



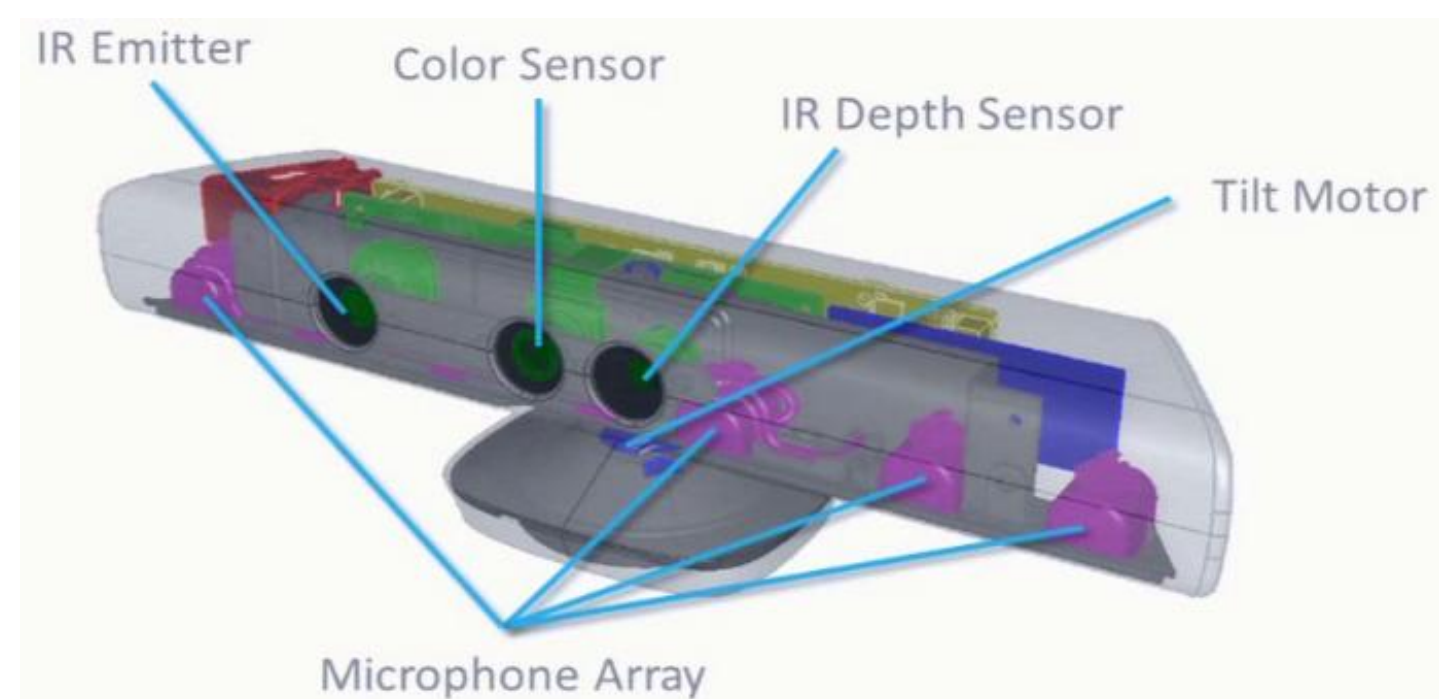
# Motion Control Applications Using the Kinect

## Abstract

The purpose of this project is to explore the functionality of the Kinect sensor for the Xbox 360, and then to use that knowledge in the development of an interface for a Windows PC.

## Background Information

- Motion sensor for Microsoft's Xbox 360 gaming console
- Utilizes several types of sensors:
  - RGB camera
  - IR depth sensor
  - Multidimensional microphone array
- Programmable in C++/CLI, C#, and Visual Basic .NET
- Quickly became popular for use beyond Xbox



## Procedure

- Learn C#, C++
- Familiarize ourselves with Kinect SDK
  - DepthStream
  - SkeletonStream
- Write code to utilize the data from the Kinect to interact with the PC

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## KinectKursor

KinectKursor reads data from the user's hand (either left or right) and maps the data to the system mouse. Moving the hand moves the mouse to the corresponding position on the screen. User gestures are interpreted as commands for the mouse to perform its various functions.

