Title of Proposed Capstone Project

Your Name Here

Advisor: Your Faculty Advisor's Name Here
Semester: Semester of Proposed Project

May 31, 2019

Abstract

The Computer Science capstone proposal is a 500 -1000 word essay that addresses the topics described below. This template is intended to provide guidance regarding the structure and content of the proposal. The proposal itself must be written in paragraph/narrative format. Generally, both senior projects and internships require the same information in the proposal. Where appropriate, the template explicitly addresses differences between information required for senior projects and internships. Please see the *Computer Science Major's Capstone Requirements* document for more detailed information and explanation of the ideas discussed in this template.

1 Introduction

In the Introduction, you will explain what you will do and what the output will be. That is, what is the proposed project/internship, and what will it produce? You may also explain why you want to do this project/internship: talk about your interest in and connection to the project/internship. You may include ideas such as what gave you the initial idea for the project or what drew you to the particular internship opportunity, how the project/internship meets a need, and/or how the project/internship provides an improved solution to a problem. The precise details that you choose to include will vary greatly depending on the context of the work to be completed.

For a senior project, you may need to include references and in-text cross-reference citations. A sample `.bib` file accompanies this template, and some meaningless examples of LaTeX markups for cross-references are included in this paragraph [2]. Just for the sake of a second example, here is another reference citation [1]. If desired, you may change citation and reference format by changing the bibliography style in the template. The current style is "acm" and is appropriate for Computer Science topics. If you change formats, be sure to check with your faculty advisor in advance to make sure the style is appropriate for Computer Science.

2 Preparation

In this section, you will discuss how you are prepared to undertake this project/internship. This section often includes reference to specific Computer Science courses that provided the background and fundamental skills to support your project/internship work. You may also include other experiences (*e.g.,* previous internships, independent projects, other jobs) that contributed to your preparation.

3 Practice

Any capstone experience must both bring together your academic learning *and* go beyond that academic preparation. You will address those issues in this section. How will the capstone synthesize and surpass your academic experiences? You should also include particular professional practice skills that you will cultivate with this experience, specifically considering non-technical skills.

4 Work and Work Products /OR/ Deliverables

This section addresses in more detail what you will do and what you will produce for the capstone. The products of the capstone are different for internships and senior projects.

- **Internship: Work and Work Products.** Include as much specific information as you have at the time of the proposal about the work you will do. Include information about the company or organization you will intern with, what group or project you will work on, what technologies you will use, and what you will produce at the end of the internship. Be advised that there may be issues of intellectual property, privacy, or security involved in the work that you will do in your internship. As much as is possible in advance of the internship, you must communicate with your on-site supervisor or mentor about these issues and include the information in your proposal.
- **Senior Project: Deliverables.** You and your faculty advisor determine the products of a senior project. In this section, you will discuss the artifacts (systems, objects, *etc.*) that will be produced as part of the project. Provide as much detail as possible at this point in the project, including the technologies/methodologies you plan to use in your project development.

5 Administration

This section addresses the nitty-gritty details of the project/internship: when are you doing the work (specific dates for an internship, semester for a senior project) and the number of credit hours for which you will register.

This is the last section for an internship proposal. Please note that senior projects must also include the Appendices described below.

A Grading rubric (Senior Projects ONLY)

You must define grading standards for your faculty advisor to apply when assessing your project. This involves defining *done* for each grade level from 2.0 to 4.0. This definition sets the scope for the project and serves as agreement between advisor and student as to what will actually be done and what your completed project will look like.

B Tentative schedule (Senior Projects ONLY)

You will produce a timeline for your project that outlines how the work will proceed. It is important that this timeline be realistic in light of the scope defined in the previous appendix. You must include the schedule of meeting times with your faculty advisor, presentation date, and a date for submission of the final report. The form of the schedule is up to you. You may use a list, a table, or a chart (*e.g.,* a Gantt chart). Whatever format you use, please be sure that it is embedded in your proposal document, not attached as a separate file.

References

[1] Hadka, D., and Reed, P. Large-scale parallelization of the Borg multiobjective evolutionary algorithm to enhance the management of complex environmental systems. *Environmental Modelling & Software 69* (July 2015), 353–369.

[2] Pholdee, N., Bureerat, S., and Yldz, A. R. Hybrid real-code population-based incremental learning and differential evolution for many-objective optimisation of an automotive floor-frame. *International Journal of Vehicle Design 73*, 1-3 (Jan. 2017), 20–53.