The report format should follow the formats of the previous two reports.

* Cover Page and Individual Contributions Breakdown, as specified [**here**](https://www.ece.rutgers.edu/~marsic/Teaching/SE/projects.html#REPORTS).
* Table of Contents  
  Ensure that the page numbers listed here are correct
* Summary of Changes  
  Provide an **itemized list of key revisions** since the previous two reports. This includes key changes in *project objectives*, *use case descriptions*, and *system design* (e.g., interaction diagrams, class and package diagrams).

The report must contain the following sections:

1. Customer Statement of Requirements (as in [Report #1](https://www.ece.rutgers.edu/~marsic/Teaching/SE/report1.html), revised as needed)
2. Glossary of Terms (as in [Report #1](https://www.ece.rutgers.edu/~marsic/Teaching/SE/report1.html), revised as needed)
3. System Requirements (as in [Report #1](https://www.ece.rutgers.edu/~marsic/Teaching/SE/report1.html), revised as needed)
4. Functional Requirements Specification (as in [Report #1](https://www.ece.rutgers.edu/~marsic/Teaching/SE/report1.html), revised as needed)   
   Elaborate only the *use cases* that will be *implemented* by the time of the [final demo](https://www.ece.rutgers.edu/~marsic/Teaching/SE/demo2.html). For the use cases that will *not* be implemented for the final demo, provide a casual description for each and indicate that these could be considered for future work.   
   *System Sequence Diagrams* should be updated to incorporate the use cases that will be completed for the final demo.  
   This section must include the *Traceability Matrix* that shows how your use cases are related to your system requirements.
5. Effort Estimation using Use Case Points  
   When calculating duration (equation 4.8 in the lecture notes), assume the productivity factor *PF* = 28 hours per use case point. Show the process, not only the final number.
6. Domain Analysis (as in [Report #1](https://www.ece.rutgers.edu/~marsic/Teaching/SE/report1.html), revised to incorporate the use cases that will be completed for the final demo)   
   This section must include the *Traceability Matrix* that shows how your use cases map to your domain concepts. Include text description, not only a table with checkmarks.
7. Interaction Diagrams (as in [Report #2](https://www.ece.rutgers.edu/~marsic/Teaching/SE/report2.html), revised as needed)
   1. IMPORTANT: Your revised interaction diagrams must include some of the ***Design Patterns*** that were covered in the lectures after the Report #2 was submitted.   
      *Explain and justify* the patterns that you use in your new design. State explicitly in what sense the use of the specific design pattern in the particular interaction diagrams improves the design.
8. Class Diagram and Interface Specification (as in [Report #2](https://www.ece.rutgers.edu/~marsic/Teaching/SE/report2.html), revised as needed)   
   This section must include the *Traceability Matrix* that shows how your classes are related to your domain concepts and a *text description* of the concepts-to-classes evolution.   
   In addition, include the following subsections:
   1. Design Patterns  
      As for *Interaction Diagrams* indicate and discuss the use of *design patterns* to improve your design.
   2. [Object Constraint Language (OCL)](http://www.omg.org/spec/OCL/2.0/) Contracts   
      List important contracts (invariants, preconditions, postconditions) for classes and their operations (See *Bruegge & Dutoit*, Chapter 9; and *Miles & Hamilton*, Appendix A)
9. System Architecture and System Design (as in [Report #2](https://www.ece.rutgers.edu/~marsic/Teaching/SE/report2.html), revised as needed)
10. Algorithms and Data Structures (as in [Report #2](https://www.ece.rutgers.edu/~marsic/Teaching/SE/report2.html), revised as needed)
11. User Interface Design and Implementation (as in [Report #1](https://www.ece.rutgers.edu/~marsic/Teaching/SE/report1.html) **and** [Report #2](https://www.ece.rutgers.edu/~marsic/Teaching/SE/report2.html), revised to incorporate the use cases that will be completed for the final demo)
12. Design of Tests (as in [Report #2](https://www.ece.rutgers.edu/~marsic/Teaching/SE/report2.html), revised as needed)
13. History of Work, Current Status, and Future Work   
    Instead of the section *Plan of Work* have the section *History of Work* which documents how the actual milestones and deadlines evolved. Compare these against the milestones as planned in Reports #1 and #2.  
    Also summarize (as a bulleted list) your key accomplishments in this project.  
    Discuss the possible directions for future work on this project.
14. References (books, papers, URL's of the sources of information and tools used in the project)
15. **Reflective Essays   
    A minimum 1-page must be emailed by each student separately (see** [**Section 1.2**](https://www.ece.rutgers.edu/~marsic/Teaching/SE/report3.html#ESSAY) **below for detailed description)**

Each student must *individually* write a reflective essay focusing on the course topics and the design project. This should be a reflection from your personal, individual perspective on how you felt the course met your needs or fell short. You should demonstrate what you have actually done in the course and what you have learned. What was the most difficult aspect of this course in general, and what was the most difficult aspect of team projects? Analyze your work on the group design project and to reflect on the issues that your project confronted. Discuss how you would approach the teamwork if you had another semester to work on the project.

* Describe the *technical challenges* you encountered in the development of your software product. What topics do you feel should be covered in a pre-requisite course for this course?
* Describe how the software engineering techniques you learned in this course helped you to address those challenges
* Which techniques were the most useful to your group and why?
* Which techniques were the least useful to your group an why?
* Based on your experience, do you think is it better to work on an [already defined project](https://www.ece.rutgers.edu/~marsic/books/SE/projects/) (not necessarily continuing the work of a past group), or to define your own new project? Explain your answer.
* What challenges you individually experienced by working on a software project as part of a team?
* What benefits you individually experienced by working on a software project as part of a team?
* Describe what other knowledge you feel might have helped you with the project development
* Overall, how did the course meet your needs or fall short? Discuss topics covered that helped or did not help in advancing your knowledge of software development.

Email your essay as a *separate* PDF document, **NOT** as part of the group report.