Final Project Guidelines

Fall 2023

Important dates:

9/21: team formation finalized
10/14: project proposal due.
10/28: project proposal due.
11/9: progress update and presentation draft due
12/12: 8-11AM final project presentation, all deliverables due

Description:

The final group project offers students opportunities to: 1. explore an advanced data structure and implement it, or 2. using data structures we learned in this class to build a project that accomplish certain tasks. Maximum three students are allowed in each group. For 1, you will need to study the data structure, analyze its operational efficiency, make comparison with other data structures, and implement it. For 2, you will implement the proposed idea, provide detailed description of the tasks, and comment on the efficiency of the algorithm.

Please discuss with me as soon as you have some idea about your project.

Deliverables:

Please fill in the project proposal with detailed descriptions required. Team leaders need to upload the page to WISE before the project proposal deadline (10/14). In case of the project topic change, the team needs to discuss with the professor for approval and the proposal needs to be updated.

Each group will design effective PowerPoint slides and give a 15-20 minutes presentation during the final exam time on December 12 8-11AM. The final slides and all implementation codes need to be turned in by the end of the day. Only the team leader needs to submit the zipped file to WISE under "assignments". Students will have opportunities to present a draft project and receive feedback and peer critiques.

Grading and rubrics:

The final project worth 30 points total and will be graded on the following with a rubric providing some general guidelines:

1. Project delivery according to the proposal (6)
2. Quality of the code and documentations (6)
3. Effective PowerPoint presentation including slides design and organization (6)
4. Effective oral communication and team coordination (6)
5. Audience engagement and answer questions raised (6)

	Unsatisfactory (<=3)	Satisfactory (4)	Good (5)	Excellent (6)
Project delivery according to the proposal	Complete less than 70% of the proposed ideas, delivered on time but not in correct format.	Complete between 70%-80% of the proposed ideas, delivered on time and in correct format.	Complete between 80-90 of the proposed ideas, delivered on time and in correct format.	Complete between 90-100% of the proposed ideas, delivered on time and in correct format.
Quality of the code and documentations	No name, date, and descriptions, disorganized and messy, poor use of variables, ambiguous naming. Very limited or no documentation included. Documentation does not help the reader understand the code.	Include name, date, and descriptions, programs are easy to read, well organized, good use of variables and unambiguous naming. Basic documentation including descriptions of all class variables. Purpose is noted for each function.	Include name, date, and descriptions, programs are easy to read, well organized, good use of variables and unambiguous naming. Clearly documented including descriptions of all class variables. Specific purpose is noted for each function and control structure.	Include name, date, and descriptions, creatively organized work. Excellent use of variables. Clearly and effectively documented including descriptions of all class variables. Specific purpose noted for each function, control structure, input requirements and output results.
Effective PowerPoint presentation	Neither clear introduction nor closing remarks. Content organization is not coherent. Leaves the	Some level of content organization, but the presentation is not coherent. Missing introduction and closing remarks. Ran	Display introductory or closing remarks. Gave audience almost enough time to absorb material.	Clear opening and closing remarks. Provie a “roadmap” for the audience. Each segment relates to the other according to a carefully

	audience wondering where the presentation is headed. No visuals at all.	too quickly through visuals without giving audience time to absorb information.		planned framework. Give audience ample time to absorb information on visual. Visuals greatly enhanced presentation.
Effective oral communication and team coordination	Read from the card and not talking to the audience. Multiple grammar errors and use of inappropriate vocabulary. Team collaborations is not planned at all . Presentation is out of order. Inaudible or too loud, rate too slow/fast, speaker seemed uninterested and used monotone.	Spoke more to the screen than to the audience. One or two minor grammar errors. Vocabulary use is too elementary or not effective. Presentation tasks are divided among team members. Occasionally out of order or lack of coordination. Little or no expression, some mumbling.	Correct grammar. Vocabulary mostly appropriate for the purpose and the audience. Smooth transition and team coordination during the presentation. Clear articulation but not as polished.	Spoke to the audience, not the screen. Correct use of grammar. Effective use of appropriate vocabulary for the purpose and for the audience. Well-orchestrated team collaboration during the presentation. Poised, clear articulation, proper volume, steady rate, good posture, enthusiasm and confidence.
Audience engagement and	No audience engagement at all.	Somewhat audience engagement. Minimal	Consistent use of direct eye contact with some audience.	Excellent audience engagement. Holds attention of entire

answer questions raised	No eye contact with the audience. Audience questions are not addressed .	eye contact with audience. Audience questions are somewhat addressed.	Answered all audience questions.	audience with the use of direct eye contact. Effectively answered audience questions raised.