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## RESEARCH ARTICLE

## PC CONTROLLED WIRELESS CCTV CAMERA FOR AUDIO AND VIDEO MONITORING USING XBEE AND PIC CONTROLLER.

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### Abstract

This paper reviews Wireless link between PC and CCTV camera system. Wireless CCTV camera is attached on a stepper motor. Stepper motor will be controlled through PIC controller.

Using PC serial port user can send command like left, right, start, stop etc. This command will be transmitted using wireless transceiver. Second transceiver will receive the command and passes it to PIC controller. PIC controller will receive the command and controls the stepper motor accordingly.

Wireless camera has the facility of Video and Audio transmission. So camera will take Video and Audio and send it using a separate wireless link. These Video and Audio will be received by the receiver at the PC side. At the point Video and Audio will be shown on PC.

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## INTRODUCTION

*Wireless Communication* is the transfer of information between two or more points that are not connected by an electrical conductor.

Wireless is a term used to describe telecommunications in which electromagnetic waves (rather than some form of wire) carry the signal over part or the entire communication path. Some monitoring devices, such as intrusion alarms, employ acoustic waves at frequencies above the range of human hearing; these are also sometimes

An *Embedded System* is a computer system with a dedicated function within a larger mechanical or electrical system, often with real-time computing constraints. It is *embedded* as part of a complete device often including hardware and mechanical parts.

Embedded systems contain processing cores that are either microcontrollers, or digital signal processors (DSP). A processor is an important unit in the embedded system hardware. It is the heart of the embedded system.

## MATERIAL AND METHODS

### MOTOR DRIVER IC (ULN2803)

The eight NPN Darlington connected transistors in this family of arrays are ideally suited for interfacing between low logic level digital circuitry (such as TTL, CMOS or PMOS/NMOS) and the higher current/voltage requirements of lamps, relays, printer hammers or other similar loads for a broad range of computer, industrial, and consumer applications. All devices feature open-collector outputs and freewheeling clamp diodes for transient suppression.

The ULN2803 is designed to be compatible with standard TTL families while the ULN2804 is optimized for 6 to 15 volt high level CMOS or PMOS.

## MP LAB IDE

The current version of MPLAB IDE, version 8.92, is the last MPLAB 8 version that will contain new device support. It is a 32-bit application on Microsoft Windows and includes several free software components for application development, hardware emulation and debugging. MPLAB IDE also serves as a single, unified graphical user interface for additional Microchip and third-party software and hardware development tools.

Both Assembly and C programming languages can be used with MPLAB IDE v8. Others may be supported through the use of third-party programs.

Support for MPLAB IDE, along with sample code, tutorials, and drivers can be found on Microchip's website. MPLAB IDE v8 does not support Linux, UNIX or Macintosh operating systems.

## PROTEUS ISIS-7

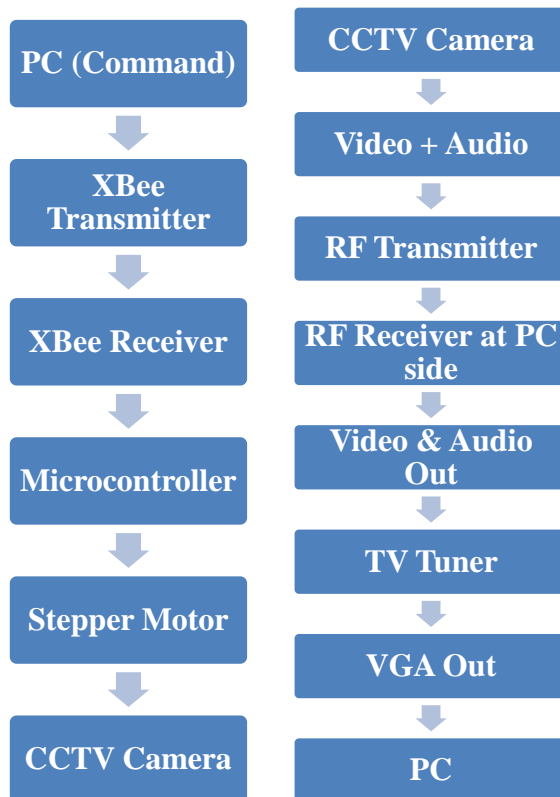
**Proteus** is software for microprocessor simulation, schematic capture, and printed circuit board (PCB) design. It is developed by Lab center Electronics.

The X-Game Station Micro Edition was designed using Lab center's Proteus schematic entry and PCB layout tools.

## RESULT AND DISCUSSION

This paper documented our preliminary experiments with wireless communication and embedded system. In term of wireless communication we found that a single antenna system can be used for global communication and by controlling signal strength for local communication. However, the distance between modules in our successful experiments is large due to limited resolution of localization, but the practical use fullness of this approach is questionable.

## FOLW CHART



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