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Project Proposal – Home Security System

What’s the main problem with most home security systems? They come with an attached company that charges an exorbitant amount of money for “monitoring”. What I am proposing is a home monitoring system that you are able to monitor yourself. This system would interface with a PC or mobile phone application and allow you to get alerts based on sensors that detect activity in your home. There are somewhat similar products on the market, but where all current market options fail is integration. Sure, you can buy cctv’s, IR sensors, and mobile phone apps. You can even buy security systems with monitoring and video, but the inclusion of the features this security system will introduce hasn’t been done before, and the removal of a third party makes it all that much more enticing. This product will be a fully functional home security system, operable via PC or mobile phone and will allow the user to see who is at their door in real time via the software component, even if they are out of town. Another beautiful feature of this is that it will require no monthly service fee and has the extensibility to incorporate new features. The viability of this project for our class is excellent. The basic concept should be relatively simple to understand but a challenge to implement. The extensibility will keep our group working to implement the best features.

Imagine this: Someone is at your back door, attempting to get in. You are sent an alert based on an IR sensor that detects presence of warm body, with video. Current market available sensors detect presence only upon event (door opening or doorbell ringing) and a criminal is not likely to trigger this unless until your family is already at risk. If this turns out to be a market viable option, many things can be added to enhance the functionality of this device. For example, a long term improvement could be an intercom like feature, streaming audio, facial recognition tied to door locks that open for occupants on command or displays criminal profile based on link with FBI or Police database. All of this in a standalone security system would be a must have for consumers wishing to protect their family without breaking the bank doing it.

The components involved:

Hardware:

IR sensor/camera

Mobile phone/pc

Network router

Handheld device (not mandatory)

Wall mount device (not mandatory)

DVR (not mandatory)

Software:

GUI

Mobile phone interface

Computer interface

Streaming data

Alert/Message based system