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Monitoring & Security by Mobile Snapshot Spy.

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Abstract:- The project will implement capturing of live videos through a web cam and continuously sending them to the mobile device so that the client will get an overall view of that particular location that means he can spy on it.

Keywords: - Mobile Monitor, Mobile Security, Spy Mobile.

I. INTRODUCTION

Now a day's CCTV cameras are used to monitor activities .In Offices some employees neglect their schedule work and are busy gossiping & in other activities etc. Company's manager is not available all time in office therefore due to some employee's firm faces some amount of loss. So is it possible for the manager to monitor the activities of the employees when he is not available in the office..?

This project deals with capturing videos through the hidden web cam and then silently storing them on to the computer. These videos will be then uploaded on the web server and once the mobile is connected to the web server the videos will be transferred to that mobile device. The project will be consisting of a web server which will act as an intermediate between two terminals (the system which contains the captured videos & the mobile). The main aim is to achieve transfer of videos in 3G as well as 2G technologies. Monitoring & Security means to trace or monitor the events (record the user's every move) or to see what's going on a working place from anywhere using your MOBILE. Every client that connects to the web server gets the list of only those videos which are captured and stored on his local system.

For example suppose client A & B login to the server then client A receives the list of videos of only his own firm & client B receives the list of videos of only his own firm. The client connects to the server using a userID & password & hence cannot view the videos of any other client's firm.

II. ARCHITECTURE:

Web camera continuously captures the videos & stored it on a local computer. Stored video is in .AVI format, we need to convert this video in mobile supported format i.e. .3GP. After convert procedure this videos transfer to server via internet connection. The end user login in his mobile device provided application & monitors its office.

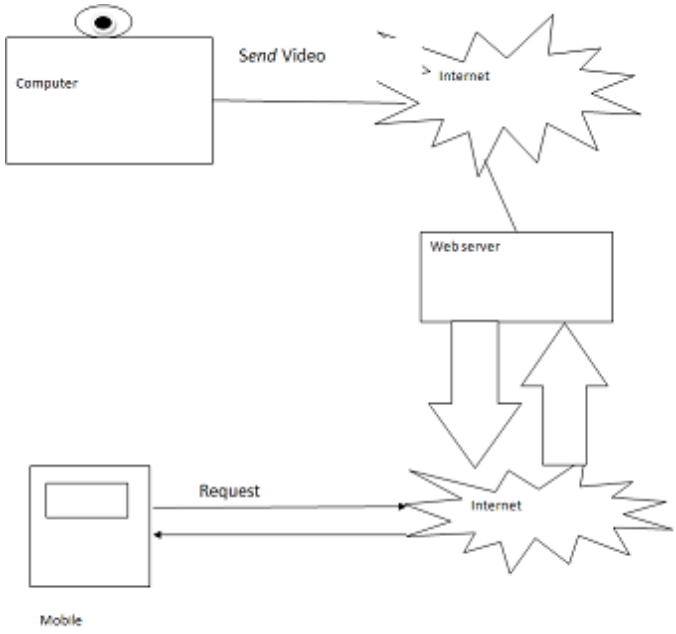

Fig: - Architecture of project

III. CAPTURING OF VIDEO

To capture the videos JMF (Java Media Framework) will be used. An application will be developed to capture the videos from the web cam & store the captured videos on to a local system. The capturing of video starts on the click event of the START button provided in the GUI of the application. The videos are continuously captured & stored onto a local system after specific time intervals until the STOP button is clicked by the user. The videos are stored in the AVI format.

The Java Media Framework (JMF) enables the display and capture of multimedia data within Java applications and applets. Both audio and video share the same interfaces and hence promoting code re-usability for example, code written only for audio capture can be easily ported to one that capture video with minor modification. The JMF 2.0 API extends the

framework by providing support for capturing and storing media data, controlling the type of processing that is performed during playback, and performing custom processing on media data streams. The Java Media Framework (JMF) is an application programming interface (API) for incorporating media data such as audio and video into Java applications and applets. It is specifically designed to take advantage of Java platform features. JMF is part of the Java Media APIs which consist of a suite of class libraries that provide capabilities in areas such as audio and video playback and capture. These new features particularly the ability to capture and transmit media data open up whole new market vistas to JMF 2.0-based applets and applications from real-time video conferencing, to distance learning, to simple video-on-demand, to video and audio processing.

IV. VIDEO FILE FORMAT CONVERSION

The videos which are stored onto the local system are in the AVI format. A converter is designed to convert these stored videos to 3GP format. The video is converted to 3GP format as 3GP format is supported by most mobile devices & to compress the video file. 3GP is a required file format for video and associated speech/audio media types. The 3GP file format is designed to decrease storage and bandwidth requirements in order to accommodate mobile phones. The video file is converted using the audio & video codec's of the 3GP file format. The video codec for 3GP is "h263" & the audio codec for 3GP is "aac". 3GP (3GPP file format) is a multimedia container format defined by the Third Generation Partnership Project (3GPP) for 3G UMTS multimedia services. It is used on 3G mobile phones but can also be played on some 2G and 4G phones. 3GP file format was designed for GSM & CDMA-based Phones and may have the filename extension .3gp. Most 3G capable mobile phones support the playback and recording of video in 3GP format.

