tools	Git (Source tree, Fork and Terminal)

Education

Indian Institute of Technology (IIT) Kanpur, Bachelor of Technology, *(July 2013 to July 2017)*

Major: Materials Science and Engineering, ***CPI: 8.0/10.0***

- Relevant undergraduate courses: Data Structure & Algorithms, Computer Graphics, Fundamentals of Computation, Object Oriented Programming, Calculus & Analytic Geometry, Linear Algebra, Engineering Graphics, Computational Methods in Engineering

Extracurricular Activities

- Lectured on Unity3D during GDG Google Dev Fest, introduced game development in IIT Kanpur
- Mentored 7 teams of students under Programming Club, IIT Kanpur to help developing their first game
- **Head Show Management, Core Team, Techkriti 2016, IIT Kanpur**: Planned and conducted India's biggest technical and entrepreneur festival with budget of over ₹20 Million leading a 3-tier team
- Worked as a **Consultant Developer** to lead a team in IIT Kanpur aiming to build multiplayer education game for village students. Project was funded by Madhya Pradesh (India) Government.

Blogs

Designing Game to Teach Soft Skills: Four-part blog, focusing on advantages in game-based learning and teaching soft skills to players using different genre games published at Gamasutra. Useful guide, based on practical examples, of how training methodologies can be adopted by a wide range of professionals and for a wide range of purposes, such as to enhance traditional training practice, boost participants' learning experience, heighten participants' self-awareness and self-confidence, facilitate knowledge, promote skills and competencies and personal as well as group development.