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## Vision and virtual-based human computer interaction applications for a new digital media visualization (Conference Paper)

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### Abstract

With the rise of smartphones and tablets interactively, human computer interaction is a very popular topic for engineers, artists, designers and computer scientists around the world in both industry and academia. This topic was studied and researched over many years ago. Nevertheless, most of previous works were studied separately between communication arts (e.g., advertising and marketing communication research) and computer science. Indeed, there has been little work giving an overview of recent integrated research of digital media and some new technologies, such as computer vision, virtual reality, and human computer interaction for visual communication. Therefore, our contribution of this paper is to discuss the recent state-of-the-art development of the digital media research work using and applying these aforementioned multimedia-based technologies. A literature review of the novel digital media and interactive augmented reality researches is also discussed. More importantly, this paper also provides a work-in-progress framework for future digital media research when applying graphical visualization, human computer interaction such as haptic, and sensor technologies into every traditional sense of human interactively, from vision to touch and from smell to taste. In general, this paper will be beneficial for any related field of interactive multimedia, communication arts and human computer interaction both industrial and educational aspects and also for any related researcher such as computer science art communicator.

### Author keywords

Advertising; Communication arts; Digital media; Graphical visualization; Human computer interaction; Marketing; Multimedia; Robotic; Smell communication; Taste communication; Touch communication; Visual communication

### Indexed keywords

**Engineering controlled terms:** Augmented reality; Commerce; Computer graphics; Computer vision; Digital storage; Interactive computer systems; Marketing; Multimedia systems; Robotics; Virtual reality; Visual communication; Visualization

Computer scientists; Educational aspects; Graphical visualization; Integrated research; Interactive multimedia; Marketing communications; Multimedia; Sensor technologies

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Kerdvibulvech, C.; Graduate School of Communication Arts and Management Innovation, National Institute of Development Administration, 118 SeriThai Rd., Thailand;

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