PREFETCH VIDEO CONFERENCE OVER LAN THROUGH PC'S OR LAPTOPS

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ABSTRACT: The main objective of Remote Video Relay over LAN is to make a digitized visionary campus. The common problem in our campus is, if the same faculty handles the same subject for two (or) more classes, instead of delivering their lectures to each class at different times, our project introduces the delivering of lectures simultaneously to all the classes at a time. This can be done by the faculty from their respective areas. It is the easiest way of teaching and makes their work lesser and also we stream the video from one place to another place through LAN.

If a common message is to be conveyed to every student in a campus, usually the person has to move to all the classes to deliver the message .To overcome this, a live telecast is made from a single place to all the classes, so that everyone is supposed to view it from their respective places. For eg: If a Corporate HR, Director (or) Dean etc., has to pass any information to the students, it can be done through this method. This adds benefits at various places from our campus whenever there is a need for a common message to be passed. It's also time consuming and provides comfort ability. If any special programs are conducted, no separate space is provided for the audience. Hence it provides space compatibility. Sharing the files and message passing can also be done in this project.

KEYWORDS: Stream pause, video capture, LAN-Network, Gateway protocol, White Board Teaching, Black Board teaching, IP address.

1 INTRODUCTION

The purpose of the project is to develop a RVR (Remote Video Relay over LAN) display for synchronous distance learning with multimedia facilities. They are separated by physical distance, and technology. Likewise RVR is scheduled, teacher-led training session using computers linked to a network such as the IP address.

2 OVERVIEW OF RVR COLLABORATIVE TOOLS

Asynchronous vs. Synchronous

In an asynchronous environment, the "sender" and "receiver" do not have to be in the same place at the same time. Books operate asynchronously - the author writes the text that is read by the reader at a later date and time. File exchange areas, are all forms of asynchronous computer-mediated communication.

Synchronous communication occurs at the same time or "live." In a computer-based environment, synchronous communication includes and Audio and Video conferencing through IP address of the system.

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3   EXISTING SYSTEM

3.1   BRAVIS GALAXEE

BRAVIS is an innovated video conference system for closed groups in IP networks (peer-to-peer). In addition, that program will work without a central conference server. BRAVIS is a desktop solution, which allows spontaneous video conferencing from each workstation or laptop. A special signaling guarantees a secure and closed video conference. Therefore closed meetings can be set up via the internet.

3.2   TEAM VIEWER

It generates a partner ID and password when it's started (user-defined passwords are also supported).To establish a connection, the local operator must communicate with the remote operator. To start an online meeting the presenter gives the Meeting ID to their participants. Joining the meeting by using the Team Viewer full version or by logging on to the team viewer website and enter the Meeting ID.

3.3   MICROSOFT EXPRESSION ENCODER

Expression Encoder can export videos to H.264 or VC-1 formats. Expression Encoder is transcoding and linear video editing program. It can prepare video streams for distribution via Microsoft Silverlight .It supports Silverlight player controls and Silverlight templates.

3.4   SKYPE (SKY PEER-TO-PEER)

It allows users to communicate using a microphone, a webcam, messaging and voice chat over the Internet. Only Registered users of Skype are allowed to call .

3.5   A-VIEW

A-VIEW Classroom is a framework which provides us online education training. It is user friendly video conferencing software. A-VIEW Classroom provides opportunity to connect several universities together and creates virtual world for students.

COMPARING BOTH EXISTING AND PROPOSED SYSTEM

4   SCOPE OF THE PROPOSED SYSTEM

4.1   SCREEN SHARING

In the presenter interface, the presentation area allows presenter to transfer the presentation file.

4.2   LIVE AUDIO-VIDEO SUPPORT

Various tools are available for text-based chat- verbal interaction through audio conferencing and sharing of one's own video through web-camera.

4.3   SHARED RESOURCES

The presenter can share their resources using the load resources facility that will be present in the presenter interface. Though all the participants from the RVR are connected through audio and/or video conference. Contribution of RVR through LAN

Table 1. Comparisons between Proposed and Existing System

Requirements	Bravis Galaxee	Team Viewer	Microsoft Expression Encoder	Skype	A-View	Proposed System
Users	4 users free	2 users free	Multiple Users	2 users (free of charge)	Multiple Users	Multiple Users
Cost	16Users HD + Video (3,50,000 lakhs/year)	License cost + 25 users (1,14,000 lakhs/year)	License cost + (Rs.30000)	Max10 users (Rs.250/Month)	Open Source	Free
License Agreement	Yes	Yes	yes	Yes	Yes	Free
Disadvantages	Limited Users +LA+C	Limited Users +LA+C	Stream Pausing +LA+C	Limited Users +LA+C	Limited Users +LA+C	Only possible in LAN not Internet

4.4   DESKTOP SYSTEMS

It add-ons (hardware boards, usually) to normal PCs, transforming them into conferencing devices. Most of the desktops systems work with the H.323 standard. Video transfer carried out via dispersed PCs is also known as e-meetings.

