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(57) Abstract :

The present disclosure pertains to an immersive 360-degree virtual reality camera system designed to capture high-fidelity three-dimensional environments. The system comprises a plurality of high-resolution cameras (102) set in a spherical arrangement, ensuring a comprehensive and uninterrupted field of view. Synchronization mechanisms (104) align and coordinate the data captured from the cameras (102). Powerful hardware components (106) process the vast volumes of data, while advanced software algorithms (108) transform the images and video into a detailed three-dimensional model. Integrated sensors (110) like depth sensors and lidar further refine the spatial accuracy of the captured environment. Playback controls (112) provide interactive navigation within the environment. The system may offer a cloud-based platform (118) for users to create, save, and share these virtual realities. Real-time rendering capabilities (116) allow for instantaneous virtual environment exploration.

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