Syllabus
EECS 498-009 & 010: Accessible Software Systems Design
EECS 495: Accessible Software Systems Design
Winter 2018

1   Basic Information

Instructor
Dr. David Chesney, 4624 BBB, chesneyd@umich.edu
Office Hours: Thurs, 10:30am-noon, BBB Atrium or 4624BBB; and as needed (please send email to schedule)

Teaching Assistants
Ms. Kayla Fedewa, kafedewa@umich.edu,
Office Hours: TBD; and as needed (please send email to schedule)

Mr. Adithya Ramanthan, adithram@umich.edu,
Office Hours: TBD; and as needed (please send email to schedule)

Mr. Mary Douglass Baum, mdbaum@umich.edu,
Office Hours: TBD; and as needed (please send email to schedule)

2   Course Overview

Focus on the process for software development of a large, complex software system for a cognitively and/or physically impaired audience. Pragmatic aspects of the production of software systems, dealing with structuring principles, design methodologies and formal and informal analysis. Significant amount of project documentation is required. Team-based projects are required.

3   Course Correspondence

Course website: Canvas / EECS498 Sect 009/010 W 2018
Course email: Canvas / Piazza

Course-related questions may be posted to the course forum (Canvas/Piazza), if they are of general interest. Specific or personal correspondence may be sent directly to course faculty, although the Piazza site will almost always guarantee a quicker response.

4   Prerequisites

EECS 281 (grade of C or better) with large project and significant programming language experience. Preference given to students who are seniors and need this course as a capstone / major design experience in order to graduate. Students are expected to have experience in the following: algorithmic complexity, C++, C# (or other OO programming language). Additional background in database, website and/or UI development may benefit the student, as will familiarity with mobile platform development. Students with questions about whether they have sufficient preparation for this course should speak with the instructor as soon as possible. **I (and Wolverine Access) will strictly enforce the prerequisites**.

5   Reading List

There is no assigned text for the course. Readings and other resources (e.g., recorded lectures) will be posted regularly by instructors for the course on the Canvas site. There may also be handouts that the faculty will provide either in hardcopy or by posting on the course Canvas site. An announcement will be sent to the students when new information has been posted. It is strongly recommended that you read the Canvas site regularly.

Since there is no required text, there is an expectation that each student might spend ≤ $50/student for hardware that is required for completion of their respective group project. Course faculty have some funding to support student projects (≤ $50/group), but the purchasing process is typically very slow. There will be two opportunities to order equipment throughout the semester. Filling out a form indicating what equipment is needed for your project is NOT the same as ordering equipment. **You have been warned!**

6   Grading Policy

Your work in this course is composed of attending lecture and discussion sections, reading assigned material, completing homework assignments and design reviews, completing projects, and taking one midterm exam. Final grades will be based on the total points earned on the project, design reviews, homework, exam, and evaluations out of a possible 1000 pts (normalized). The weight assigned to each category is as follows:

- Project   500 pts
- Design Reviews   150 pts
- Exam   200 pts
- Quiz(zes)   (up to) 75 pts
- Evaluations/Participation   75 pts

Some of the work for this course is group-based (Project, Design Reviews) and some is individual-based (Exam, ...). **A student must earn a passing grade in both the group- and individual-based portions of the course in order to receive a passing grade**.

Factors such as class participation may be used to adjust your final grade, especially if it falls on a borderline. There is a 'gray area' of several points around each specific numeric grade, within which a ± system is used. Two people getting the same numeric grade might therefore receive different letter grades for the course. If the student is in one of these gray areas, their grade may go up or down depending upon whether course performance has been improving or declining, or whether participation in group work has been sufficient or inadequate. **The grades of C- and D+ will not be given in this course.**

6.1 Grading Errors

We make every effort to grade correctly, however we do sometimes make mistakes. Arithmetic errors can be corrected in person by your TA. If you believe something was graded incorrectly, you may submit it for a regrade in writing (not email) **no later than five working days** after the graded work is returned to the student. The work in question will be regraded carefully in its entirety, with consideration given to the written request. As a result, your grade might go up or it might go down. This second evaluation is final. Each subsequent regrade request will receive greater scrutiny.

6.2 Incompletes

Incompletes will generally **not** be given for this course. In accordance with university policy, doing poorly in a course is not a valid reason for an incomplete. If you are having problems in the course, please talk to the instructor as soon as you are able.

7 Design Reviews

Several design reviews will be assigned during the semester. Design reviews makes up to 150 pts of your grade. Design reviews may take multiple forms, including review of requirements, design, and/or implementation, and are typically due as an electronic attachment to Canvas/Assignments. **Late design reviews will not be accepted for any reason.**

8 Exam

A midterm exam makes up 200 pts of your grade. **The midterm exam is scheduled for Thursday, April 05, 2017, either in class or in the evening**. Details regarding the form and content of the exam will be available at a later date (as the exam nears). If you anticipate conflicts with an exam or need additional time because of a learning disability, talk to the instructor at least **2 weeks** before the exam date. Outside commitments (including job interviews) are not considered a valid reason for missing the exam.

