

## **Galileoties : Web-based Computing and Beyond**

**Spring 2014**

### **CS4000: Individual Studies in Computer Science - Intel Galileo Development Board based Embedded Applications**



In the spring of 2014, I had the opportunity to do an independent study with Texas Tech University Computer Science Professor Sunho Lim where I explored the Intel Galileo development board. This opportunity was one of the most valuable learning experiences I have had with school. It was fun and I was able to learn much more by exploring the board in areas that interest me. When you are learning something that truly interests you, you are able to learn much more with less work.

That being said this course still took hard work. It just didn't seem like hard work because it was fun and exciting to work on a project that is completely up to you. I spent many hours trying to piece together information from resources online so that I could complete my project. There was also plenty of trial and error with coding too. Meshing software and hardware together was a new experience for me.

I decided to make a web server out of the Intel Galileo. I found out that with the default development environment and language that it was not possible to create an actual web server. It was capable of serving up HTML, but it serves up the same HTML to anyone who goes the specified IP address. After getting a web page, I worked on getting the web page so that it could interact with Galileo. I then built a page that acted as a user interface for telling the Galileo which messages to send via an LED as Morse code. Then after I got the Morse code working, I decided to add in a basic calculator that work on basic two operand operations, such as multiplication, division, addition, and subtraction.

The other students in this independent study and I received the Top Poster Presenter - Physical Science at the Texas Tech University Undergraduate Research Conference (URC). The URC was a great experience to get to show off our work and to practice presenting our projects to others. I would recommend others that are doing undergrad research or independent studies to get involved with the URC.

This opportunity was invaluable, and I hope that I get to have another independent study before I graduate. Dr. Lim was fun to work with and was very supportive of my project. I think every Computer Science student should take at least one independent study before they graduate as it gives you a little more insight to what work will really be like. There are no books explaining how to accomplish your project at work, but you have the entire internet as a resource to piece together the information you need. The experience of this course helped me learn how to do research for other classes and work.

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