V. VIDEO FILE TRANSMISSION TO SERVER

The videos which are stored & converted to 3GP onto the local system are uploaded onto the server. Uploading refers to the sending of data from a local system to a remote system such as a server or another client with the internet that the remote system should store a copy of the data being transferred. The file is uploaded on to the server using the HttpUrlConnection. The HttpUrlConnection connects to the sever using the IP address of the server. Once the connection between the local system (where the videos are stored) & the server is established the videos are uploaded onto the server.

File transfer is a generic term for the act of transmitting files over a computer network like the Internet. There are numerous ways and protocols to transfer files over a network. Computers which provide a file transfer service are often called file servers. Depending on the client's perspective the data transfer is called uploading or downloading. The HTTP protocol operates at the topmost application layer of the TCP/IP stack.

VI. MOBILE APPLICATION

The mobile application is used by the client to login to the server to access the videos available on the server. Once the user is logged in (i.e. connected to the web server) the user can download & view videos available in the list. If the client is a new user he first needs to register & then he can login to the server. The mobile application is designed using J2ME (Java 2 Micro Edition). J2ME is a Java platform designed for embedded systems (mobile devices are one kind of remote systems). Java ME devices implement a profile. The most common of these are the Mobile Information Device Profile aimed at mobile devices, such as cell phones. Designed for mobile phones, the Mobile Information Device Profile includes a GUI, and a data storage API. Applications written for this profile are called MIDlets.

VII. CLIENT SERVER COMMUNICATION

The client connects to the server using the userID & the password. If the client is a new user he needs to register before he can login in to the system. Once the user is logged in he can see a list of videos, the client then sends a request to the server for the particular video he wants to see. The server creates an appropriate response and sends the video the client requested.

The client's request is sent to the server using the http protocol. The client can also send a request to the server requesting for the list of videos of his own choice of date & time. The server creates a response according to the client's choice of date & time and send's the list of videos to the client.

Servlet & JSP is used to accept request from the client & send appropriate response to the client. A servlet is a Java programming language class used to extend the capabilities of servers that host applications accessed via a request-response programming model. Although servlets can respond to any type of request, they are commonly used to extend the applications hosted by Web servers. Thus, it can be thought of as a Java Applet that runs on a server instead of a browser.

Java Server Pages (JSP) are server-side Java EE components that generate responses, typically HTML pages, to HTTP requests from clients. JSPs embed Java code in an HTML page by using the special delimiters <% and %>. A JSP is compiled to a Java servlet, a Java application in its own right, the first time it is accessed. After that, the generated servlet creates the response.

VIII. MOBILE VIDEO DELIVERY

For videos delivery on mobile there are 2 ways first one is content delivery networks (CDNs) & second is HTTP protocol. But in our project we priory use HTTP protocol. We describe it below. In order to meet the challenges of Internet scale delivery, content delivery networks (CDNs) are typically employed by content providers. Managing a global network of data centers requires significant resources. CDNs take advantage of economies of scale to more efficiently

deliver content. Once transcoding is Complete, transcoded files are uploaded to the CDN and replicated to the thousands of edge caches for delivery to end users. CDNs may provide an origin server for uploading content to, or may pull from a content provider's origin server and then manage the distribution to their edge servers. CDNs rely on distributed cache hierarchies for efficient synchronization of content. Delivery of relatively static content, via the simple and ubiquitous HTTP protocol, provides the most cost-effective solution for CDNs. Stable content requires less synchronization and less bandwidth, while optimized HTTP servers can handle extremely high load. Specialty streaming servers typically support fewer concurrent sessions due to CPU-intensive video processing, require specially trained support staff, and may incur licensing fees from the technology vendor. Strictly HTTP-based solutions limit operational expenses and allow the CDNs to pass cost savings on to their customers (i.e., the content providers).

IX. CONCLUSION

The Software "Monitoring & Security by Mobile Snapshot Spy" lets you monitor your office, classroom activities from anywhere through a mobile. The software provides you with a URL to connect and you can watch the videos using your mobile or computer. Mobile rich media delivery is currently poised for a massive expansion. The current movement toward HTTP based video streaming is one step on the road ahead. Content providers want the highest quality delivery for their videos to protect their brand integrity. Streaming protocols based on unreliable protocols, like RTP over UDP, cannot by themselves provide deterministic quality guarantees. In addition, most carriers prefer not to open their networks to the dynamic UDP port allocation required by streaming protocols like RTP. The use of HTTP as a delivery protocol addresses both of these problems. The reliable TCP based delivery, in conjunction with deterministic rate adaptation, provides deterministic quality guarantees, whereas the ubiquity of HTTP allows it to easily traverse firewalls and take advantage of optimized CDN caching infrastructures.

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