ICAP PATENT BROKERAGE

High Definition (HD) Video Conferencing System

Xerox Corporation & Palo Alto Research Center Incorporated

Initial Bidding Guidance: Low 6 Figures

This portfolio discloses techniques for transmitting high-resolution video conferencing images. An important requirement for video conferencing systems is that the video data is received in real time for effective meetings. Visual discontinuity due to low-time resolution or delays in reception can make the meetings ineffective. Current video conferencing systems use digital data to transmit images. Digital transmission technology further enables tradeoffs between the pixel resolution of an image and the time resolution at which such images can be transmitted in real time. A typical digital video camera operates at a resolution that would require very high data rates for transmission. As such high data rates may be impractical for transmission, the video data is compressed to a pixel rate of one bit per pixel or less. Otherwise, the transmission of high-resolution video conferencing images can place extreme demands on bandwidth. Accordingly, there is a need for optimizing the tradeoff among time resolution, pixel resolution, and the bandwidth necessary for transmitting the high resolution images.

Value Proposition: This portfolio discloses video conferencing systems that can transmit different portions of an image separately, in order to communicate meaningful visual information at higher resolution than is possible with standard video cameras and digitizers. In a typical video conferencing situation, one or more individuals are typically seated at a table and generally do not move to any great extent during the course of the transmission. There will of course be motion of their faces and hands. Therefore, most video conferencing images are very predictable and this can be exploited for optimizing the tradeoff among time resolution, pixel resolution, and necessary bandwidth for transmitting the images. Accordingly, a mosaicing camera is used that samples a first portion and a second portion of the scene, and outputs a first mosaic image and a second mosaic image. The first mosaic image and the second mosaic image are combined, whereby pixels from the first mosaic image abut pixels from the second mosaic image, to yield a coherent composite image. A first specific camera samples a first specific portion of the scene, outputting a first specific image. The first specific image includes at least a portion of the scene sampled in the first mosaic image or the second mosaic image. Pixels from the first specific image are then substituted into the composite image, yielding a coherent final image. The advantage of this mosaicing technique is that the composite image from the multiple cameras has a much higher total resolution than a general view. Therefore, the disclosed technology provides improved system that enables transmission of high-resolution video conferencing images without extreme demands on bandwidth.

Forward Citing Companies: Alcatel Lucent, Canon, Fuji, HP, Intel, Lifesize Communications, Microsoft, Seagate

Priority Date: 12-19-1995

Representative Claim: US 5,757,424 – Claim #1
A method of transmitting an image representing a scene in real time, comprising the steps of: a mosaicing camera sampling at least a first portion and a second portion of the scene, outputting a first mosaic image and a second mosaic image, each of the first mosaic image and the second

TECHNOLOGY
VIDEO CONFERENCING SYSTEM

NOVELTY
SYSTEM THAT ENABLES TRANSMISSION OF HIGH-RESOLUTION VIDEO CONFERENCING IMAGES WITHOUT EXTREME DEMANDS ON BANDWIDTH

IMPORTANCE
IMPORTANT PORTFOLIO FOR COMPANIES PROVIDING VIDEO CONFERENCING SOLUTIONS

NUMBER OF ASSETS
1

US PATENTS (1)
5,757,424

mosaic image comprising a set of pixels forming a coherent image; combining the first mosaic image and the second mosaic image whereby pixels from the first mosaic image abut pixels from the second mosaic image, yielding a coherent composite image; a first specific camera sampling a first specific portion of the scene, outputting a first specific image, the first specific image including at least a portion of the scene sampled in the first mosaic image or the second mosaic image; and substituting pixels from the first specific image into the composite image, yielding a coherent final image.

Contact:
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