

SWE315 : “C++ Programming”.

Final Project – HW1

1. Submit by **July-22nd** (by email to instructor) project-selected and any cross dependencies on other projects.
2. **Send to instructor, by July-31st BEFORE class (will be graded in class)**, the following. Prepare the beginning of your report. Include the following sections:
 - a. Project description/goal.
 - b. ‘Consumer specifications’.
 - c. Engineering specifications.

End of: Final Project - HW1

===== Previous info on the project =====

SWE315 : “C++ Programming”.

Final Project

The final project comprises 35% of your course grade: Please pay attention to the below! More importantly than the grade itself, this is your opportunity to demonstrate independent learning, creativity, and have fun with ‘C++’. Use this opportunity wisely! Do something you like!

You will have more than 6 weeks (in words: SIX weeks) to complete the project. We will also spend time in labs and lectures to discuss related stuff.

Below are the technical details. Keep in mind: The goal is to learn while being engaged. Do a project you would like to see working and have fun doing it !!

Details

3. The project is individual (no teams). However, it is ok to have two projects related.
 - a. If done as related, please specify who is responsible to what part and where the interface is. (e.g., graphics, program, file I/O, etc).
4. Submit by **July-22nd** (by email to instructor) project-selected and any cross dependencies on other projects.
5. Every **Thursday** we will have a short brief by each team on Project status.
6. Final results of the project are:
 - a. **Working program.**
 - b. **Presentation** (less than 10 minutes) with slides.

- c. **Project report** (including printout of the program, as appendix).
- 7. Final presentation of the project is on **Aug-26th, Tuesday** and **Aug-28th, Thursday**, during class. (Project week).
- 8. Project should include (note: Very minimal list. You have freedom here!):
 - a. Demonstrates the use of OOP principals.
 - b. Demonstrates Arrays (and pointers if relevant).
- 9. All project materials (presentation-slides, report (hard copy), programs) should be submitted no later than **Aug-30th, Thursday**

Rubric used:

Date: Mar-03-2014				
PLO3:				
Analyze engineering problems and resolve them using appropriate design steps and processes.				
Notes:				
1. In this PLO, the student is given an open-ended problem specification, and a large part of the process is finding the right questions to be answered, and methodology of arriving and pursuing those.				
2. This PLO refers to BOTH engineering-problems AND art-productions.				
3. NOT all items will be relevant for each specific assignment.				
	Initial (Comprehension)	Emerging (Application)	Developed -I (Analysis)	Developed-II (Synthesis/Evaluation)
Problem understanding	Discusses the importance of developing a clear understanding of a problem.	Applies best practices to rephrase the problem in a simpler and more direct manner.	Analyses various aspects of the task and draws on previous experience to attain a clear understanding and formulation of the problem.	Synthesizes the components of the task and suggests possible extensions to the task.
Alternative approaches for solution	Describes why approaching a solution from multiple vantage points can yield tradeoffs in solution.	Applies various approaches to finding a solution.	Analyses different approaches to a solution to determine viability and tradeoffs.	Evaluates multiple approaches to a solution and selects the most viable option.
Reduction to specifications	Describes the importance of adhering to specification and constraints for a given project.	Adheres to specified specifications and constraints when working on a specific project.	Analyses specifications and constraints to determine the most effective way to complete a given project.	Creates new specifications that expand the scope of the project.
Iterative process	Able to discuss the importance of applying an iterative (refining) process in solving engineering problems.	Applies iterative process in solving a problem.	Analyses the progression of the iterative process to determine which elements need more refinement.	Synthesize previous iterations to create the most appropriate final product/solution.

Example project ideas:

- Image processing enhancements:
 - ASCII art
 - Mosaics
- Audio processing library
- Handling Maya (ascii format) files : Macro, editing, counting, etc. Nodes with comments, etc.
- Handling Nuke files: See above.
- Mine-sweeper : ASCII graphics.
-

- Sudoku: 3x3, (extra credit: 4x4).
- Crossword puzzle
- Chess board with various games on it:
 - Knights tour
 - 8 Queens
 - Checkers
- < Your idea here >

=== END ===

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