We plan to add voice commands in future versions of the program. These commands would be used for opening various commonly used programs such as web browsers and for tweaking such system functions as volume and brightness level.

## Gestures



Move Cursor

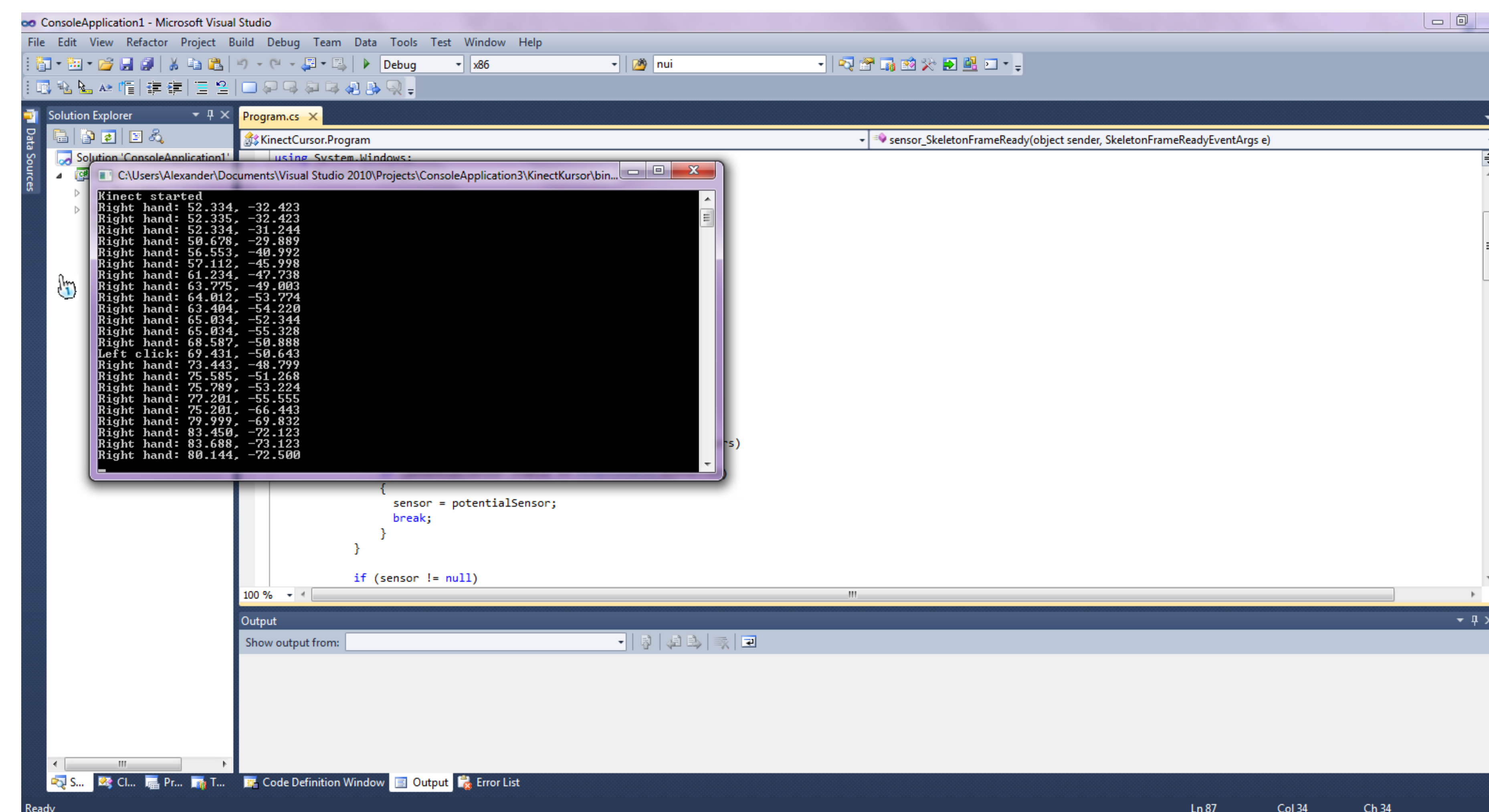


Click/Double-click  
Drag and Drop



Right Click

## Example Output



Screen capture of KinectKursor with added print statements to show status of mouse

