

## Remote Surveillance System for Mobile Application

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### ABSTRACT

This paper presents a final year project on the design and development of remote monitoring system for mobile application. There is a growing interest in performing surveillance using video cameras. Services of this system are useable for clients with not only PC's but also mobile devices which has GPRS. It is often used as a force multiplier or asset protection device for areas where it is not possible, practical, or affordable to install a cable network. It provides security for remote location where it is difficult to monitor the area.

*Keywords* - Surveillance, Camera, Mobile, Image Compression, Web Portal.

### I. INTRODUCTION

The surveillance means —to monitor|. Security in residential complexes is restricted to limited geographical locations. Compared to traditional framing cameras, videos provide the capability to observe ongoing activity within a scene and to automatically control the camera to track the activity. However, the high data rates and relatively small field of view of videos present new technical challenges that must be overcome before videos can be widely used.



Fig 1: Surveillance Example

Consider the above diagram, it is a common house where have five to six rooms and we have placed cameras in each and every rooms. The server is kept downstairs and so we can monitor everywhere and what kinds of activities are going in every room. We also have placed camera the entrance .So we can see before opening the door that has come to visit us .Not only when we are in the house but also when we are in remote location through mobile.

### II. PROBLEM DEFINITION

The mechanism for accessing surveillance devices should be capable of accessing devices from any remote location. This would allow user to keep a watch on security location from any remote location. The communication and the platform needed to access surveillance devices should be standard channel and device. The communicating and accessing device should be fully based on software. This will make easy for user to control and access surveillance devices. Accounts for all users should be maintained. This will make proper utilization of communication bandwidth using standard software based platform. This allows user to access surveillance devices from a standard user friendly platform like web portal or mobile devices.

### III. EASE OF USE

#### 3.1 Client/Server Architecture

Users can issue a variety of remote demands, permitting more than one client to view and control cameras simultaneously and more than one process to access data for more than one purpose, such as automatic remote archiving, searching and/or exporting data

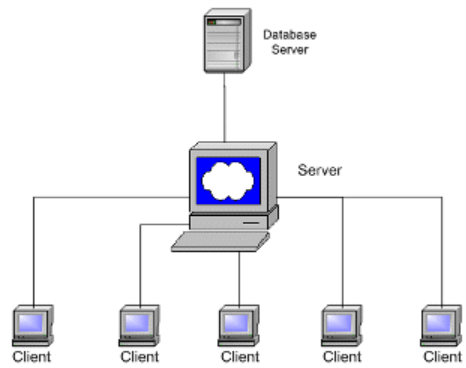


Fig.2: Client/Server Architecture

### 3.2 Data Storage

As today's security issues grow more complex, surveillance concerns often extend beyond closed doors and well into public spaces. To combat such evolving threats, outdoor and, mobile surveillance has become a key element of comprehensive security solutions. While mobile surveillance is rapidly gaining prominence as an effective surveillance tool among specialist industries, such as law enforcement and the military, outdoor surveillance has become increasingly important in safeguarding public and organizational interests. These diverse video surveillance environments highlight the growing importance of HDDs, which enable vast quantities of critical video data to be stored efficiently, reliably and securely.

### 3.3 Easy Integration

Quality digital video images streamed from high-definition cameras are easy to integrate with post-processing applications, such as facial recognition and object tracking.

### 3.4 Remote Accessibility

Network cameras and video encoders can be configured and accessed remotely, enabling multiple, authorized users to view live and recorded video at any time and from virtually any networked location in the world.

### 3.5 High Image Quality

In a video surveillance application, high image quality is essential to be able to clearly capture an incident in progress and identify persons or objects involved.

## IV. DESCRIPTION OF PROJECT

The architecture being used for this software is the Two Tier Architecture. In Two Tier Architecture, the client machine acts as a front end communicates with an

application server. The application server in turn manipulates data with help of admin to access data. Two tier applications are appropriate for large as well as small application, and for application that run on the World Wide Web. The two clients in the architecture are mobile and web portal.



Fig 3: System Architecture

First the surveillance device i.e. camera will capture the images and send it to server, server will compress those images and store it in database .when mobile will send request to server through GPRS the server will send those compress images to mobile through internet. A web portal or links page is a web site that functions as a point of access to information in the WWW. A portal presents information from diverse sources in a unified way. Apart from the standard search engine feature, web portals offer other services such as e-mail, news, stock prices, information, databases and entertainment

## V. MAJOR OBJECTIVES

### 5.1 Operating System Support

As we have chosen the java language for implementing this project, java is a platform independent language. So this project can be implemented in various operating systems.

### 5.2 Sensors

A sensor (also called detector) is a device that measures a physical quantity and converts it into a signal which can be read by an observer or by an instrument. A sensor is a device which receives and responds to a signal. A sensor's sensitivity indicates how much the sensor's output changes when the measured quantity changes.

### 5.3 Multitasking

It means at a time performing more than one task simultaneously. In this project monitoring, recording, playback, and remote monitoring are done simultaneously.

#### **5.4 Video Streaming and High Bandwidth**

Bandwidth is a key performance measure of remote communication. It defines how many bits can be transmitted every second, which means the more bandwidth available, the more data can be sent in a given period of time. Remote surveillance via mobile uses IP networks that have the flexibility to allocate bandwidth as needed and reserve the unallocated bandwidth for other data using RTS protocol.

#### **VI. CONCLUSION**

The project is motivated by a need of developing; a very simplistic yet powerful and most importantly, cost-free implementation of security surveillance system. Learning and understanding all the underlying concepts thereby, also forms a subset of the motivation. Anyone finding the need to keep a watch on security through remote location is a potential customer of the product.

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