Refactoring Evaluation Rubric

This is the rubric that will be used for evaluating your refactoring and documentation.

Dimension	Exceptional Performance 4	Competent Performance 3	Acceptable Performance 2	Developing Performance 1	Beginning Performance 0
Initial Analysis (5%)	The initial analysis thoroughly discussed the metrics, and showed a complete visual analysis of the entire code base.	The initial analysis had a good discussion of the important metrics, and showed a good visual analysis of the code base.	The initial analysis gave adequate coverage of the metrics, and indicated visual inspection of most of the code base.	The initial analysis discussed only a few metrics, or had visual inspection of only a small part of the code base.	The initial analysis was not done.
Reverse Engineering (20%)	The original design is fully and correctly described with class diagrams and responsibilities, and sequence diagrams for several significant features. Problem areas are discussed in detail.	The original design is described with class diagrams and responsibilities, and sequence diagrams. The design and problem areas are discussed.	The original design is described with a class diagram and responsibilities, and at least one sequence diagram. There is a discussion of the design and identification of problem areas.	Original design is described with a class diagram. Class responsibilities are missing, sequence diagrams are missing, or there is minimal discussion of the design and problem areas.	There is no discussion of the original design.
Refactoring (20%)	The new design is discussed with class diagrams and responsibilities, and sequence diagrams for several significant features. The rationale for the refactoring is fully justified. Several appropriate patterns are applied.	The new design is described with class diagrams and responsibilities, and sequence diagrams. There is some discussion of the refactoring rationale. There are at least two patterns applied in an appropriate way.	The refactoring is described and the new design is shown with a class diagram and responsibilities, and at least one sequence diagram and some accompanying discussion. Several patterns are applied though they may not all be appropriate.	A class diagram describes the new design with minimal discussion. Few patterns are applied, there is little discussion of their use, or many are inappropriate. Class responsibilities, or sequence diagrams and discussion are missing.	Simple non-structural or minor structural changes are all that are made.
Metric Analysis (15%)	Metric data is shown and analyzed to indicate how it guided refactoring, and the results are analyzed.	Metric data is shown and the analysis suggests how it guided refactoring activities, or results analysis does not address remaining issues.	Metric data is shown with simple initial or result analysis, or little connection made to refactoring effort.	Metric data is shown with minimal analysis or missing either initial or result analysis.	No metric data or analysis provided.

Dimension	Exceptional Performance 4	Competent Performance 3	Acceptable Performance 2	Developing Performance 1	Beginning Performance 0
Design Diagrams (20%)	Domain model shows all domain entities. Class diagrams with all classes & relationships and correct cardinality. Clearly described sequence diagrams for major features traced through all participants.	Domain model captures major entities and relationships. Class diagrams show all significant classes and relationships with appropriate cardinality. Sequence diagrams with most major features described.	Domain model has some issues with entities or relationships. Class diagrams have incorrect relationships, are missing some important relationships, or missing cardinality. Sequence diagrams show participants and most exchanges.	Domain model misses entities or relationships. Class diagrams have many missing relationships, missing some important classes. Sequence diagrams provide little insight into the feature operation.	Most UML diagrams have many errors or diagrams only sketch the design. Domain model has major issues.
Design Document [Organization] (10%)	Document organized as coherent sections and subsections in a logical sequence and hierarchy with clear transitions and diagrams that follow structure.	Document organized as coherent sections and subsections that follow logically in sequence and hierarchy. Diagrams mostly follow structure.	Minor violations of section coherence or logical section sequencing. Some sectioning of class diagrams.	Significant violations of section coherence and/or logical section sequencing. No attempt to breakup class diagram.	Document is completely incoherent, no evidence of any attempt at ordering.
Design Document [Style] (5%)	Crisp writing in the active voice, clear transitions between topics, no excess verbiage	Few passive constructs, coherent sentence and paragraph structure, no run-on sentences	Several instances of poor sentence structure, run-on sentences, passive constructs, incoherent paragraphs.	Poor sentence structure throughout, incoherent paragraphs and excessive passive voice, run on sentences.	Writing is practically incomprehensible
Design Document [Mechanics] (5%)	No spelling or grammar errors, excellent formatting, highly readable	Spelling and grammar errors rare, reasonable formatting	Spelling, grammar, or formatting errors appear in several places but rarely interfere with readability and understanding.	Few pages are without spelling, grammar, or formatting errors making reading a chore.	Mechanics errors make it impossible to read the document.