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Android Based Portable Viewer for IP Video Surveillance

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Abstract: This paper presents architecture to mobile based surveillance applications with the in android based smart phones and the architecture to improve surveillance applications based on the usage of the android smart phones as user terminals, allowing application dynamic composition and increasing the flexibility of the system. Mobile will be used as user terminals, allowing the user to monitor the area using the android mobile phone. Mobile viewer increasing the flexibility of the surveillance system. According to the result of video sequence and the movement of the people is tracked using mobile based video surveillance system. The IP cameras are connect to the internet or internet can be directly monitored from the mobile based viewer. We use java as front end and xml used for graphical representation. Then Back End is Android SDK. this application is run in android smart phones.

Key words: Architecture to improve · Phones as user terminals · Monitor the area using · IP cameras are connect

INTRODUCTION

Video Surveillance systems have increase their needs of dynamism in order to allow the different users (operators and administrators) to monitor the system selecting different QoS depending on the system status and to access live and recorded video from different localizations, for example, from their mobile devices. More concretely, in IP surveillance systems some resources involved are limited or expensive so dynamic reconfiguration could become competitive advantage for system integrator and designers able to offer flexible applications adaptable to users' needs [1-6]. Advances in programming paradigms have allowed increasing the dynamism and flexibility of distributed environments. Concretely, Service-Oriented approaches provide means of developing decoupled applications in heterogeneous networks by defining the concept of service. A service, in the SOA context, is an entity that receives and sends messages through well-defined interfaces, allowing building more complex applications that increase the value of the system. This concept can be applied to QoS-aware (Quality of Service) systems, in order to ease the configuration and reconfiguration of applications. Besides android is a software stack for mobile devices that includes an operating system, middleware and applications that can be suitable for the development of the end-user surveillance application.

An Internet protocol camera or IP camera is a type of digital video camera commonly employed for surveillance and which unlike analog Closed Circuit Television (CCTV) cameras can send and receive data via a computer network and the Internet [7]. Video surveillance devices, designed to work over an Internet protocol (IP), are allowing users to obtain the cost-effectiveness, flexibility and remote accessibility of a digital technology.

Proposed System: Proposed system is Infra structureless, small scale implementation. It is based on peer to peer communication (i.e., peer to peer communication is a computer network in which each computer in the network can act as a client or server for the other computer) between mobile phones. Each android phone is having a built in wifi hardware. DVR (Digital Video Receiver) is a analog CCTV security transitioned to Digital CCTV Surveillance. Here the streaming data can be stored in SD card while streaming [8].

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Advantages:

- High accuracy in image capturing.
- It increases the flexibility of surveillance system.
- It is cost efficiency
- This is mainly used for security purpose.

Module Descripition

User GUI: First the user enters the command on AndroView to activate local view as well as view share function based on user selection option through User GUI option provided on Application [9].

A *graphical user interface* (GUI) is a *human-computer interface* (i.e., a way for humans to interact with computers) that uses icons and menus and which can be manipulated by a mouse. In this we are using the below GUI's windows.

- Login GUI
- Database Creation:
- Database Viewing
- Camera Viewer

Camera Capture: Initialize the Camera based on user selection according to availability of front and back CMOS video sensor on Smart Phones and collect the image/ video frame by frame and buffer the image/video frame on Frame Queue [10-14].

H.264 Video Codec: H.264 Video Codec is an industry standard for video encoder/decoder, the process of converting digital video into a format that takes up less capacity when it is stored or transmitted. An encoder converts video into a compressed format and a decoder convert's compressed video back into an uncompressed format. The H.264 Video Encoder gets the image/video frame from video frame buffer and encodes the digital image/video into H.264 format and then stores into video frame queue for video streaming or storage. The H.264 Video Decoder gets the H.264 encoded stream from video frame queue and decodes the H.264 encoded stream into digital image/video format and then stores into video frame buffer for video display.

Media Stream Decoder: Media Stream decoders get the video packet from network and de-packetize the packet into H.264 enc`oded image/video format and then buffer the frame on video frame queue. This will be used to view the video locally as well as stream the media data as per the Multihop controller framework.

Display Adaptation: Video rendering and display adaptation algorithms that make it possible to enjoy visual content on a variety of playback / display devices. This will be used to reconfigure or resize the video according to display device used on the view share client.

Video Display: Displays the visual content on local or remote view after it adapted to specific video rendering device as per the system or GUI design. design.

CONCLUSION

Conclusions are shorter sections of academic texts which usually serve two functions. The first is to summarize and bring together the main areas covered in the writing, which might be called "looking back"; and the second is to give a final comment or judgement on this. The final comment may also include making suggestions for improvement and speculating on future directions. In dissertations and research papers, conclusions tend to be more complex and will also include sections on significance of the findings and recommendations for future work. Conclusions may be optional in research articles where consolidation of the study and general implications are covered in the Discussion section. However, they are usually expected in dissertations and essays. It increasing their flexibility and dynamism, allowing the creating of applications of added value, such as the usage of smart phones as user terminals to control and watch over different areas. In this paper, a service oriented architecture for surveillance systems was proposed and a prototype of the system using an android terminal was described.

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