Homework 1: Welcome to ECE 111

Rattanai Sawaspanich

Due October 4th @ 3 PM, 2012

1 Introduction

Welcome to ECE 111 my name is Matt Shuman and I lived in Madras, Oregon before coming to OSU for undergraduate studies in Fall 2001, and now Corvallis is home. I am teaching three ECE courses (ECE 111, 271, and 507), taking three MBA courses (BA560[1], 562, and 528), and teaching a woodworking class at the OSU craft center[2]. It's a busy term, but I'm excited for this term. Insert your image as in figure 1 using the link below and briefly introduce yourself.

Figure 1: This is a caption field about the image above

[1] http://mime.oregonstate.edu/research/drl/
[2] http://mu.oregonstate.edu/craftcenter/

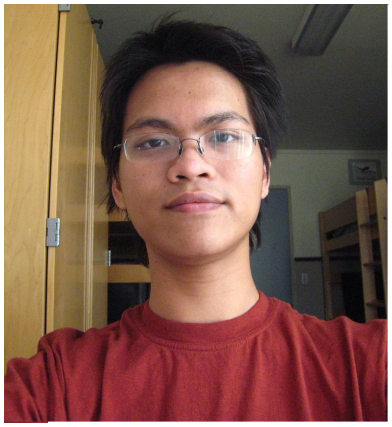

Figure 2: Rattanai Sawaspanich

Hello Mr.Shuman, My name is Rattanai Sawaspanich, but you can call me as "Bear[3]". I'm from Thailand. My family own an auto-mobile garage; my dad is a mechanic and my mom helps my dad about the bussiness finance. During my high school junior year,2010, I got accepted into AFS exchange program and was an exchange student at Shedon High School, Eugene, OR. That's how I began my student carreer in the US. After I finished my junior year, I have to transfer to Marist Catholic High School due to the J-1 VISA policy and I graduated from there. Thus, I'm a Buddhist and there were only two of us in the school ;anyhow, it was good to learn the different culture and religion. The main reason why I chose to study in the US and go to OSU because I want to think and make differences which is a step toward to live my legacy.

2 Defining Success

Success is the achievement of something desired, planned, or attempted. After you put years and thousands of dollars into your college education, what do you want from your ECE degree?

What do I want from my ECE degree is the life that can live without depending on money. I'm not saying that I have to be rich. I'm saying that I can live happily and help other people beyond what money can do. I always think if I'm going to die, I would like the world to know who I am.

3 Word Processing

The homework assignments in ECE 111 focus on using Latex to typecast a professional looking .pdf for each assignment. What are the advantages of Latex compared to traditional WYSIWYG [4] word processors? What are the disadvantages of using Latex?

It is better because

- *.pdf file can be consistently display on any devices.
- The pdf-reciever can't actually change the information in a file.
- Easier to format document style.

[3] I picked my name as "Bear" because my *nickname* in Thai is หมี which means "Bear" so I translated it to English.
[4] http://en.wikipedia.org/wiki/WYSIWYG

- Smaller file size.

Anyhow, they may be some issue with Abode Reader lisence in a gray-market countries that prevent them to open .pdf file.

4 Microcontrollers

Atmel Microcontrollers are a very inexpensive way to develop projects. Every future project in ECE 111 will use an Atmel Microcontroller, the Atmel Tiny26.
Lookup the cost of the Tiny26 Microcontroller from Digikey
`http://search.digikey.com/scripts/DkSearch/dksus.dll?Detail&name=ATTINY26L-8PU-ND`.

Atml Microcontroller price

Price Break	$ Unit Price	$ extended Price
1	3.0600	3.06
25	1.9196	47.99
100	1.70640	170.64

Table formation credit: `http://en.wikibooks.org/wiki/LaTeX/Tables`

Look up a project on Youtube that uses an Atmel Microcontroller
What does the Atmel Microcontroller do for the project you researched?

Here is the project I found: `http://www.youtube.com/watch?v=uhK0S7ZIKZ4&feature=player_embedded`

The Atmel Microcontroller is used as a signal converter from switchs on a chess board to become a digital signal. Then, the digital signal was sent to be an input in a computer via a USB port. Afterward, the input were processed and ran on Fritz, a chess program, to make a move. It seems that Atmel Microcontroller is a universal microprocessor that convert on/off botton to a digital signal that can be an input to a computer via USB port.

please continue next page

5 Microcontroller Packages

Integrated Circuits, ICs, are made using many different types of packages. The Tiny26 in lab is a DIP , while the 5 volt regulator is in a TO-92 package. The ECE 272 CPLD uses a 44 pin QFP. The Droid X OMAP processor is a BGA package type with over 400 pins!

Insert a picture for the DIP, TO-92, QFP, and BGA package types

This link might be helpful

`http://en.wikipedia.org/wiki/Chip_carrier`

Figure 3: DIP

Figure 4: TO-92

Figure 5: QFP

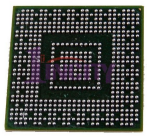

Figure 6: BGA