Honors Section

• More expected of you
• Cover additional material
• Have fun
More expected of you

• Prepare for class
• Slides will be posted, read them in advance
• I will review them in class; if no one has any questions, I won’t spend time reading the slides
• If you don’t ask questions, I’ll assume you understand the basic course material
Cover additional material

• There will be additional reading, perhaps additional projects

• Lots of side topics and tangents during lectures

• I hope to bring in guest speakers
Have fun

• We’re the honors section, we get to bend or break the rules

• Think a project is too boring, want to implement a Linux-based real time robot arm controller instead?

• Talk to me
Get fired up

- I’ve worked with some amazing honors students who have gone on to do amazing things
- Computer Science can prep you for an amazing career and life
- If you think it is boring, talk to me
Talk to me

• My AOL IM handle is pughcsumdedu
• My office in AVW 4143
• poke your head in anytime; if I’m too busy I’ll tell you
• I’ll start with official office hours Friday 11am-noon
Facebook project

- Hope to devise some facebook projects for later in the semester
- In anyone wants to get involved in designing the project, let me know
Inventing the Future
@ UMCP CS

$7,000 in funding available for equipment for innovative projects inspired, proposed and led by undergraduate CS students
Available now!

• Accounts on a full powered server, dedicated to undergraduate student use

• $7,000 for equipment and supplies for innovative projects inspired, proposed and led by undergraduate CS majors

• more than half of the money will be awarded based on proposals pitched by undergraduates

• doesn’t need to have a business plan, just needs to be cool
What can you imagine?
GumStix Linux computer
Lego Mindstorm NXT

NXT Technology Overview

Rollover a NXT element to learn more about it.

1. Ultrasonic Sensor
   Enables the robot to see, measure distance to an object, and react to movement.
BugLab computer

BUGbase ‘Hiro P’ Edition

BUGbase ‘Hiro P’ Edition is the foundation of your BUG device. It’s a fully programmable and “hackable” Linux computer, equipped with a fast CPU, 128MB RAM, rechargeable battery, USB, Ethernet, and a small LCD with button controls. It also has a tripod mount because, well, why not? Each BUGbase houses four connectors for users to combine any assortment of BUGmodules to create their ultimate gadget.

The ‘Hiro P’ Edition does not include WiFi.

Price: $349
Early Adopter Price: $299

Technical Specifications
- ARM1136JF-S-based microprocessor
- 1 USB 2.0 HS host interface/4 hub port connections
- 1 USB OTG HS interface
- 4 UART serial links
- 4 channel SPI interface
- I2C (400 kbits) interface/4 channels
- I2S interface/2 channels
- Smart LCD interface
- Camera sensor interface
- Micro memory card interface
- MPEG4 hardware encoding/decoding
- Hardware graphic acceleration
- 10/100 Ethernet MAC
- Base unit LCD module interface
- Base unit onboard memory (FLASH/DDR SDRAM)
- JTAG/ICE support
- Serial debug port
- Power system
- AC operation
- Battery operation/up to 4 external batteries
- Fast battery charging/simultaneous of internal and external batteries
- Smart power management support
- Battery-backed real-time clock
- Audio out via onboard piezo speaker
RFID kits, displays
Sensors

**Force Sensor**
Custom load cell provides accurate, repeatable results.

**Altimeter**
Record changes in altitude for roller-coaster physics.

**3-Axis Accelerometer**
Three orthogonally mounted sensors let you measure acceleration in all directions.

**Wireless Communication**
Bluetooth® wireless technology transmits data to a supported device.

**Start/Stop Button**
Simple, one-button operation allows you to start and stop data collection when away from the computer.

**Multiple Mounting Options**
Mount the device in almost any orientation using standard hardware.

**On-Board Memory**
Retains data even after the unit is turned off.

**Additional Hook**
Allows the device to be mounted in-line for tension and pendulum experiments.
Fabrication

- CS department has a 3D printer and laser cutter that will be at your disposal
Start Dreaming...
Details...

- Professors François Guimbretière and Ashok Agrawala are in charge of dispensing the funds
- Not been actively advertised
- They are *starved* for proposals
- I will help you prepare a proposal