Remote Surveillance System

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Abstract— This project is based on the design and development of Remote Surveillance System. Services of this system are useable for clients with not only PC's but also mobile devices which has internet connectivity (GPRS or Wi-Fi). This "Remote surveillance System" is a Hardware and software Integrated product. In traditional CCTV cameras the recorded video is stored on a DVR kept somewhere in the premises where the CCTV is installed .Since there is a physical access to the stored video, smart robbers can steal it during act of mishap.   So there is need of comprehensive solution for the problem of breaching of Traditional security systems. Hence introducing "Remote Surveillance System" with Android software, Cloud service and Camera Hardware is the desired solution. The storage of the recorded video will be done online. The recorded video can be seen by the user to find out any suspicious activities happened in surveillance area with the help of android software from any remote location and also the live streaming of surveillance area.

Keywords— Survelliance, Android, Cloud, Integrated product, Live streaming.

I. INTRODUCTION

Observing or analyzing a particular site for safety and business purposes is known as video surveillance. Security and crime control concerns are the motivating factors for the deployment of surveillance cameras. Surveillance cameras are used in shopping centers, public places, banking institutions, companies and ATM machines

Nowadays, researches experience continuous growth in network surveillance. The reason being is the instability incidents that are happening all around the world. Therefore, there is a need of a smart surveillance system for intelligent monitoring that captures data in real time, transmits, processes and understands the information related to those monitored. The video data can be used as a forensic tool for after-crime inspection. Hence, these systems ensure high level of security at public places which is usually an extremely complex challenge. As video cameras are available at good price in the market, hence video surveillance systems have become more popular. Video surveillance systems have wide range of applications like traffic monitoring and human activity understanding
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II. SYSTEM ARCHITECTURE

Remote surveillance systems architecture is based on Internet and software integration.
All component of surveillance are on the internet integration to make all user configurations easy we are selected DNS system.
DynamicDNS (DDNS) is a method of automatically updating a name server in the Domain Name System (DNS), often in real time, with the active DNS

configuration of its configured hostnames, addresses or other information.
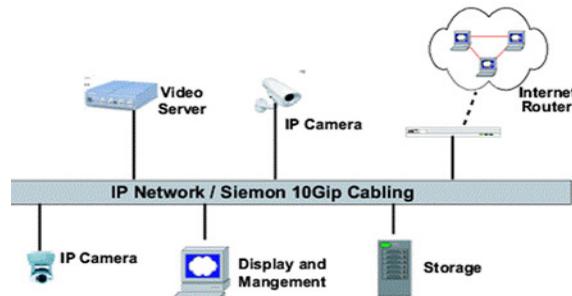
Figure 1: Architecture of the system

The term is used to describe two different concepts. At the administration levels of the Internet, "dynamic DNS updating" refers to systems that are used to update traditional DNS records without manual editing.
Another kind of dynamic DNS permits lightweight and immediate updates to its local database, often using a web-based mechanism.
It is used to resolve a well-known domain name to an IP address that may change frequently. It provides a persistent addressing method for devices that change their location or configuration.

III. NEED OF THE PROJECT
- Remote surveillance System is basically smart surveillance for all small users to enterprise users with threat of CCTV breaching by smart robbers.
- Many CCTV users like small financial institute , corporates…etc. requires to safe guard the database

and reason is database get stolen by the robber or bluff man while action of mishap

- CCTV users required remote login to check action front of camera is correct like Business Intelligence.
- To find out mistakes in factory while manufacturing the good which can't be controllable with employee
- In Vehicle surveillance required online streaming by Police or security agency which is possible by Remote surveillance system
- When you are going out of town for some days then you can watch action in front of camera and take appropriate proactive action to fix any mishap
- This is a cost effective solution for surveillance industry as we will not use a big TV screen for surveillance and views are not restricted to view and video

IV.   OBJECTIVES

The main objectives of our system is to develop a low cost system which would help the user of the system to remotely monitor the surveillance area and also to keep the database containing the footage secure by means of online storage.

We are designing integrated systems with Hardware, software and services which will help users to view on android mobile phone and store data based on cloud and check database when it is required.

A.   Improved incident monitoring

To improve the ability to observe events at specific locations as they happen. When and if appropriate, being able to co-ordinate a response from police or rangers to the incident if necessary.

B.   .Evidential recording

To improve the ability to manually or automatically store data images leading up to   and including an incident. This data may be usefully used to Police to assist in a proper investigation, and if required be acceptable for submission to court, as trial   evidence.

C.   Reduction in specific crimes

A common objective for the use of CCTV is to reduce specific crimes in specific locations. However, it should be noted that improving the incident monitoring in an area could actually lead to increased reporting of crimes and as a result a higher rate of crime than before the CCTV camera was installed. In the long term, if incident monitoring and evidential recording is successful and leads to convictions this could lead to a reduction in specific crime(s).

