

Project Phase 1: System Requirements Analysis and Specification

1 Task Description

Your first task is to elicit, analyze, and specify the requirements for the system that you have proposed.

2 Deliverables

The deliverable for this phase of the project is a System Requirements Document. This document should present the functional requirements for the system and any constraints applicable to the system. The document should follow the IEEE Requirements Standard.

The requirements document should also contain mockups of the expected system interface, which reflect the system's ability to provide required functionality.

The requirements document should also clearly prioritize requirements as belonging to 1) the First Release, 2) the Second Release, or 3) Future Releases. First Release requirements are those that you will include in the first tested implementation of the system. Second Release requirements are those that you will add to the second version of the system. Future Release requirements will not be implemented during the course of the class, but we do expect your high-level design to be constructed in a manner that these requirements could be incorporated without undue difficulty.

Decisions as to which functionality falls into which release class are up to your team.

The deliverables for this phase are due in first form on Tuesday, February 17, in class. This is to enable us to pass your materials on to another group. On Thursday, February 19, in class, we will conduct requirements inspections, in which each group reviews another group's requirements document. You will then have until 11:59pm on Friday, February 20, to turn in a final version of your document, along with the team **engineering journal** that describes "who did what.", via homework submission system.

3 Evaluation

Your requirements specification will be evaluated in terms of the qualities required of such specifications (discussed in class). These include completeness, consistency, verifiability, and the ability to provide traceability to further project artifacts.

4 Grading Rubric

(5 pts) The requirements document should be organized following the IEEE standard, with allowances for omitting sections that do not pertain to this system. Overall it should be professionally presented.

(5 pts) The introduction must clearly and concisely specify the purpose and scope of the system, in language suitable for a non-technical reader.

(10 pts) The overall description should “provide a background” for understanding the requirements that will be spelled out in Section 3. (See Section 5.2 of the IEEE Standard for words on what this means). It should include the six sections (2.1 - 2.5) shown in Figure 1 in the Standard.

(60 pts) Coverage of specific requirements will receive the greatest attention in grading. In reviewing these we will be paying attention to the following issues, and deducting small numbers of points per problem found (1-5 depending on the extent of the problem).

- Completeness with respect to what your proposal suggests you will be doing.
- Consistency among requirements and with higher-level information provided in the introduction and overall description.
- Clarity, non-ambiguity.
- Appropriate organization; i.e., logical groupings of requirements allowing readers to grasp them more easily.
- Testability (for functional requirements).
- Appropriate information on system constraints.
- Appropriate indications of priorities, allowing production of the system in three phases as has been discussed in class (with the third phase relegated to “future work”).

(15 pts) Interface depictions / mockups should correctly reflect the system’s ability to support the specific system requirements, where interaction with the user is concerned.

(5 pts) Appropriate supporting information should be provided in Appendices, if applicable.