Timing and Space based Motion Detector Sysyem

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ABSTRACT

A monitoring and alerting application is introduced in this project. IP Cameras are special cameras that stream the video feed into the internet as a video stream. This stream is captured and can be monitored for any unauthorized activities. Motion detection is done when movements are detected and the alarm goes ON if such movements are detected. Start the alarm feature by entering a password and clicking on start button. Enabled for both local cameras as well as IP cameras. Remote monitoring from any part of the world using a very efficient motion detection algorithm for better security. The detection of abandoned objects in videos from moving cameras is of great importance to automatic surveillance systems that monitor large and visually complex areas. This paper proposes a new method based on sparse decompositions to identify video anomalies associated with abandoned objects. The proposed scheme inherently incorporates synchronization between the reference (anomaly-free) and target (under analysis) sequences thus reducing the implementation complexity of the overall surveillance system. Results indicate that the proposed video-processing scheme can lead to 95% complexity reduction while maintaining excellent detection capability of foreground objects.

Introduction

Internet of Things(IOT)

The vast network of devices connected to the Internet, including smart phones and tablets and almost anything with a sensor on it – cars, machines in production plants, jet engines, oil drills, wearable devices, and more. These “things” collect and exchange data.

IoT is also called as machine-to-machine (M2M) technology, behind it are bringing a kind of “super visibility” to nearly every industry. Imagine utilities and telcos that can predict and prevent service outages, airlines that can remotely monitor and optimize plane performance, and healthcare organisations that can base treatment on real-time genome analysis. The business possibilities are endless.

Internet of Everything (IoE)

Although the concept of Internet of Everything emerged as a natural development of the IoT movement and is largely associated with Cisco’s tactics to initiate a new marketing domain, IoE encompasses the wider concept of connectivity The perspective of modern connectivity technology use-cases IoE encompasses the wider concept of connectivity. All sorts of connections Imaginable including IoE comprises of four key elements

Existing System

The currently existing systems provide very large variety of unwanted and also heavy components which make the application very hard for usage, and also not fit for the actual purpose. They too provide limitation for user connectivity through licensing. This makes us unable to use the Root purpose of the software. Existing systems make it difficult for the users to understand the design and working that makes them believe the software is very much harder than using some other in efficient methodology. Local Camera capability is limited and only Remote Camera monitoring facility is enabled.

Proposed System

An efficient software can be used in the proposed system to detect and monitor security with ease. Simple architecture makes it user friendly too. It does this by using a very efficient motion detection algorithm with a variable sensitivity which makes it vital for the security purpose. More recently, a two-stage dictionary learning approach has been proposed for the analysis of video sequences. It dispenses with the need of motion estimation, tracking or background subtraction. The resulting system considers as anomalies portions of video that are poorly represented by the dictionary.

ROBUST: It is a very simple and efficient system which is very much robust under heavy usage also.

STABLE: Does not crash even if under much load.

EFFICIENT: Works efficiently in detecting movements.

SIMPLICITY: Very simple design and executions for better understandability.

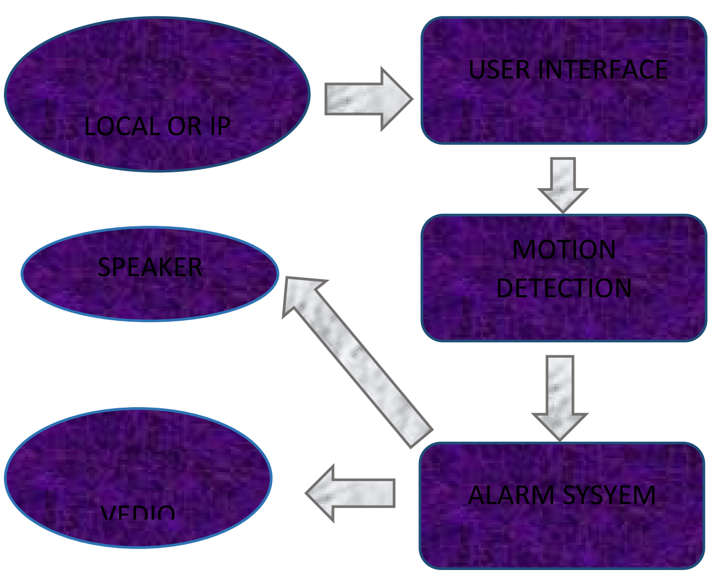


Fig 1 Traditional framework of moving-camera abandoned object detection including video time and geometric alignment before frame comparison.

In fig 1 shows a camera related operations package is used in order to handle the camera related methods[1]. Here we use the camera class in order to capture the camera feed either of the local camera or the remote IP camera and then display it in a window[15]. This would be visible along with the other security controls to the user.

In fig 2 shows the camera video module is the part were we capture the video stream as it is done by the camera and then display it within boundaries of a window in which the user may see the captured video.

A camera related operations package is used in order to handle the camera related methods. Here we use the camera class in order to capture the camera feed either of the local camera or the remote IP camera and then display it in a window[2]. This would be visible along with the other security controls to the user.

