Vishal Bharti

GitHub Website LinkedIn

: vishal20264@iiitd.ac.in
: +91 8933874972

Education

Indraprastha Institute of Information Technology Delhi (IIIT-Delhi) — Delhi, India
B.Tech (ECE)

Publications

Curtain UI: Augmenting Curtains for Tangible Interactions — 02 December 2024
Accepted in SIGGRAPH Asia 2024 Posters
DOI: 10.1145/3681756.3697935

Skills

Design Skills: Game Design and Development , AR/VR and MR Design and Development , Immersive Storytelling , UI Design , UX Research , Graphic Design , Illustration , User Testing and Evaluation

Programming Languages: C , GLSL , HLSL , Java , JavaScript , MATLAB , Python , SQL

Frameworks and Tools: Blender , Figma , LaTeX , MySQL , Machine Learning , OpenCV , OpenGL , OpenXR , Processing , React.js , TinkerCAD , Unity , Touch Designer

Experience

Indraprastha Institute of Information Technology, Delhi — Delhi, India
Researcher · Creative Interfaces Lab — *May 2024 - Present*

- **Research Contributions**: Pioneered cutting-edge innovations by transforming everyday objects into dynamic digital interfaces, such as reimagining traditional **curtains as interactive surfaces** using sensor-based inputs and responsive UI feedback—seamlessly blending physical gestures with digital control to elevate user experiences. Crafted **VoxCraft**, an inventive voxel-based platform that empowers users to design and manipulate 3D environments in real time, delivering intuitive tools that spark creativity and enable boundless experimentation with digital architectures. Additionally, delved into the immersive realms of **Mixed Reality**, **Virtual Reality**, and **Augmented Reality** with **Meta Quest 2** and **3** devices, developing captivating applications that fuse physical and virtual worlds, pushing the boundaries of interactive technology.

Projects

- **Tangible Interactions with Curtain**: Engineered an innovative interface that transforms ordinary curtains into interactive, tangible UI elements. Utilized embedded sensors and actuators to detect user gestures and enable dynamic digital interactions. Published findings in SIGGRAPH Asia 2024 Posters.
- **Voxcraft**: Developed interactive voxel-based environments enabling creative and modular design. Implemented real-time manipulation of 3D structures, allowing users to construct, modify, and experiment with digital architectures intuitively.
- **Prototype of a Societal Impact App** : Designed and prototyped a mobile application aimed at addressing a real-world societal challenge. Conducted user research, wireframing, and UI/UX design using Figma. Developed an interactive prototype demonstrating core functionalities and potential impact.
- **Simple Assembler and Simulator**: Developed an assembler and simulator for a custom instruction set architecture, enabling machine-level execution of assembly code. Implemented opcode translation, memory management, and execution logic, ensuring accurate simulation of program execution.