

Utku Sahin 1631373 Ilhan Yoldas Karabulut 1630912
Erdinc Kaya 1630946 Alisan Yilmaz 1631217
Group Name : 213

Project Title: Security System with Microsoft Kinect

Sponsor: Simsoft A.S (Veysi Isler)

Description of Problem:

We are planning to make a Security system that inform people who want to save their place from any kind of action which involves crime. This security system will solve the problem of gathering early information about people who plans to commit crime to important places.

Characteristics of the Project:

The expected product will be developed using the cam technology named Kinect. Kinect is a product that returns person's pre-specified body position information in three dimensional space .We are planning to use this positions to decide whether this person made suspicious actions or not.

Many organizations facing security problems intend to solve these problems usually with security cameras. Nowadays, surveillance, motion triggered and infra-red cameras are commonly used. Our project with kinect, other than using these basic systems, offers a new solution. A solution that reduces the time wasted during using these basic cameras. In order to find a problem and check the situation happened which recorded by surveillance cameras needs lots of time to check every recorded data. Since motion triggered cameras seems like a better solution it only reduce the time a little bit with a lot of extra recorded scenes. Our project will let the organizations minimize the time to check the recorded videos only with specified suspicious situations. Moreover, the organizations using these basic systems usually are not able to prevent the crime. Instead, these are mainly used to detect the crimes and criminals. On the contrary, our system can instantly warn the authorized people.

Since kinect can't identify more than two people at a time, the product won't be able to used in crowded places. Moreover, kinect can only give the limited information about

movements of body. So, we won't be able to facial expressions and finger movements. Basically, our limitations are proportional with Kinect's abilities.

Our product will be used on where there are not much people at the specified location and also at places that situations can occur risking life and money. In first step of our project we will decide a target place to apply our project on. Moreover, we will describe which movements are suspicious to our system with the help of Directorate General of Security. Some of the places that our project can be applied are below;

- Banks
- ATMs and BTMs
- Jewelry Stores
- Pharmacies
- Transaction points of people where controlled by machines
- Museums

Our end product will be determining the criminal actions in two different aspects. In some situations, such as the crimes committed in transaction points, (passing by without a ticket) the product will detect, record and send notification to the authorities about the crime. Moreover, it will inform the exact moments that crime committed in order to save time. In other situations, such as in Jewelry Stores and Banks, the securities or the authorities will be informed when the suspicious actions are detected in order to take care of the suspect.



References:

[1] Microsoft Kinect Official Webpage, <http://www.xbox.com/en-US/kinect>.

[2] Kinect SDK web page , <http://research.microsoft.com/en-us/um/redmond/projects/kinectsdk/>

[3]O. Sehitoglu,R.Cakici “Writing Reports: the Good, the Bad and the Ugly”.