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## VBHMI with TCP/IP Control

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# VBHMI with TCP/IP Control

## ECET 491 Design Report Phase II



**Date Submitted:**

April 29, 2016

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To Fulfill B.S Electrical Engineering Technology Requirements

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## Abstract

This project looks to see if it could be feasible to reduce the cost of a control systems by using a Visual Basic (VB) app created to replace an Allen Bradley human machine interface (HMI) and the software needed to program the manufacturer's HMI.

In this report a VB app was created to interface to an Allen Bradley CompactLogix L32E processor. The VB app does not create a direct connection to the programmable logic controller (PLC), but instead uses an OPC Server to handle the communications to the PLC. This research project also does not look into the use of the VB app with any other (PLC).

In conclusion, this research project determined that a VB app could indeed be a replacement to a HMI. With that said, if the app was being created for a one off HMI the cost in labor hours and the learning curve needed to create the VB app would not be beneficial to cost savings. If you had a control system where multiple HMIs with the same program were needed then the VB app could save some money in a control system.

Key Words: HMI, CompactLogix L32E, Microsoft Visual Basic .Net, Control Systems, PLC, Allen Bradley, Top Server, Software ToolBox

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