CS 3651 - Prototyping Intelligent Appliances

Spring 2014
TR 1:35PM - 2:55PM
CCB 337

Contact

Use cc-cs3651-s13-admin@lists.gatech.edu to email the TAs and Scott at the same time.

Instructor

Scott Gilliland
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Teaching Assistants

Caitlyn Seim
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Textbook

There is no requirement to purchase a book for the class. I recommend Practical Electronics for Inventors by Paul Scherz, but it is available as a reserved book in the library and as an ebook from the library. However, a good deal of information will also come from Internet resources and posted video lectures.

Course Overview

CS 3651 - Prototyping Intelligent Appliances, is designed to provide practical, hands-on experience for electronic device prototyping and development. The course material focuses on elementary electronics building, microcontroller development, and inventive problem solving. The course is lab-based (referred to as skill demonstrations) with a large, open-ended final project.

Team Project

In this class, you will complete a group project in groups of 2 to 3. Your team will propose a project, and work with us to find a project that is both challenging but still feasible within the semester. Be aware that it is likely that some of the materials for this project will need to purchased by your group.

The goal of the project will be to demonstrate some of the skills that you have learned in the

class and to teach you to design a system with mechanical, electrical, and software components.

As reflected in the course's grade breakdown, you will be graded on your project itself, as well as a presentation given during the finals period, and a write-up to be submitted with the project.

Skill Demonstrations

These are tasks to show an instructor or TA that you are able to complete a task related to what you have recently learned about in class or from assigned readings and videos.

To receive full credit for each skill demonstration, you must be checked off by an instructor or teaching assistant. The assignment and due dates of each skill demonstration will be indicated on the course schedule. Additional check off times may be arranged at our discretion via email.

If you don't complete a skill demonstration before the next class period, you can still be checked off for it with a penalty. See the late work policy below.

Collaboration with other students for skill demos is expected to be limited to asking for advice. All code written, wires plugged into breadboards, designs created, etc. must come from yourself or publicly available resources. If you find a library or resource (ex, an arduino library) that seems to make the skill demo 'too easy', please let us know.

Course Expectations

1. Class attendance is expected. It is your responsibility to inquire about material missed if you are absent.
2. Keep up with the readings and videos. *These should be completed before class on the date indicated on the Calendar.*
3. Take responsibility for your coursework submissions; it is your job to make sure that you successfully turned in what you meant to turn in. Be sure to verify your submission. This is how you make sure that you get credit for the work you do.
4. Be prepared when you go to get help from a TA or your instructor. Bring your work with you.
5. Expect to leave some time free each week during the open lab hours. If you have other classes schedule during all of these hours, let us know.
6. Take initiative. Begin your assignments early and if you think you need help, come to office hours prepared to ask questions. Use the resources that are provided for you, and be determined to succeed from the start.
7. Read, understand, and follow the Georgia Tech Academic Honor Code

Lab Policy

Please abide by all safety rules (stated and posted). Use common sense and always err on the side of caution. Respect the lab tools, materials, and supplies as well as your classmates and others who use the facilities. You will be expected to help clean up your portion of the lab at the end of the semester.

Grading Policy

10% Quizzes and Attendance

- Quizzes may occasionally be given to assess completion of readings and other pre-class learning activities assigned.

40% Skill Demos

- Much of the course will focus around applying the lessons learned from readings and other pre-class learning activities. These demonstrations will be assigned in class, and will be due *by the beginning of class* on the date indicated.
- Skill demos can be turned in late: see the rather lenient late work policy below.

50% Class Project

- The latter segment of the course will focus on the completion of an independent group project that relates to the materials covered in this course. This will be subdivided as follows:
    - 40% Work
    - 5% Presentation
    - 5% Supporting documentation

Letter Grades

Letter grade assignments are given according to the following cutoffs with no rounding:

- 90.0 <= A
- 80.0 <= B < 90.0
- 70.0 <= C < 80.0
- 60.0 <= D < 70.0
- 0 <= F < 60.0

Late Work

Late turn in for anything other than skill demos is generally not accepted without prior discussion with the instructor or TA.

Skill demos are due at the beginning of class on the day that they are due. They can be turned in late with 10% docked per class period that they are late, up to a maximum of 6 class periods late. All skill demos must be turned in before the Friday of the week before finals.

For example, a skill demo due on 1/21/2014 is worth up to 100% if turned in before 1:35 PM on 1/21, up to 90% before 1:35 PM on 1/23, worth up to 80% before 1:35 PM on 1/21, etc. Such a skill demo could not be turned in after 1:35 PM 2/6.

Timely handling of grade disputes

Disputes of grading on assignments, projects, etc. must be presented in writing or email to (as opposed to discussed with) the instructors within one week of their return or posting, whichever is later.

Email Policy

Please try to use your official Georgia Tech email address when sending email to the instructor and TAs. If possible email, cc-cs3651-s13-admin@lists.gatech.edu. Failing that, please prepend [cs3651] to the beginning of the subject of your email. Please also indicate who you are within your email.

Assignment Submission

The few assignment turn-in which are not skill demos will be submitted via T-Square. Assignments turned in electronically should be submitted using PDF or plain text files. Do NOT submit .doc, .docx, .odt, etc. In general, assignments should be written in 12 pt, Times-Roman font (or similar) and double spaced with 1” margins. Electronic assignments will be submitted through T-Square in the "Assignments" tab. Emailing your assignments to an instructor or TA does not count.

Lab Hours/Access

Upon completion of the safety overview (in class), students will be given Buzzcard access to the CCB laboratory. The CCB is locked outside of normal class/business hours, so access may be limited overnight.

In addition, instructors will be in the lab at certain times (in addition to during scheduled class time) to provide support for completing coursework. These ‘office hours’ will be marked on the lab calendar in TSquare.

Access to other lab spaces, such as the GVU Prototyping Lab, is given at the discretion of the lab manager associated with the space.