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| Home Grilll Automation | Ohio State University | C:\Users\x0184343\Documents\TI Design Guidelines + Graphics\universityprogram_lockup_stacked_rgb.jpg |

**TI Innovation Challenge 2015 Project Report**

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| **Team Leader:** | | Joseph Warner | |
| **Team Members:** | | Team J. Martin Troth (troth.9@osu.edu)  Team Joseph Warner (warner.512@osu.edu) | |
| **Advising Professor:** | | Dr. Steven Bibyk | |
| **Video** | | Provide link to video that you’ve uploaded to [www.ti.com/videos](http://www.ti.com/videos) | |
| **Texas Instruments Mentor (if applicable):** | |  | |
| **Date:** | |  | |
| **Qty.** | **List all TI analog IC and TI processor part number and URL** | | 1. **Explain where it was used in the project?** 2. **What specific features or performance made this component well-suited to the design?** |
| 2 | LM317 | | Voltage regulator, provides 5V and 3.3V to the analog parts as well as the MSP432. |
| 1 | INA128P | | Instrumentation amplifier. Extremely low impedance at the thermocouple appears as a higher impedance to the rest of the circuit. |
| 2 | LM1458N | | Buffer amplifiers. One to separate the RC circuit after the instrumentation amp from the voltage divider at R8 and another to protect the ADC from damage. |
| 1 | MSP432P401R | | MSP432 is the central microcontroller running code for the Wifi module and onboard ADC. |
| 1 | CC3100R1 | | Wifi module to output the digital signal from the MSP432’s ADC to the wifi network and ultimately a server we are running. |
| Submit your TI Innovation Challenge project to <http://tiic-na.hartehanks.com>. Your team is encouraged to post your project as early as possible- Your submission will be kept offline until the contest has officially closed!  **Instructions**:   * Submit your project and include the following documents   + Your full class report, which much include this TI project report.   + Upload a video of demonstrating your project to [www.ti.com/vidoes](http://www.ti.com/vidoes) (must log into my.TI) and provide the link to that video in this project report. We’d love to see your team engaging with TI products!   + Link to supplemental photos | | | |
| Project abstract (a short high level written description of the design and motivation behind project), 1,000 words max: | | | |

Please submit your class report with this one page document. Your class report should include the following (Max of 10 pages, excluding appendix):

* Table of contents
* List of figures and tables
* A detailed written description of the project design
* Hardware Design
* Any Software Architecture used (include any software code as part of Appendix)
* Testing and Results / Conclusions
* Future Work / Recommendations
* Acknowledgements and/or References
* Appendix: schematics, CAD drawings, Critical IC Bill of Materials, User Manual, etc.

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