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<th>Title</th>
<th>Opportunities in audio and video conferencing</th>
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<tr>
<td>Author(s)</td>
<td>Wong, Tony.</td>
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Paper No. 10
OUTLINE OF PRESENTATION

INTRODUCTION

TYPES OF COMMUNICATION
- Written: Document, Email
- Oral: Speeches, Lectures, Conversation, Audio Conferencing
- Visual: VideoMail, ImageMail, Video Conferencing

INTERACTIVITY
- Realtime vs Non-Realtime
- One-to-Many, One-on-One, Many-to-One, Many-to-Many

EFFECTIVENESS OF COMMUNICATION
- Efficiency in achieving your objectives in the shortest possible time at the lowest possible cost

PURPOSES OF COMMUNICATION
- Impart Information
- Discuss Issues
- Seek Approval
- Give instructions

BARRIERS TO COMMUNICATION
- Distance
- Time
- Cost
- Language
- Culture
- Medium of Transport

WHAT IS THE BEST FORM OF COMMUNICATION?
- Efficient transmission & reception of information
- Instant access, low cost, no time barrier
- Personalised attention
- Are such systems are available today?
- Form & Substance

SOLUTIONS AVAILABLE TODAY
- PC-based Systems (Internet Video Conferencing) (US$199, Internet, LAN, POTS)
  - Microsoft Netmeeting; Webphone; Smith Micro
  - Intel Pro Share; VDOnet; CUSeeMe
- Standalone Systems (Price Range US$299 - $399, POTS)
  - InnoMedia InfoView
  - 8x8 ViaTV; TeleEye
  - Lucent C-Phone
- Room Conferencing Systems (US$6,000 up, ISDN, higher bandwidth)
  - Polycom; AT&T; PictureTel

TECHNOLOGIES
- Audio Compression (G.729-8kbps; G.723.1 (fixed pt) - 5.3, 6.3kbps; MPEG4-layer3)
- Video Compression (263+, 263L(mobile))
- Digital Signal Processors
- Compression Chip, SHARC (VLSI, cheaper, faster; (1)application-specific 8x8; (2)Video Camera: Analog & Digital (CCD, CMOS)
- Standards: H.320 (ISDN), H.324 (POTS), H.323 (IP-on non guaranteed bandwidth)
- LCD display

PERFORMANCE
- Quality: CIF, QCIF, SQCIF
- Frame Rates: 10, 15, 20, 24, 30 fps
- Communication Speeds: 33.6kbps, 56kbps (not point to point), ADSL, Cable, ISDN,

CHALLENGES
- Real-time; Lip-Sync;
- Limited bandwidth for POTS systems (10-20 fps)
- Non-guaranteed bandwidth and delivery on IP (Internet) (1 frame per second or be
  LAN-based, ISDN, and higher bandwidth media (24-30 fps); Infrastructure issue
PRODUCTS
- TV-Top
- Videophone
- Room-VC
- Computer-based

APPLICATIONS
- Education, Distance Learning
- Personal Communications
- Tele-medicine
- Home Banking
- Remote Job Interviews
- Customer Support
- Live Distance Learning
- Security
- Old folks, Sensory-challenged People

CONCLUSION