9 Quiz(zes)

Quizzes make up to 75 pts of your grade. Quizzes may be given at any time during lecture or discussion. Quizzes will _not_ be announced. Students are responsible for all material covered in the course preceding the quiz date. Non-attendance, independent of the reason, will result in the grade of zero (0) on the quiz. The lowest quiz score may be dropped.

10 Course Project

One large software project will be assigned during the term. The project will require substantial time commitment on every student's part. However, effort spent on projects will help the student gain a conceptual understanding of the material. It is strongly recommended that students begin working on project assignments early, both to lower stress and have more time to ask questions.

10.1 Project Grading

The Project is worth 500 pts of your grade in the course. The breakdown of points for the project grade will be specified in the project assignment. Categories include:
- project documentation (contract, plan, 'what' (requirements), 'how' (design), implementation, test, maintenance);
- functional and non-functional correctness based upon the documentation; and
- process used to obtain functional software.

10.2 Project Groups

Project deliverables will typically be completed by a small group (approx. 3-4 people). Groups will be assigned by course staff with input from students, and we will include students' preferences in group formation.

10.2.1 Quitting

If a student feels that they are completing a disproportionately high portion of a project, then they have a right to 'quit' the group at a time determined in consultation between the student and faculty. The student may receive the group grade for the completed project. The 'quitting' student will be reassigned to a new group at the discretion of the course staff. The resigning member must document the resignation in email or hardcopy, with cc to the group leader and the instructor.

10.2.2   Being Fired

Students are expected to participate wholly in their group for the benefit of the entire group. Students may be "fired" from a group by the majority vote of the remaining members. The process is as follows:

- Documented 'gentle warning' of risk of firing in email or hardcopy, with cc to group leader and instructor(s); with specific work required for group member to remain in group;
- Three (3) calendar days elapsed time for compliance;
- Documented statement of firing in email or hardcopy, with cc to group leader and instructor(s).

Fired group members receive a zero on the current project assignment. Fired group members must actively pursue and obtain membership in another group. Instructor must receive documentation stating that student has been hired by another group. Students that do not belong to a group do not receive a grade on the appropriate portions of the group project.

10.2.3   Evaluations

Each individual will fill out several evaluations throughout the project. The evaluations clearly evaluate the contributions to the project of each group member from several perspectives, and are signed by appropriate group members. In addition, individual evaluations may be turned in for private dissension. Evaluation forms will be posted on the web. **Group members with disproportionately low group contribution will receive a maximum of 50% of the grade received by their group for the project**. A significant project grade penalty is associated with not handing in evaluation forms.

10.3   Turning in Projects

Content and form for each project will be described in the project specifications. Please read these specifications carefully. Note that any combination of the following formats may be required for any portion of the project: hardcopy; electronic submission to Canvas (pdf, doc, docx, etc.); electronic submission (e.g., course server site). Read the specifications carefully and note all that is required.

11   Professionalism

Please note that acting as a true professional is deeply appreciated in this course. Use a similar model that you might use during an internship to govern appropriate behavior. As examples, it is worthwhile to notify course staff and team members when you are absent due to illness or interviews. I will certainly let students know when I have business/conference travel. Suggestions for improvement and constructive criticism are always deeply appreciated, and will help to make this a better course in future offerings.

12   Getting Help

Your first and best option is to ask your question during the office hours of a member of course staff. The next best option is to post your question to the forum (Piazza), which will be monitored regularly. If the forum post contains any material that may violate the Collaboration and Cheating policy, then the post should be sent directly to course staff rather than posted on the forum. Posted questions must not reveal solutions to the projects or homework questions.

We do understand that students sometimes have questions of a personal or sensitive nature. For such matters, please see Dr. Chesney during office hours. If you have a conflict with all posted hours, then please send an email to schedule another time.

13   Policy on Collaboration and Cheating

Acts of cheating and unacceptable collaboration will be reported to the Engineering or LS&A Honor Councils, as appropriate. Cheating is when you copy, with or without modification, someone else's work that is not meant to be publicly accessible. Unacceptable collaboration is the knowing exposure of your own exam answers, project solutions, or homework solutions; or the use of someone else's answers or solutions made public. This includes solution sets and student solutions from past incarnations of 481. This means that students cannot use previous solution sets, even if the solutions are your own.

At the same time, I encourage students to help each other learn the course material. As in most courses, there is a boundary separating these two situations. You may give or receive help on any of the concepts covered in lecture or discussion and on the specifics of C++ syntax. You are allowed to consult with other students about the conceptualization of a project, or the general approach for homework solutions. However, all written work, whether in scrap or final form, must be done by you or your partners, where applicable.

You are not allowed to work out the programming details of the projects or specific details of the homework problems with anyone or to collaborate to the extent that your programs/homework are identifiably similar. You are not allowed to look at or in any way derive advantage from the existence of solutions prepared in prior terms, whether these solutions are copies of former students' work or solution sets handed out by course staff. I will be using an automated program to correlate projects against each other and past solution sets.

If you have any questions as to what constitutes unacceptable collaboration or exploitation of prior work, please talk to the instructor right away. You are expected to exercise reasonable precautions in protecting your own work. Don't let other students borrow your account or computer, don't leave your work in a publicly accessible directory, and take care when discarding printouts.