DesignDoc v3

Submit Assignment

Due Sunday by 11:59pm **Points** 30 **Submitting** a file upload **File Types** pdf **Available** Apr 14 at 12am - May 3 at 11:59pm 20 days

Design Document v3

The design document is now officially assigned. The design document template is available at http://seniord.ece.iastate.edu/resources/Design_Document_Template.docx (http://seniord.ece.iastate.edu/resources/).

There are *four phases* to the design document:

- **v1,** due at the end of week 6 (2/23). This version should have all the major sections, with Executive Summary and Sections 1-2 fairly well-written. Sections 3-5 can be tentative at this point.
- **v2**, due at the end of week 11 (3/29). This version should have all the major sections, with Executive Summary and Sections 1-4 fairly well-written. Section 5 can be tentative at this point.
- **v3**, due at the end of week 15 (4/26). This is the version of the document that will be reviewed by the faculty panel during your presentation in the dead week. At this point you should have all sections completed, including Executive Summary and Section 6.
- **v4 (final)**, due at some point near the end of 492 (next semester). It may not use exactly the same rubric as in 491, but the overall report and project quality will be worth a certain percentage of your grade next semester, and your design document will likely also influence the faculty advisor and IRP panel report in 492.

The design document is assigned this way in multiple phases so that you can receive multiple rounds of early feedback and adjust accordingly.

The design document is worth 20% (v1 - 2%, v2 - 2%, and v3 - 16%) of your overall score and will likely serve as a significant basis of the score for your final project review (25%). Please take this seriously.

This assignment is for DesignDoc v3, which is due on 4/26 Sunday 11:59 PM. Please type your document and submit on Canvas. Only one submission is needed from each team.

DesignDoc v3

Criteria	Ratings		Pts
Format Issues Includes title page, table of contents, list of figures and tables, and references. Pages are numbered, figures and tables are introduced, headings are numbered, etc.	**0.5 pts Full Marks**	**0.0 pts No Marks**	0.5 pts
Executive Summary Executive summary page includes descriptions of all the elements – development standards & practices, requirements, list of relevant courses, new skills acquired.	**0.5 pts Full Marks**	**0.0 pts No Marks**	0.5 pts
1.1 Acknowledgment Acknowledges organizations, clients, or individuals who make significant contributions to the project.	**0.5 pts Full Marks**	**0.0 pts No Marks**	0.5 pts
1.2 Problem and Project Statement Defines the problem that is to be solved and an overview of the project.	**1.0 pts Full Marks**	**0.0 pts No Marks**	1.0 pts
1.3 Operational Environment Describes the environment in which the end result of the project is to operate.	**1.0 pts Full Marks**	**0.0 pts No Marks**	1.0 pts
1.4 Requirements Lists requirements for the project. These can include functional, economic, environmental, and more.	**0.5 pts Full Marks**	**0.0 pts No Marks**	0.5 pts
1.5 Intended Users and Uses Defines who will use the project and how it will be used.	**0.5 pts Full Marks**	**0.0 pts No Marks**	0.5 pts
1.6 Assumptions and Limitations Contains two lists, one for assumptions and one for limitations, with justifications of the items contained if needed.	**0.5 pts Full Marks**	**0.0 pts No Marks**	0.5 pts

Criteria	Ratings		Pts
1.7 Expected End Product and Deliverables Defines the deliverables at the end of the project. Includes detailed descriptions for each deliverable.	**1.0 pts Full Marks**	**0.0 pts No Marks**	1.0 pts
2.1 Proposed Approach Defines possible methods of solving the project and references industry standards in those methods.	**0.5 pts Full Marks**	**0.0 pts No Marks**	0.5 pts
2.2 Design Analysis Describes what has been done, success or failures encountered, observations, and defines the strengths and weaknesses observed.	**0.5 pts Full Marks**	**0.0 pts No Marks**	0.5 pts
2.3 Development Process Discusses and defines the standardized development process that will be followed, e.g., Waterfall, Agile.	**0.5 pts Full Marks**	**0.0 pts No Marks**	0.5 pts
2.4 Conceptual Sketch Uses a system-level conceptual sketch diagram to describe the concept for your approach/design. Describes the modules in your design (dependency/concurrency of modules, interfaces, architectural overview, etc.), and module constraints tied to the requirements.	**1.0 pts Full Marks**	**0.0 pts No Marks**	1.0 pts
3.1 Previous Work and Literature Lists existing works, background material, and the extent to which any of it is being utilized.	**0.5 pts Full Marks**	**0.0 pts No Marks**	0.5 pts
3.2 Technology Considerations List strengths, weaknesses, and trade-offs in existing technology. Discuss solutions and design alternatives.	**1.0 pts Full Marks**	**0.0 pts No Marks**	1.0 pts
3.3 Task Decomposition Break down the project into multiple tasks.	**1.0 pts Full Marks**	**0.0 pts No Marks**	1.0 pts

