**Project Description**

Last semester Professor Huntington asked me to check the status of the sensors for the Gravesend Inn using the current TCP/IO interfaces City Tech owns. Built for the Gravesend Inn and having been around a while to monitor the input of a sensor, one needs to use a web application no longer supported by operating system newer than Windows 7. Prof. Huntington suggested that a new TCP/IO interface was needed. I was in the Show Control Class and want more hands-on experience making and using hardware for custom application.

Rebuilding this project will not only give the haunted hotel an opportunity to upgrade its hardware but an opportunity for me to gain valuable experience and skills. Working with MODBUS, Beckhoff automation hardware and Medialon are all marketable skills as is familiarity with the current industry standard methods, hardware, software and protocols.

**Methods**

I will re-engineer the TCP Input output interfaces that we use for Gravesend Inn using newer industry standard gear from BECKHOFF. The project will include creation of Medialon scripting that uses MODBUS to interface with the hardware interfaces. Once the system works, a prototype will be built into a rackmount unit with all hardware specified and chosen for robust stage operation.

**Project Deliverables**

-Medialon tasks to interact with the interface

-Creation of a prototype unit

-Set of Schematic drawings of the Prototype

-Set of hardware drawings of the prototype

-Parts list for one unit, including prices and quantities

-Set of basic use instructions

-Time estimates to reproduce more prototypes and cost/ unit

-Project schedule

-Notes, documentation of process, calculations

-Photos of construction

-Poster

**Schedule/calendar**

Week 1 – Meet with advisor, verify concepts, ideas

Week 2 – Hardware choices complete, Basic system designed

Week 3 – Conceptual test complete

Week 4 – Prototype hardware designed, Prototype cables, connectors specced

Week 5 – Documentation Produced, hardware Gathered

Week 6 – Build and Documentation

Week 7 – Midterms Week, OFF.

Week 8 –Build and documentation

Week 9 – Prototype Tested + modifications

Week 10 – Prototype DONE + documentation + polished

Week 11 – As Built Documentation, ALL OTHER documentation created and organized.

Week 12 – Poster DONE, Paperwork Sorted and printed

Week 13 – Tidy up Presentation

Week 14 – In person presentations

Week 15 - Finals Week (Department Presentation)

**Required Resources**

-Hardware

-Beckhoff automation gear (Owned by City Tech)

-Software

-Medialon Manager (Full version owned by City Tech, Demo Version free)

**Budget**

-As City Tech will keep possession of all schematics and documentation and the hardware after the project is completed I will be using hardware we own such as power supplys, sensors, Beckhoff interfaces, cables, and connectors.

**Proposed Table of contents/ Portfolio outline**

-Medialon tasks to interact with the interface

-Creation of a prototype unit

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-Set of basic use instructions

-Time estimates to reproduce more prototypes and cost/ unit

-Project schedule (vs actual)

-Notes, documentation of process, calculations

-Photos of construction

-Budget (estimate vs actual)

-Conclusions

-Works Cited

**Agreement**

-Attached.