

CSci 5801: Software Engineering I, Spring 2023

Project 1 – Waterfall Methodology

Software Design Document (SDD) for Voting System

Due Date: Thursday, March 2, 2023, at 6:00 p.m. (no late work will be accepted)

100 points total

Special Instructions: You will be working with your team to complete this project assignment. You should meet, Zoom, or talk on the phone about the requirements for the assignment. You will only turn in one assignment per group. You must include your team # along with all team members' names on your assignment with X500 names included (e.g., Shana Watters, watt0087). Please use the name that is listed on the class roster so we will know who you are. You will upload your work to your GitHub along with any supporting documents.

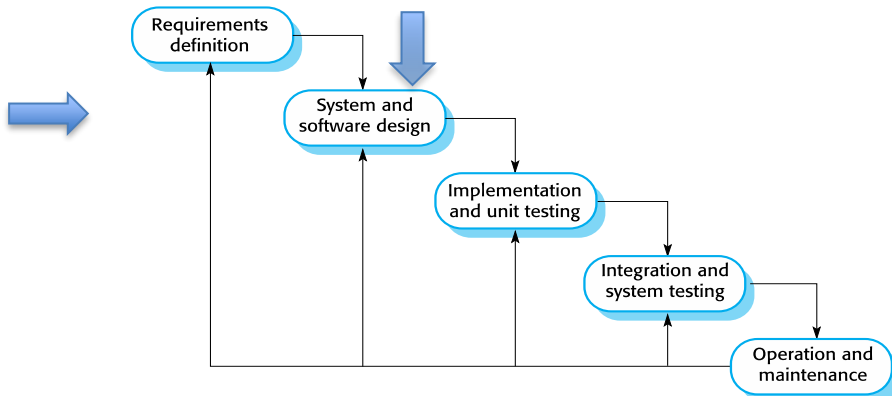
- ☐ Name this document **SDD_Team#.xxx** where the # is your team number and the XXX is the document's formatting. extension (e.g., docx, pdf).
- ☐ If you have additional documents, name them using a similar naming convention. (e.g., ActivityDiagram_Team1.pdf).
- ☐ Create a subdirectory under your repo-Team# called SDD. This will be where you put all documents generated for this assignment. Do not put your files on Canvas.
- ☐ We will have an assignment location on Canvas to record your team's scores and to store this project description. You will not upload your work to Canvas but put all documents for this assignment in your team repository under the SDD subdirectory.
- ☐ We expect you to turn in your **typed** Software Design Document. Your diagrams may be hand drawn but they must be legible. Please check your diagrams after uploading for clarity. This portion of the Waterfall project is due at **6:00 p.m. on Thursday, March 2nd**. If you are not done, turn in what you have to GitHub by the due date and time. No late extensions will be granted for this assignment.

The Problem

You are tasked with creating a voting system that can perform IR and CPL voting. As part of Project #1, Task #1 you wrote the software requirements specification (SRS) document. Now you will complete the system and software design portion of the Waterfall methodology for your voting system.

Your Work for This Piece of the Project

You and your team have been assigned to the task of developing this voting system and you will be using the Waterfall methodology.



You and your team have finished the first part stage of the Waterfall process for the system. Now, you and your team will create the software design document (SDD) for this proposed voting system.

Your Project Task

Create your SDD along with the required diagrams. You will use the SDD template provided on Canvas and will need to provide information for all sections of this template.

Diagrams Required:

1. UML class diagram for the entire system (show all classes and associations between classes)
2. Sequence diagram for the running of the closed party listing (CPL) election. Start the process from the moment of receiving the ballots into the system from the file. You do not have to show the sequence diagram for bringing the file into the system. This is from the moment you start processing the file itself for information and ballots to the end of declaring the winner(s).
3. UML activity diagram (process model) for the instant runoff (IR) election. We want to see the diagram from start to finish of declaring a winner. Start at the “election has been set/called for a given date” and end at “we have a winner.”

You may include other diagrams as you see fit. We want you to explain what is happening in your diagram and if you are making assumptions. Provide an overview for each diagram by clearly explaining what is happening in the diagram. Don't just draw the diagram. We will only require the above-named diagrams for grading purposes. If you add more, we will look at them but will not take away points. This is only for the diagrams. We expect everything to be filled in. Be sure to review the grading rubric that is also provided.

Asking Questions

If you have questions about how to write the SDD, please come to office hours or ask your questions during class.

Deliverables and Due Date

You are required to turn in your typed SDD along with all diagrams. The diagrams can be hand drawn but if do decide to hand draw them, you must ensure they are legible and easy to read. The **software design document (SDD) with diagrams due on: Thursday, March 2nd at 6:00p.m.**