5   ROLES OF THE USER AND ADMIN IN RVR

In RVR, Viewer and Presenter/admin plays a major important role. Their functionalities performed in the RVR based on the user types and its corresponding roles are given below table:

Table 2. Roles of user and admin in RVR

Types	Roles
Admin	✓ Transmit the videos to viewer by entering the IP address of the required system. ✓ Transfer the files to the user
User	✓ Allowed to view the all collaborative modules ✓ Allowed to view the video which was send by sender. ✓ Allowed to view the files.

The below diagrammatic representation shows the connection between the client and server based on their ports:
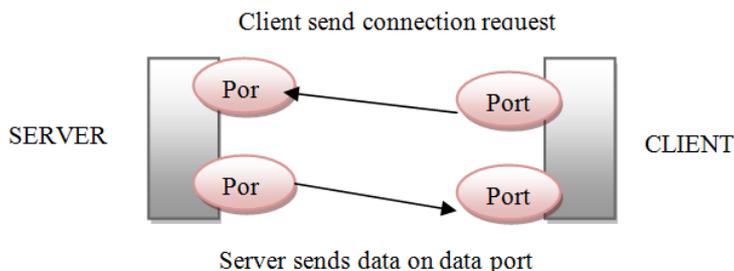

Fig. 1.   Client and Server Process through LAN

5.1 VIDEO STREAM IN RVR

Remote Video transfer from a single place to various places. Everyone can be viewed from their respective classes. It is one of the easiest ways of delivering lectures in RVR Video Relay through LAN (Local Area Network).

This is useful if there is a need of any common message is to be conveyed to every student or participant. Videos can be transferred between both client and server through LAN. Here their own required IP is used. It creates a user-friendly interactive session between students and faculties. It gives a real-time interactivity with the students.

Each system with different features can be used to transfer. From this a better quality videos can be achieved by using Microsoft Silver Light Software and we can avoid the stream pausing while transferring videos.
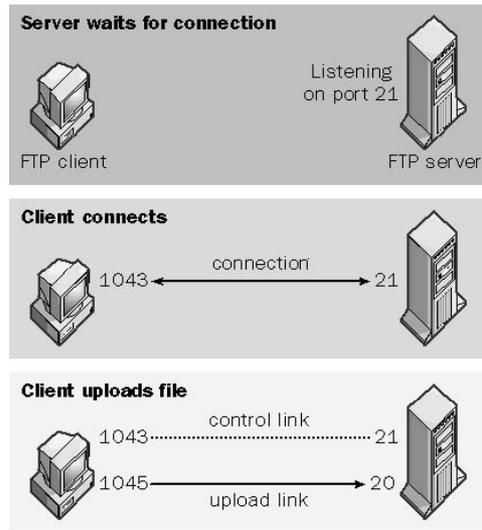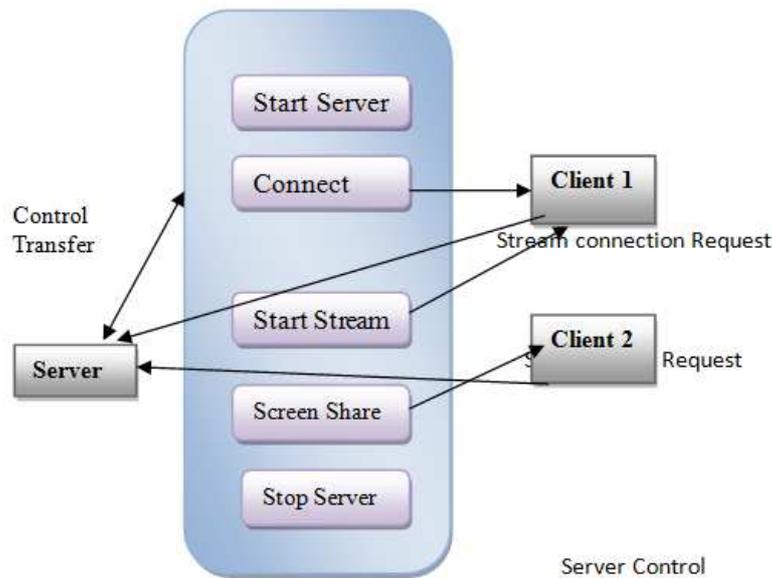

Fig. 2. File Sharing in RVR through LAN

6 SYSTEM DESIGN

7   CONCLUSION

We conclude that videos can transfer from one system to another system through LAN by using IP address and ports of the system. If we see the existing system video streaming and other related application is done based on the internet connection and some video pausing is visible while transferring videos though it is an open source.

In RVR concept, video pausing can be avoided when it's transferred to the various IP address of the system. Transferring the files from one system to another system. Here we have used Microsoft Silverlight Software to avoid the stream pausing in video relay while transferring videos.

It's also an open source and it is available for free of cost.

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