

**The University of California, Irvine
Department of Informatics
IN4MATX 191B – Senior Design Project – Winter 2019**

Instructor: Dr. Darren Denenberg / TA: Saumya Gupta
E-mail: ddenenbe@uci.edu / darren.denenberg@uci.edu / saumya@uci.edu
Class Times: 2:00 – 3:20, Tuesday / Thursday, ALP 2600
Discussion: 12:30 – 1:50, Wednesday, ALP 2200
Office: DBH 5044
Office Hours: M / W 10:00 – 12:00, or by appointment

Course Description:

Part II of two parts. The continuation of the capstone, the project-focused and student-led development course. As usual, it is the responsibility of each student, under the guidance of their sponsor company, to determine the requirements and schedules that will ensure a successful completion of the project. An assumption is made that all prerequisites have been met, and they will all be required as you move through the course and the project.

You've all been through one quarter already. You know, in general, what is expected and how you are expected to perform. Each group is already well along to their final product or service, however this quarter will require a much heavier focus on development, demoing, testing, and analysis. Working prototypes will be expected, with a final push towards the final deliverable beginning approximately halfway through the quarter.

In addition, there will be a heavy focus on creating and giving presentations, posters, and demonstrations. Each group should begin thinking about the last day on their first; developing the product as well as the showcase.

Learning Objectives

The main objective of the course is to utilize all you have learned during your academic career, and apply those concepts to a real-world project defined by a company you will be working with to achieve a pre-determined goal/objective. You will learn about not only the technical aspects of project involvement, but about marketing, team dynamics and management, communication strategies, scheduling, and other facets of project management.

Grading – All assignments are due the Friday of their respective week by 9:00pm

Live demos and testing	25%
Final demos / deliverables	25%
Stimulus packages	20%
Subjective assessments	20%
Other documents	10%

PLEASE NOTE:

It is important to understand that **final letter grades reflect academic achievement and not effort**. A plus or minus further delineates rankings within these grade ranges.

While mistakes in the arithmetic computation of grades and grade recording errors will always be corrected, it is important to understand that in all other situations **final letter grades are not negotiable and challenges to final letter grades are not entertained.** If you choose to discuss your grade, the instructor reserves the right to adjust the grade up or down after further review.

Mandatory minimum requirements to successfully complete 191A / B

As was the case in 191A last quarter, and simply pasted again here, the grading and evaluation process for the capstone is two-fold: To be considered for a passing grade, you must first meet a series of mandatory minimum participation and involvement requirements as listed below. If, at the end of the quarter, you meet those requirements, the grading process will then take place. Failure to meet these requirements will indicate you have not made the basic effort nor met the basic qualifying expectations of students in this course, and therefore will not receive a passing grade.

Please also note that minimum requirements are just that: minimum. Meeting the minimum requirements does not guarantee a specific grade, it simply means that you have met the threshold to be considered for a grade.

These considerations are especially important now as we work towards the final showcase.

Minimum Requirements:

Participation in and engagement with the group

Each group member must actively participate in the group. That includes attending group meetings via approved channels, at agreed-upon times, participating in group communication via approved channels, and simply being present as an active member.

Participation in and engagement with the project

Each group member must contribute intellectually, conceptually, and communicatively with the group via approved channels. That includes contributing ideas, writing, designs, suggestions, and other involvements. Your task assignments, responsibilities, or other contributions agreed upon by the group must be met and with evidence of interest. In other words, don't do things last-minute or throw things together.

Participation and engagement with your Capstone Partner

Like 'Participation in the Group,' each group member must meet at the agreed-upon times with their partner, as part of the group, via agreed-upon communication channels, and be adequately prepared and present both physically and intellectually.

(Continued next page)

Class Attendance

Class attendance is expected, as that is one of the best times to meet the requirements listed above. Many class sessions will be open-ended, allowing ample time to meet with your group and work on the project, and receive feedback from the instructor and TAs.

Peer and partner evaluations will be solicited at various times throughout the course of the Capstone, and meetings between the group and instructor / TAs will be frequent. Presentations, observation, and individual meetings will also be held regularly. At the end of each quarter, we will be very well informed regarding who is participating and contributing their share, and who isn't.

Attendance and Due Dates

Attendance is a part of the class, as it would be if you were working for a company and as part of a team, both of which would, will, and do, rely on you. Attendance is mandatory in the workforce, this class is no different.

As is true in the real world, the due date is an inherent part of the assignment; All materials are due on the assigned due date, no exceptions.

Assignments

To be fair, you all know what is expected of you. To sum it up succinctly, there are really three main things you should be doing this quarter: Developing your product, developing and implementing your test plans, and developing your poster/rehearsing your final presentation. Your file structures are in place, the administrative issues can take a back-seat, and this quarter will focus primarily on development.

There will be one required new folder titled MEETINGS. Meetings with your sponsor are still required, and this quarter it is required that formal meeting minutes or notes are submitted to the MEETINGS folder after each one. It is a good idea to assign a note taker for each meeting, and that can be done on a rotating schedule, or if one person has a particular notetaking skill, they can serve in that capacity for each meeting; whatever the group decides is fine.

Additionally, because of the differing companies and cultures, there is no formal format required for the notes, simply that they include the date, the time, who was there, generally what was said and by whom, and then submitted to the folder. Handwritten notes can be scanned or transcribed, digital notes can be uploaded as a Word document.