V.   METHODOLOGY

The System that we intend to implement has the following hardware; a digital wireless IP camera, an android device with the app installed in it, and cloud base data storage. Remote surveillance system is design based on market need and designing and method is as per current resource availability

A.   Surveillance system Hardware :- Digital IP camera to have flexibility for frame storage , data transfer and networking also to avoid physical cabling in any surveillance area and plug and play situation for same networking zone

B.   Surveillance View device: - Mobile Phone as a viewing device because market trend in all smart application mobiles are getting used.

C.   Surveillance Data storage :- Cloud based data storage which can be decided as per requirement of user and change whenever required easy transition is possible and no hardware cost involve which makes user friendly solution.

Integration :- IP camera getting Installed at Surveillance area and connected to Local Wi-Fi router and further Networking with DNS site which can handle dynamic IP address or Local Internet provider making configuration in provider router

Cloud storage will have public IP address or we can buy dynamic IP address and make Networking with DNS site and all files which are received via Internet will be stored in data storage.

To view in mobile we have chosen android as an application software and designing and developing a APK for remote video streaming which can be used for IP camera wide angle view or stored video streaming and providing user id based login which is a security to surveillance system

The following diagram will explain the software development lifecycle that we would be following in order to develop our system

Software Development Life Cycle

Figure 2 represents Software Development Life Cycle
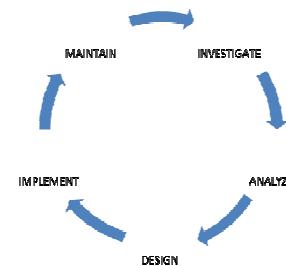
VI.   WORKING OF THE SYSTEM

The various modules which we intend to include in our system are as follows:

a).Login , Password :

This module creates a login Id and Password as per user demand and admin if required.

b).Change Password:

This module helps user to change password and assign a new password according to their needs whenever necessary.

c).Live Camera streaming:

This Module will show live streaming Video of IP camera

d).Recorded Video streaming :

This Module show recorded video of IP camera

*e).*Connectivity with Internet:

Wireless connectivity with Local Wi-Fi router and further Networking with DNS server, cloud server and mobile Phone

*f).*File Transfer to Data base:

All Video to be converted in digital frame view format and transfer to cloud data storage

Format would be MPEG/MPEG4

*g).*Cloud Data storage Internet connectivity

Networking with DNS server, cloud server and mobile Phone

*h).*Data storage of IP camera

All Video to be saved in digital frame view format MPEG/MPEG4
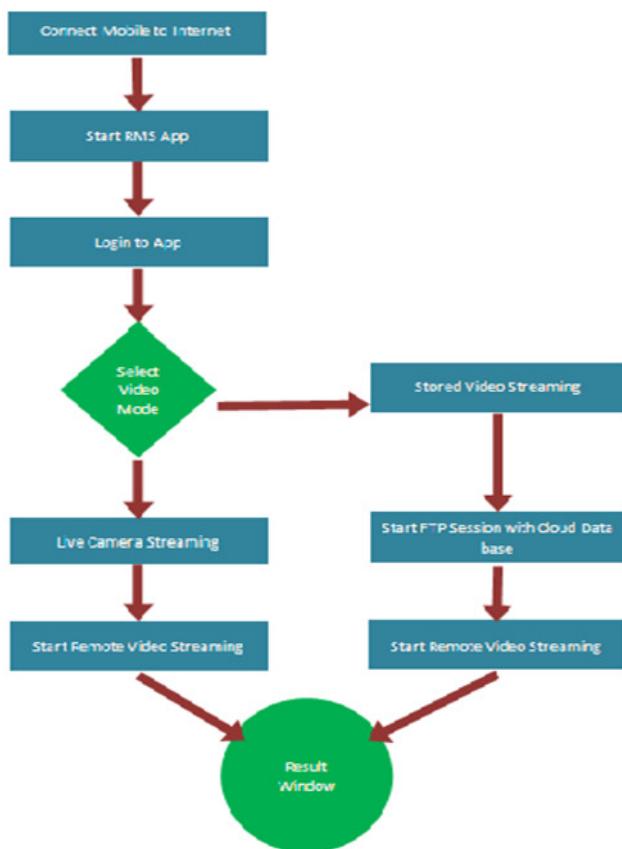
Figure 3 Shows the working of the system

VII CONCLUSION

This project is motivated by a need of developing a very simplistic yet powerful and most importantly, cost-free implementation of security surveillance system. IP cameras for remote surveillance systems are replacing analog cameras and being deployed into new places for new uses. Powerful, specialized software applications are enabling IP cameras to improve security, and perform continuous monitoring with automated efficiency. In addition, value is being added through marketing and increased customer service. Integrated surveillance is an ideal security solution for parking areas and for stores with multiple locations. Software applications enable automatic detection of suspicious events. Intruder alerts can be raised automatically, working in parallel with other crime-prevention systems. Anyone finding the need to keep a watch on security through remote location is a potential customer of the product.

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