Video Walkie-Talkie

Tech ID: 20562 / UC Case 2003-247-0

TECHNOLOGY DESCRIPTION

UC San Diego inventors have come up with a low-complexity video compression engine, suitable for next generation interactive mobile phones. Using this invention, it is possible to transmit video sequences for video conferencing on a wireless channel. One of the most interesting features offered by this engine is the possibility to work both with the current mobile network infrastructure (9.6 kbps) as well as with the third generation (3G). This invention addresses the issues with current video compression technologies that, while they provide remarkable performance in terms of image quality, were designed without considering the severe constraints imposed by mobile devices. The proposed encoding scheme achieves good visual quality and high compression ratios with a reduced computational complexity using innovative techniques for the motion estimation process and the image coding.

Our video walkie-talkie appliance would enable real-time video communication using existing bandwidth on cell phone and PDA. Applications include:

Long-Distance Instant Video Messaging: Can work with the cellular phone service provider to enable instant video messaging. Possible applications include:

- Video chat
- Real-time video capture and delivery to server for police department, e-commerce verification, video email, etc.
- Construction/site management
- Automobile-based emergency service
- Ambulance video support
- Security/surveillance

Home-Local-Network Instant Video Messaging: several large consumer companies have promoted home local network. Typically, a black box receives video signals, processes and stores it on the local disk or PC, and then distributes it through the home local network. Our technology enables real-time video communication using PDA. Possible applications include:

- Video chat
- Home-based health monitoring systems/services
- Home and business security monitoring systems (using Internet and PC)

Local-Area-Network Instant Video Messaging: Many PDAs are equipped with Bluetooth/102.11B capability. Using our technology and local wireless network, real-time video communications between PDAs within a LAN can be enabled. Possible applications include:

- Security/surveillance
- Video conferencing
- Patient monitoring
- Distant learning with real-time two-way communication
- Community communication.

RELATED CASES

See also SD2003-181 and SD2002-160.

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	7,623,719	11/24/2009	2003-247

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OTHER INFORMATION

KEYWORDS

image processing, wireless, motion estimation, frame rate conversion, compression, MPEG4, MPEG1, MPEG2, H261, H263

CATEGORIZED AS

- **Communications**
  - Wireless

RELATED CASES

2003-247-0

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