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Multimedia Smart Secured Streaming in Wireless Networks

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Abstract -- The proposed method is an easy way for all the users to transmit any kind of sound and visual media files which holds the extension like *.avi, *.wmv, *.vob to the authenticated recipients with more security privacy transmission. It provides all customers with fast and secures real time synchronization, automatic online backup, file sharing, and music streaming and unlimited mobile access. The proposed method introduces a novel approach named as Fast standing Quality Media Transmission. The main theme of this method is to shrink the video or audio format to unknown format and then upload to the one.com cloud drive with the universal time code based dynamic smart generation key where the generated key stand as the file name for the currently shrunk file and simultaneously the generated smart code key is sent to the recipient mobile number. In the recipient part, the user has to log on to the proposed system with the help of received smart code key. The server validates the smart code key and if validation succeeds, then the recipient is further allowed to access the download the corresponding encrypted file for the smart code key. Once the recipient user received the encrypted file and then the encrypted file is allowed to decrypt where the shrunken file will be expanded to the original audio or video file without any quality differentiated variance. By implementing this method, many commercial companies like News channels, Entertainment channels will gain transferring the file to the server immediately from any remote area easily.

Index Terms –

1. PROJECT OBJECTIVE:

The project objectives are

- To Transfer audio and video file through web support with fast and efficient manner.
- To transmit files in a secure cloud transmission with server side encryption.
- Generate a Dynamic Smart code key for strong decryption part.
- To develop a common commercial package for better quality media transmission.

2. PROJECT OVERVIEW:

The proposed system entitled is designed with a support of few modules together such as

- Wireless configuration
- Connect to One.com
- Secure Panel Board
- Embed Audio and Video using FSMT
- Smart code Generator

3. SYSTEM ANALYSIS:

3.1 EXISTING SYSTEM

The problem of joint usage of power control and forward error correction for deliverance of video stream optimization and the performance analysis is made in diverse scenarios. In this paper, the problem of robust packet video transmission over heterogeneous wired-to-wireless IP networks is addressed. Digital video delivered over wired-to-wireless networks is expected to suffer quality degradation from both packet loss and bit errors in the pay- load. To achieve Content-Aware Resource Allocation and Packet Scheduling for Video Transmission over Wireless Networks, it is necessary to change Minimum Supportable Video Rate to Maximum Supportable Video Rate. The transmission of live video over noisy channels requires very low end-to-end delay. Although automatic repeat request ensures lossless broadcast, its worth to live video streaming is limited to small links because of the uncontrolled retransmission latency. A substitute is to employ forward error correction (FEC). Since to discover a most favorable error defense strategy can be time posh, FEC systems are frequently intended for the worst case situation of the channel, which confines the end-to-end performance. The transmit mesh router is battery-powered, a still open basic problem deals with the design of optimal energy allocation (e.g., scheduling) policies that divide the radiated power amid the offered sub-channels. The goal is to diminish

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the ensuing (average) download-time when constraints on the entire available energy, peak-energy and minimum energy (e.g., QoS Constraints) are simultaneously active. Problem of online compression of data streams in the resource-constrained network environment, where the traditional data compression techniques cannot apply.

