

CEN 4020: Software Engineering I
Florida State University

Spring 2019

Term Project Rules and Requirements

Overview:

During the rest of the semester, students will work in teams of 4-5 students to design, implement, validate, deploy, and document a software system. There will be **two iterations** in which the team will make progress on the implementation of the system and on the required documentation. The source code of the project needs to be hosted in a GitHub repository to which **the instructor and the TAs are given access (GitHub IDs: shaiduc, eparrarod, Ephyras)**.

This assignment is designated as one of the course assignments being used to assess basic programming skills for ABET/SMALC requirements. See the grading criteria below for information about this.

Each iteration has a set of **deliverables**:

- 1) A **progress report**, which will describe in detail the status of your project at this point and the contribution of each team member to the project and all the deliverables required. (see *Progress Report Template.docx* on Canvas).
- 2) A **software requirements and design document** (see *SRDD Template.docx* on Canvas). This does not need to be complete by the end of iteration 1, but needs to contain at least the use cases and classes involved in the current state of the project at the end of iteration 1. However, this document needs to be complete by the end of iteration 2.
- 3) A **implementation and testing document** (see *ITD Template.docx* on Canvas) describing the programming language used, the APIs, platforms, technologies, etc. used in your system, as well as the testing strategy used by your team to test the system. This can also be updated between iterations if needed.
- 4) A **video (5 – 10 min)** describing the current state of the project, including:
 - a. a general overview of the project
 - b. a short description of the state of the project – what is completed so far
 - c. a demo of the current project
 - d. Describe any change in scope of the project from the initial plan proposed in your project proposal and explain why the change occurred.
 - e. *Only for the first iteration*, talk also about your plan for the next iteration (what features will be completed in the next iteration).
- 5) **Teammate evaluation forms** (see *Teammate Evaluation.docx* on Canvas)
- 6) **Source code** up-to-date in the GitHub repository (no separate document needs to be submitted for this on Canvas)

Items 1-4 above need to be submitted **only once per team** on Canvas.

Item 5 needs to be submitted **individually by each student** on Canvas.

Item 6 does not require any submission on Canvas, only the **updated code on GitHub** at the time of the deadline.

All team members need to contribute to all of the Items 1-4 and Item 6.

Each deliverable will be evaluated separately (each deliverable will have a grade associated with it). By the end of the course, each team will present a complete implementation of the proposed software system together with the complete version of the required documentation.

Deadlines:

- **Wednesday, April 10th:** **End of first iteration.** All deliverables due @ 11:59 pm.
- **Sunday, April 28th:** **End of second iteration.** All deliverables due @ 11:59 pm

Grading:

Note: all points will be added up and divided by the maximum possible points to obtain your final project grade. *The grades for all deliverables besides Teammate evaluation forms will be computed based on their overall quality and the performance delivered by the group, as well as the individual contribution of a student to the deliverable.* It is therefore very important to document the contributions of each team member in detail in the progress reports at the end of each iteration.

- A. **Iteration 1 – contribution to and quality of progress report:** 20 points
- B. **Iteration 1 – contribution to and quality of SRDD document:** 60 points
- C. **Iteration 1 – contribution to and quality of ITD document:** 40 points
- D. **Iteration 1 – contribution to and quality of the video:** 20 points
- E. **Iteration 1 – turn in teammate evaluation forms:** 5 points
- F. **Iteration 1 – contribution to and quality of the project** based on source code (features implemented, progress made): 100 points
- G. **Iteration 1 – quality of your own source code** (descriptive identifiers, good comments, good code structure and organization, clean and easy to understand code): 10 points

- H. **Iteration 2 – contribution to and quality of progress report:** 20 points
- I. **Iteration 2 – contribution to and quality of SRDD document:** 60 points
- J. **Iteration 2 – contribution to and quality of ITD document:** 40 points
- K. **Iteration 2 – contribution to and quality of the video:** 20 points
- L. **Iteration 2 – turn in teammate evaluation forms:** 5 points
- M. **Iteration 2 – contribution to and quality of the project** based on source code (features implemented, progress made): 100 points
- N. **Iteration 2 – quality of your own source code** (descriptive identifiers, good comments, good code structure and organization, clean and easy to understand code): 10 points

This assignment is designated as one of the course assignments being used to assess basic programming skills for ABET/SMALC requirements (see the syllabus for more details). In addition to the normal grading scales, each student's submission will be judged on several aspects on a scale of "Highly Effective", "Effective", or "Ineffective", as specified by ABET/SMALC outcome assessment procedures. A student's submission that earns at least 75% of the available points will count as "Highly Effective", earning between 50-75% of the available points will count as "Effective", and getting less than 50% of the points will count as "Ineffective".

In order to pass the class you must obtain at least 50% of the points (“Effective”) on EACH of the items below:

- 1. *Teamwork*.** This will measure a student’s ability to function effectively in a team to accomplish a common goal. The teams will work together on the requirements, design, and implementation of a software system. The contribution of each student to the team project will be graded individually. **The ABET grade for this aspect will be computed as the average of items A, D, F, M, H, K, M above (your grades for the contribution to the state of the project, video, and progress report).**
- 2. *Software Requirements*.** Each student’s contribution of the Software Requirements document will be individually assessed. **The ABET grade for this aspect will be computed as the average of items B and I above (your grades for the SRDD documents).**
- 3. *Software Design and Implementation*.** This will measure a student’s ability to apply design and development principles in the construction of a software systems of significant complexity. In particular, this will measure the ability to design, implement, and evaluate a computer-based system to meet desired needs and the ability to apply design and development principles in the construction of a complex software system. **The ABET grade for this aspect will be computed as the average of items C and J above (your grades for the ITD documents).**

YOU NEED TO OBTAIN A 50% OR MORE ON EACH OF THE THREE ABET ITEMS TO PASS THE CLASS.