That being said, there are some **new additions**, as follows:

TEST PLANS

Testing in this course manifests in two ways: Software testing and user testing.

Part I: Software Testing Plan

“This document describes the scope, approach, resources and schedule of intended test activities. It identifies amongst others test items, the features to be tested, the testing tasks, who will do each task, degree of tester independence, the test environment, the test design techniques and entry and exit criteria to be used, and the rationale for their choice, and any risks requiring contingency planning. It is a record of the test planning process.”
From "Test Plan / Software Testing Fundamentals." 2011. 27 Sep. 2012

Test Plan Template

- Project Name
- Team Name
- Team Members
- Date
- Table of Contents
- Revision History (what changed since last time)

Introduction:

- Provide an overview of the test plan.
- Specify the goals/objectives.
- Specify any constraints.
- Assumptions and Dependencies
- List the assumptions that have been made during the preparation of this plan.
- List the dependencies.

Test Item Pass/Fail Criteria:

- Specify the criteria that will be used to determine whether each test item (software/product) has passed or failed testing. This should also include the test items. Test cases for all relevant testing levels should be covered
- Unit/Modules Test Suite
- Integration Test Suite
- Scenario or Use case based Test Suite
- System Test Suite

Test Deliverables:

- List test deliverables, and links to them if available, including the following:
 - Test Plan (this document itself)
 - Test Cases
 - Test Scripts
 - Defect/Enhancement Logs
 - Test Reports

Part II: User Testing Plan

There are two parts to user testing: Examining the interface *from the point of view of the user*, namely Heuristic Evaluation or using the Checklist, and doing actual user testing, with real users either examining the interface or actually trying to get a test-task done. If you're familiar with the Cognitive Walkthrough, this is very similar.

Your plan for HE/Checklist should be preparing the interface materials (mockups, wireframes, GTN) and then having a session with your team going through the tasks one by one examining the points in the Heuristics or the Checklist. So you need to plan for the materials, having the checklists available, then recording your findings. You then meet to decide what changes to make in the interface and put those on the sprint.

For actual user testing, you have to plan for the kind of user you will recruit and how many, when the sessions will be, what tasks you will ask them to do, what interface they will use, how you will record their actions and evaluations (e.g. a quick survey), and when you will take your findings and make changes to the interface. Those planned design changes appear on a sprint.

A good resource for a User Testing Plan:

<https://it.toolbox.com/blogs/craigborysowich/sample-usability-test-plan-072407>. (Note: Some important elements of a User Test Plan are missing from this template. Use this resource purely as a start point for your User Test Plan.)

NOTE: I am aware that some groups are limited in their access to actual users due to all manner of concerns, including time, ethical/administrative, market nature, etc. If that is going to be an issue or impact your ability to develop/conduct testing, make that known and we will work around it.

Optional: Keystroke analysis

Follow the guidelines from lecture and the practice session to assess three tasks your users will be expected to do on your interface. List the parameter values you will be using (e.g standard ones like a mouse movement, and new ones like a “swipe”). Then write out for each task what actions you expect the user to take and how long the whole task should take. Time two users (could be other students in the class) on those tasks. Compare their times to the expected times. Discuss where the differences might be and what implications there might be for design.

Write up what you did (Intro, method, results, discussion including implications for design) in a 3-4 page document. Put this document in the google Docs folder that is available to the instructors by 11:59pm.

**T
E
N
T
A
T
I
V
E
C
L
A
S
S

S
C
H
E
D
U
L
E**

	<u>Date</u>	<u>Topic</u>	<u>Sprints</u>	<u>Deliverables</u>
Week 1	Jan. 8 Jan. 10	Introduction Get reacquainted, Start GRIPS presentation		
Week 2	Jan. 15 Jan. 17	GRIPS Presentations Group meetings to discuss final presentations Team meetings		Uploaded GRIPS Individual Gantt Charts, Project plan w/sprints Communication Covenant
Week 3	Jan. 22 Jan. 24	How to give a presentation Practice for expo w/last quarter materials Presentations	Sprint 1	Initial draft of poster Team Gantt Chart Draft of Stimulus Package
Week 4	Jan. 29 Jan. 31	Group poster evaluations Work on posters only Presentations		What we learned from others Second draft of posters
Week 5	Feb. 5 Feb. 7	In-class prog. report for first half of quarter In-class meetings Presentations	Sprint 2	Peer review 1, what's learned Peer evaluations Stimulus Package 1*
Week 6	Feb. 12 Feb. 14	Design Meetings		First-attempt build on Git, prep for code-freeze 1, Draft stimulus package 2 w/test plan
Week 7	Feb. 19 Feb. 21	Dry runs of presentations and demos, tweaking all week	Sprint 3	Second-attempt build on git, prep for code-freeze 1, peer review 2 Stimulus package 2
Week 8	Feb. 26 Feb. 28	Progress reports, team meetings Show prototypes Open Prototype demos		Code-freeze 1 on Git
Week 9	Mar. 5 Mar. 7	Final meetings Dry runs / Demos Open class for cleanup	Sprint 4	Code-freeze 2, upload draft slides for final presentation
Week 10	Mar. 12 Mar. 14	Determine order Final cleanup Full rehearsal	Sprint 5 (mini)	Peer review 4 (possible 3 rd stimulus package, depending on number 2), Keystroke analysis