UF UNIVERSITY of FLORIDA
Herbert Wertheim College of Engineering

Computer Engineering
CEN 4908C

R3: Preliminary Report

Overview

The preliminary report deliverable will be prepared by the team and submitted at the midpoint of the term. It summarizes the project's purpose, background, current state, and goals. It also serves as the foundation of the final report for the project, which will be submitted at the end of the term.

Specification

The report may be formatted according to the discretion of the team. It should contain the content and follow the guidelines outlined in this section. Note that while the report may use the section titles listed in this document, they are not explicitly required – only that all content is covered in an organized and readable manner. Source code should not be included as part of the report; instead, it should focus on information necessary to understand the technical approach of the project.

Formatting

The report should be formatted for either "US Letter" or ISO A4 paper size with margins of 0.5-0.75 inches (12-20 mm). The document should be no more than 3500 words, excluding references and acknowledgements.

Abstract

The documents should begin with a brief abstract (200-300 words). The abstract's purpose is to provide the reader with a synopsis of the report. The abstract should allow the reader to quickly identify whether the paper is relevant in a literature search.

Introduction

Each project is motivated to solve some real-world need or problem; the introduction provides context and relevance to the project and shows how it is intended to impact and improve some circumstances. The introduction should clearly establish why the project is important, what need it is intended to address, and a brief description of how it will do so. It should This may include historical and contemporary motivation.

Background

The scientific background for the project should be included within the report, and particularly any relevant theoretical background, prior art, and peer-reviewed empirical evidence (experimentation, etc.). The background should include scholarly articles and reports, and not merely code repositories / code snippets / tutorials. As relevant, the background should also include data collected as part of experiments conducted by the team during the design and development of the project. All sources should be properly cited.

Design

The report should outline the project's design. The design should describe all critical elements of the project, including interfaces that users interact with and internal systems and subsystems. It should clearly describe all communication systems and protocols used by the systems, including networking media and protocols. Typically, the project design includes visualizations via diagrams and may include descriptions of storyboards and hardware schematics. The design should also describe risks identified in the design phase and mitigations.

Tools, Design Constraints, and Engineering Standards

Describe the industry and disciplinary tools and engineering standards (including processes and protocols) used to develop the project. All tools and standards should be properly cited. For engineering standards, discuss what standards you encountered in the project, such as connection and cabling standards, standard protocols, etc. Describe the design constraints faced by your project and how they played a role in the final project.

Needs and Impact Analysis

The report should include a thorough discussion of the relevance of the project to the wider community, the value it provides, and new questions it raises, as applicable. This section should reflect on the need and impact as outlined in the project design (completed in the first semester). In particular, the report should endeavor to connect the project as a work of engineering to the scientific and/or practical contexts of the state-of-the-art and establish the contributions of the project to the community. Specifically, identify the cultural, global, economic, environmental, and social impacts of your project. It is also important for the report to honestly state the limitations of the work, as well as its potential drawbacks. Similarly, each engineering contribution offers an opportunity for others to build on the work; to this end, the report should describe potential future work for which the project may provide a foundation. It is also critical to clearly identify and address ethical and professional considerations you considered when developing the project – including how it contributes in global, economic, environmental, and societal contexts.

Results

Describe the results of tests outlined and executed for the alpha and beta milestones. Specifically describe the tests in detail. What was tested, and what were your test procedures (how, when, where, and why)? What behavior did you expect, and were the results in line with these expectations? What did you learn from the tests, and what changes did you make to the project because of test results? Be specific enough that a technical reader could reproduce your tests and results without ambiguity.

Status

The project's status – elements that have been completed, those in progress, and those planned – should be clearly described in the report, along with a timeline indicating when features were completed or when they are planned to be completed. The status should cover completed and planned elements of the external interfaces as well as internal systems. For completed elements, details of the implementation should be included in this section as needed to understand the technical approach. For planned elements, details of the plan for implementation (including sub-parts / sub-systems) should be included.

Conclusion

The report should conclude with a brief summary that connects the elements of the report and provides a holistic understanding of the overall project, its goals, and its progress, while providing a clear map of its future.

References

All resources utilized in the preparation of the report should be included in a bibliography. Sources may include scientific journal and conference papers, white papers, reports, code snippets / repositories, websites, and/or other relevant sources.

Submission

Students will submit a PDF document on Canvas.