Criteria	Ratings		Pts
3.4 Possible Risks and Risk Management Define concerns or possible hindrances currently identified in the project.	**1.0 pts** **Full Marks**	**0.0 pts** **No Marks**	1.0 pts
3.5 Project Proposed Milestones and Evaluation Criteria Define key milestones in the project. Define the criteria that marks the completion of specific milestones.	**1.0 pts** **Full Marks**	**0.0 pts** **No Marks**	1.0 pts
3.6 Project Tracking Procedures Define the methods that will be used for tracking the progress of the project throughout this and the following semester.	**1.0 pts** **Full Marks**	**0.0 pts** **No Marks**	1.0 pts
3.7 Expected Results and Validation List the expected results of the project as well as the methods that will be used to verify that those results have been met successfully.	**1.0 pts** **Full Marks**	**0.0 pts** **No Marks**	1.0 pts
4.1 Project Timeline Produce a detailed Gnatt chart covering all known aspects of the project and their expected time to completions.	**1.0 pts** **Full Marks**	**0.0 pts** **No Marks**	1.0 pts
4.2 Feasibility Assessment A realistic projection of what the project will be. State foreseen challenges of the project.	**1.0 pts** **Full Marks**	**0.0 pts** **No Marks**	1.0 pts
4.3 Personnel Effort Requirements Define, in a table, a task by task breakdown of the project, including the estimated time required to complete each task.	**1.0 pts** **Full Marks**	**0.0 pts** **No Marks**	1.0 pts
4.4 Other Resource Requirements Identify the other resources aside from financial, such as parts and materials that are required to conduct the project.	**1.0 pts** **Full Marks**	**0.0 pts** **No Marks**	1.0 pts

Criteria	Ratings		Pts
4.5 Financial Requirements If relevant, include the total financial resources required to conduct the project.	**1.0 pts Full Marks**	**0.0 pts No Marks**	1.0 pts
5.1 Interface Specifications Define and describe and hardware or software interfacing that is being used for testing aspects of the project.	**1.0 pts Full Marks**	**0.0 pts No Marks**	1.0 pts
5.2 Hardware and Software List and hardware and/or software that will be used for testing. Describe the utility of each item.	**1.0 pts Full Marks**	**0.0 pts No Marks**	1.0 pts
5.3 Functional Testing Define and describe the functional testing for the project. This would include unit tests, integration testing, system-level testing, and acceptance testing.	**1.0 pts Full Marks**	**0.0 pts No Marks**	1.0 pts
5.4 Non-functional Testing Define and describe the testing that will be performed on non-functional aspects of the project. This would include performance, stability, usability, and security.	**1.0 pts Full Marks**	**0.0 pts No Marks**	1.0 pts
5.5 Process Define and describe the process and methodology for testing the project. This would include both the functional and non-functional testing and would likely include flow charts or other diagrams.	**1.0 pts Full Marks**	**0.0 pts No Marks**	1.0 pts
5.6 Results Present the results of the testing. This will include any success or failures during the testing, any new information that was learned as a result of the testing, and any changes that this new knowledge will result in. Data, plots, or other figures resulting from testing should be included as well.	**1.5 pts Full Marks**	**0.0 pts No Marks**	1.5 pts
6.1 Conclusion Summarize the work that has been completed thus far. Re-iterate goals, the plan of action, and a justification for this plan of action.	**1.0 pts Full Marks**	**0.0 pts No Marks**	1.0 pts

Criteria	Ratings		Pts
6.2 Citations List all references used in the project in a professional manner, eg IEEE format.	**1.5 pts** **Full Marks**	**0.0 pts** **No Marks**	1.5 pts
6.3 Appendicies Additional information that is useful in the evaluation of the project. This would include large tables and graphs, schematics, cad files, issues and bugs, and any other material that is not directly related to the previous sections in the document.	**1.0 pts** **Full Marks**	**0.0 pts** **No Marks**	1.0 pts
			Total Points: 30.0