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Kathakali and motion capture: An experimental dialogue between Indian classical dance and technology

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Kathakali, one of India's eight classical dance forms, is a highly stylized and opulent dance-drama that originated nearly five hundred years ago in a southern state of India. Kathakali performers draw from a vast dictionary of highly advanced and sophisticated movements, a repertoire of gestures, and expressions. Motion capture was employed to encapsulate the temporal, three-dimensional data of a chosen Kathakali performance, in the motion capture laboratory at the School of Art, Design and Media, Nanyang Technological University, Singapore. The analysis of the acquired motion capture data of Kathakali has revealed several possibilities. The numerical nature of the data facilitates direct admission to mathematicians, scientists, and animators into the complex and diverse kinetics of classical dance; thus, lending a deeper understanding and meaningful abstractions of kinetic art. This research has opened possibilities of developing digital tools for classical dance pedagogy. Also, an integrated archival of classical dance, pivoting on 3D motion capture with video and audio recording along with other pertinent data, can also be undertaken. The derivatives of the temporal data are being employed to drive the key parameters of an abstract animation film by the author himself. By archiving a piece of a five-hundred-year-old tradition, the speaker has arguably tapped into the tangible and intangible heritage of an ancient civilization. This experimental dialogue between classical art and technology serves as a platform for a meaningful collaboration between ancient cultural heritage and rapidly advancing technology.

Biography

Biju Dhanapalan is Associate Professor in the School of Art, Design and Media at Nanyang Technological University, Singapore. He is a leading visual effects Director, and has designed and directed animation and VFX sequences for Indian, English, French and Hollywood productions for over a hundred feature films, '3 Idiots', 'PK,' and 'Neerja' to name a few. Besides features, he has lent his expertise across various verticals: art installations, new media, and commercials. His trans-disciplinary training - Engineering and Industrial Design - has led him to design and develop custom devices and gears and various filming equipment including 3D stereoscopy rigs.

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