3.2 PROBLEMS IN EXISTING SYSTEM

- A mounting quantity of data is formed daily ensuing in an increasing demand for storage solutions.
- The additional dilemma is the Vendor lock-in.
- Paying unjustly lofty prices.
- The trouble of minimizing the energy used to broadcast packets over a wireless link by way of lazy schedules that thoughtfully vary packet transmission times.
- Through numerous coding schemes of a channel, the energy necessary to convey a packet can be considerably reduced by lowering transmission power and code rate, and consequently transmitting the packet over a longer phase of time.
- On the other hand, information is frequently time-critical or delay-sensitive and broadcast times cannot be made arbitrarily extensive.
- Conventional PLA problem.
- Error bounded PLA problem.
- Resource-constrained sensors.
- A wireless sensor network (WSN) is energy constrained, and the extension of its lifetime is one of the most important issues in its design.
- Given a sensor stream, we want to meet WSN requirements by reducing data traffic (using techniques based on data stream) and assuring a minimum data quality that allows to decrease energy consumption and delay.
- Data quality and Data stream processing.
- Data stream Generation.
- Transmitting embedded bit streams over wireless packet networks.
- Dual usage of power control and FEC for optimizing the delivery of video streams.
- The relatively high percentage of transmission errors in the wireless medium and the limited energy of portable devices must be addressed.
- Whenever a new client starts a video session, a dedicated stream is allocated to serve the user till the end of the viewing session.
- Worse still, the need for specialized high-capacity streaming servers and network equipment often increases the per-client cost when scaling up such a system.
- To supply scalable services of multicast video streaming for varied and mobile users.
- If transmission errors take place in a subordinate layer of the video, the errors proliferate to all the superior layers of associated frames ensuing in major degradation of the video superiority at the receiver.
- Due to the inadequate bandwidth of channel, retransmission of each tainted packet may be improper for the applications of video stream.
- The capability to broadcast video and support associated real-time multimedia applications is measured important in MN.
- To Achieve Cross Layer Architecture for Adaptive Video Multicast Streaming Over Multirate Wireless LANS.
- To achieve Content Based Video Transmission over Wireless Channels with low bit rates.
- To Achieve Single Layer Distortion Optimal Approach in Wireless Video Transmission.
- To achieve Video Streaming over Wireless Networks in Multimedia.

3.3 PROPOSED ALGORITHM

In proposed system we are describing,

SMART CODE GENERATOR: ALGORITHM

STEP 1: **C**reate a database and create a table named as “autocode” (user defined).

STEP 2: In that table, Create two fields named as “auto code” and “auto value”.

STEP 3: Generate Auto code Value Ranges from [0 to 9] and for each auto code

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Value corresponding special characters will be fixed [`~! @#$%^&*()_]

STEP 4: Initialize Integer s1, s2, s3, i1, i2, i3, i4, i5, i6 as Integer.

STEP 5: Assign Current system seconds to s1 which holds two digit integer character where i1 = s1/10 and i2 = s1 Mod 10.

STEP 6: Assign Current system Minute to s2 which holds two digit integer characters where i3 = s2/10 and i4 = s2 Mod 10.

STEP 7: Assign Current system milliseconds to s3 which holds two digit integer character where i5 = s3/10 and i6 = s3 Mod 10.

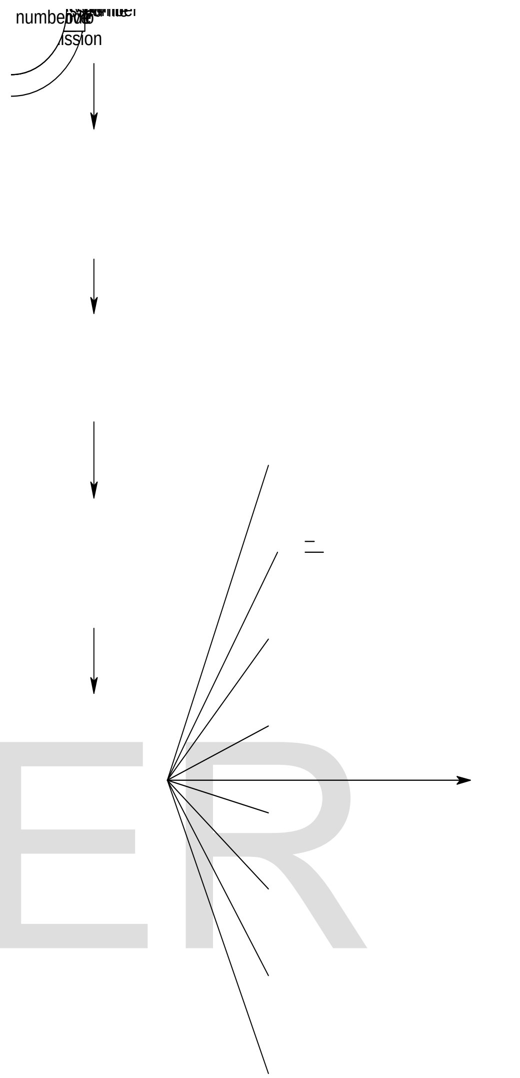
STEP 8: Concatenate i1, i2, i3, i4, i5, i6 and send this secret code to recipient.