Fig 2 Camera video module

In fig 3 shows the motion detection module consists of the motion detection algorithm which helps us to analyze the camera feed and to detect and signal any motion related triggers[3]. It also comes with a motion sensitivity panel were you get to adjust the level of motion sensitivity that might be required. The motion detection module consists of the motion detection algorithm which helps us to analyze the camera feed and to detect and signal any motion related triggers. It also comes with a motion sensitivity panel were you get to adjust the level of motion sensitivity that might be required.

A timer is run that waits for the camera to focus in, then the control panels are activated. Application's default properties are stored in settings like the keycode and option control states. The Arm/Disarm button acts as the keycode set button, when first run, or if the keycode property is cleared. The sounds used in the application are instances of the System.Media.SoundPlayer class, instanced and loaded with a sound file when the app initializes[14].

The camera's motion trigger state is polled periodically using a timer class which is custom, if motion has occurred, an alarm timer is fired, which will loop until the alarm is deactivated, or the max alarm timeout occurs.

Fig 3 Motion detector

In fig 4 shows the alarm system covers the remaining part of the project on alerting the user regarding the security threat. This is done by detection of any motion and a alarm sound is set on. This alarm alerts the user about the security issue which might be present[4]. It also records the video on triggering the alarm. Alarm system covers the remaining part of the project on alerting the user regarding the security threat. This is done by detection of any motion and a alarm sound is set on[5]. This alarm alerts the user about the security issue which might be present. It also records the video on triggering the alarm.

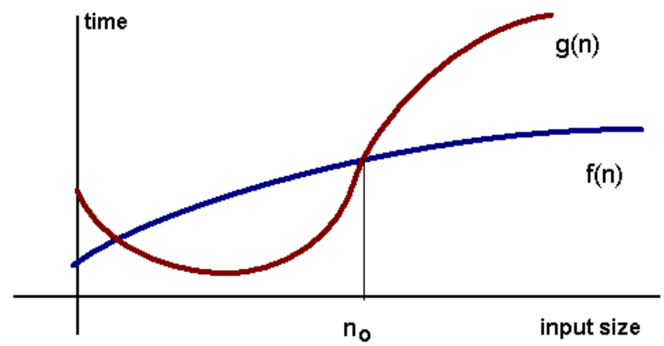
When the alarm is in Armed mode, all but the keypad and alarm switch are disabled. This is done by disabling the Group Box that houses the controls. The main form close button also needs to be deactivated[6]. This is done both by cancelling the form's exit in the Form Closing event, and by disabling the Close button using the Get System Menu/Enable MenuItem API. Principal subspace analysis (PSA) methods can be used to solve many practical problems. If, for instance, one assumes a slowly moving camera, then consecutive frames of a given reference video $\mathbf{X}_r$ share approximately the same low-rank RoSuRe.

Fig 4 Alarm system

abandoned objects. The proposed scheme inherently incorporates synchronization between the reference (anomaly-free) and target (under analysis) sequences thus reducing the implementation complexity of the overall surveillance system[9]. Results indicate that the proposed video-processing scheme can lead to 95% complexity reduction while maintaining excellent detection capability of foreground objects depends on the optimum choice of threshold value to separate the real altered pixels[10]. Moreover all these techniques are capable of calculating only the two dimensionality change in the environment, whereas in the proposed technique a differential geometry approach is used to detect changes from images which are done by involving the geometric property of the pixels with respect to its environment[13]. Finally the quality of image is measured using various performance parameters like PSNR and MSE.

can be applied to moving cameras. First, the proposed method computes frame-by-frame correspondences between the current and the reference (database) image sequences. Then, obstacles are detected by applying image subtraction to corresponding frames[7]. To confirm the effectiveness of the proposed method, we conducted an experiment using several image sequences captured on an experimental track[11]. Its detect various obstacles accurately and effectively.

Change detection net data set show that the conveyer net based algorithm at least reproduces the performance of state of the art methods, and that performs them significantly when scene specific knowledge is considered[12].



CONCLUSION

Although the application of Remote camera monitoring is not a new area of development, but the novelty in the current system is the utilization of the local camera also along with the remote IP or local camera that makes the system ubiquitous. The application APIs have been designed to be used as interface between wide range of people and clients. The aspect can be used as a generic platform for many other security monitoring applications It presents a family of algorithms that use sparse representations for detecting anomalies in video sequences obtained from slow moving cameras. The proposed techniques project the acquired data from a reference video onto a union of subspaces, and select a small number of those subspaces that contain most of the information needed to reconstruct the target video. Extensive experiments were conducted. A detection performance with alternative state approaches using the challenging VDAO database. Extensive experiments were conducted comparing the mcRoSuRe-A detection performance with alternative state of the art approaches using the challenging VDAO databases . The present work has shown the efficiency of the mcRoSuRe. A method demonstrating that it is able to cope with challenging scenarios in much less processing time than the other methods in mcRoSuRe family, while attaining qualitatively similar results.

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