3.4 VIDEO COMPRESSION TECHNIQUES

- Store Active user A_u, Selected Panel value SP_{value}, filename, File size, file type, File extension, file location, date modified, IP address.
- Uploaded media file size is evaluated.
- Compress the file size with 1024 bytes compression technique.
- Initialize Encrypted Bytes E_b, Original bytes O_b.
- Store encrypted file stream into bytes using binary reader function.

4. SYSTEM DESIGN:

4.1 STRUCTURES



4.2 ACTIVITY DIAGRAM

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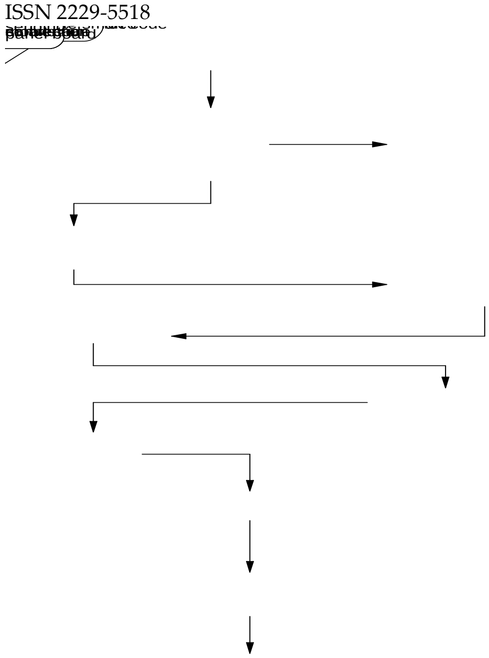


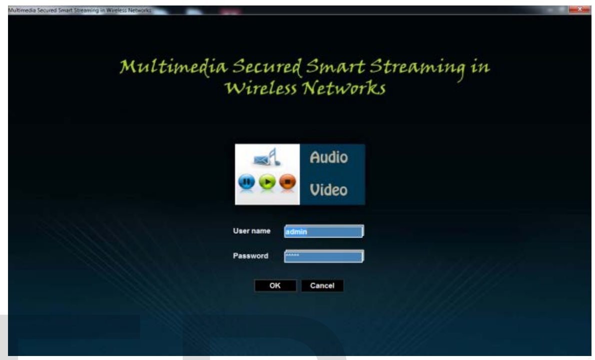
5. TEST RESULTS:

Each and every module and their test cases are approved successfully. No defects encountered.

MODULES	INPUT	EXPECTED RESULTS	ACTUAL OUTPUT
Login form	Username. Password.	Navigate to wireless port configuration.	Username, password validated. Login successful.
Wireless Port configuration.	Port Number.	Successfully Connected to the phone.	Port doesn't exist. Successfully connected to the phone.
Cloud drives Module.	Cloud drive configuration.	Synchronize Successful.	Synchronize successful. Synchronize error.
Source side Encryption.	Audio or Video.	Audio play. Video play.	Open file dialogue error. Null value returned.
Source side Encryption.	Recipient Number.	Receive SMS to recipient number	Destination number error. Port doesn't exist. Problem unhandled error.

6. EXPERIMENTAL RESULTS

LOGIN FORM



WIRELESS CONFIGURATION

SOURCEMODULE

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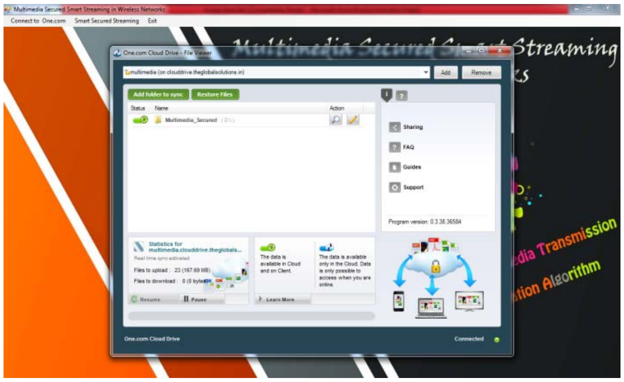
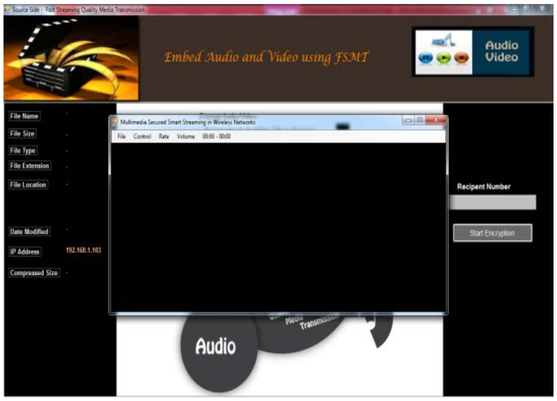
CLOUDDRIVECONFIGURATION



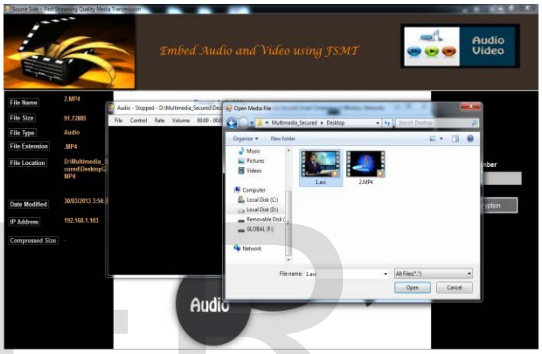
PANEL BOARD

SOURCE SIDE ENCRPTION

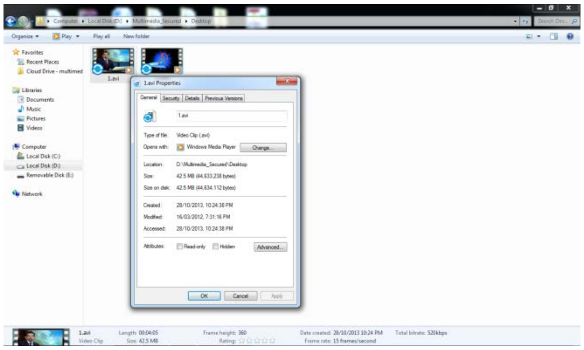
EMBED AUDIO VIDEO



FILE BROWSING MENU



FILE PROPERTIES



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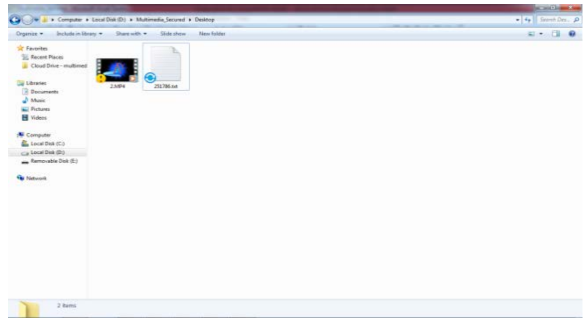
MEDIA STREAMING

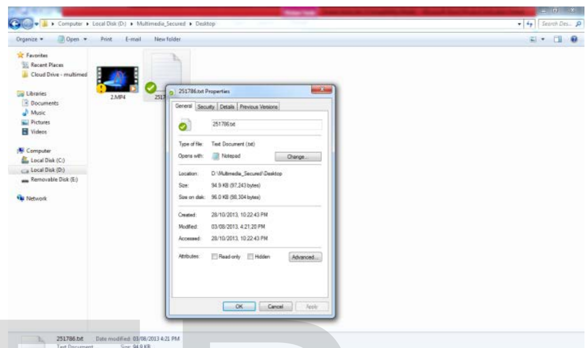
RECEIPIENT NUMBER

START ENCRYPTION

ENCRYPTED FILE



FILE PROPERTIES



7. CONCLUSION

This paper proposes some models that may be useful for the design of a live-video P2P distribution system following a multi-source procedure where the video stream is decomposed into different flows that come from different servers and travel independently through the network. The main focus is on how to ensure a high QoS for the users, by decomposing the original signal into different flows and eventually adding some redundancy. The QoS perceived by the end users is captured using the PSQA technique, which consists in training a neural network with scores given by a panel of users for a sample of transmission conditions, and afterwards employing this neural network to automatically compute an estimation of the perceived quality.

The paper focuses on three policies; in the first one, the original stream is entirely replicated and independently sent from K different servers. In the second one, the original stream is divided into K independent sub streams, one per server, so that their union reconstructs the original signal. In the third one, the original stream is also divided into K independent sub streams, but at each stream some redundancy is added, so that the loss of any sub stream can be recovered from the K − 1 remaining ones. The third technique has much less transmission overhead than the first one, as the total bandwidth consumed is twice the original one (while in the first case, we use K times as much bandwidth). To evaluate the different options, we develop analytical models for computing the Loss Rate and Mean Loss.

Burst Size as functions of the total number of servers K and the number of servers in functioning sequence.

These models were used to experimentally evaluate some configurations computed from realistic parameters (from information collected by a medium-sized ISP provider about the behavior of the users of its streaming video service). In this particular scenario, we evaluated the resulting perceived quality associated with the architectures mentioned before. Among the main conclusions, we can see that (i) in the simple split policy (with no redundancy), when the number of servers grows, the subjective quality degrades very quickly; (ii) in the redundant split policy, passing from one server to two servers improves greatly the quality levels; adding additional servers can lead to slight decreases in perceived quality, but the behavior is very robust in this aspect; (iii) the copy policy has always the best perceived quality levels, but at the expense of much transmission overhead; (iv) using the information computed by the models, it is possible to take into account the different tradeoffs and for example to define the optimal number of servers to be used to ensure with a certain confidence a given QoS level.

This study suggests that among the different policies for multi-source streaming techniques, the ones employing a limited amount of redundancy may well be the methods of choice, as they allow improving the Qos at the expense of a limited transmission overhead. Simple analytical models can be useful to understand the qualitative and quantitative behavior of the different policies. In order to support the designers' decision making, it can be helpful to enlarge extra realistic models, possibly counting other aspects as expenditure or bandwidth margins at the network components.

8. BIBLIOGRAPHY

[1] K.A. Hua and F. Xie, "A Dynamic Stream Merging Technique for Video-on-Demand Services over Wireless Mesh Access Networks,"Proc. IEEE CS Seventh Ann. Conf. Sensor Mesh and Ad Hoc Comm. and Networks (SECON), 2010.

[2] A. Kamerman and L. Monteban, "WaveLAN-II: A High-Performance Wireless LAN for the Unlicensed Band," Bell Labs Technical J., vol. 2, no. 3, pp. 118-133, 1997.

[3] G. Holland, N. Vaidya, and P. Bahl, "A Rate-Adaptive MAC Protocol for Multi-Hop Wireless Networks," Proc. ACM MobiCom, 2001.

[4] B. Sadeghi, V. Kanodia, A. Sabharwal, and E. Knightly, "OAR: An Opportunistic Auto-Rate Media Access Protocol for Ad Hoc Networks," Proc. ACM MobiCom, 2002.

TEXT BOOKS

1. ALEX HOMER, "**PROFESSIONAL VB.NET 1.1**", 2004 EDITION, WROX PUBLICATIONS.
2. STEVEN HOLZNER, "**VISUAL BASIC.NET BLACK BOOK**", 2003 EDITION, DREAMTECH PUBLICATIONS.
3. ROGER S PRESSMAN, "**SOFTWARE ENGINEERING**", 2000 EDITION, DREAMTECH PUBLICATIONS.
4. KARLI WATSON, RICHARD ANDERSON , "**PROFESSIONAL ASP.NET 1.1**" , 2004 EDITION, WROX PUBLICATIONS.
5. POOJA BEMBEY AND KULJIT KAUR WITH NIIT,"**MICROSOFT VISUAL BASIC.NET PROFESSIONAL PROJECTS**",2002 EDITION, PRENTICE HALL OF INDIA PRIVATE LIMITED.

WEBSITES:

1. WWW.MSDN.MICROSOFT.COM
2. WWW.VBCITY.COM
3. WWW.VBDOTNETHEAVEN.COM
4. WWW.CODEGURU.COM