

CSci 5801: Software Engineering I, Spring 2020
Project 1 – Waterfall Methodology
Software Design Document (SDD) for Voting System
Due Date: Wednesday, March 18th
50 points total

Special Instructions: You will be working in your small groups to complete this homework assignment. You should meet, skype, or talk on the phone (if unable to meet in person) about the requirements for the assignment. You will only turn in one assignment per group. You must include all 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.

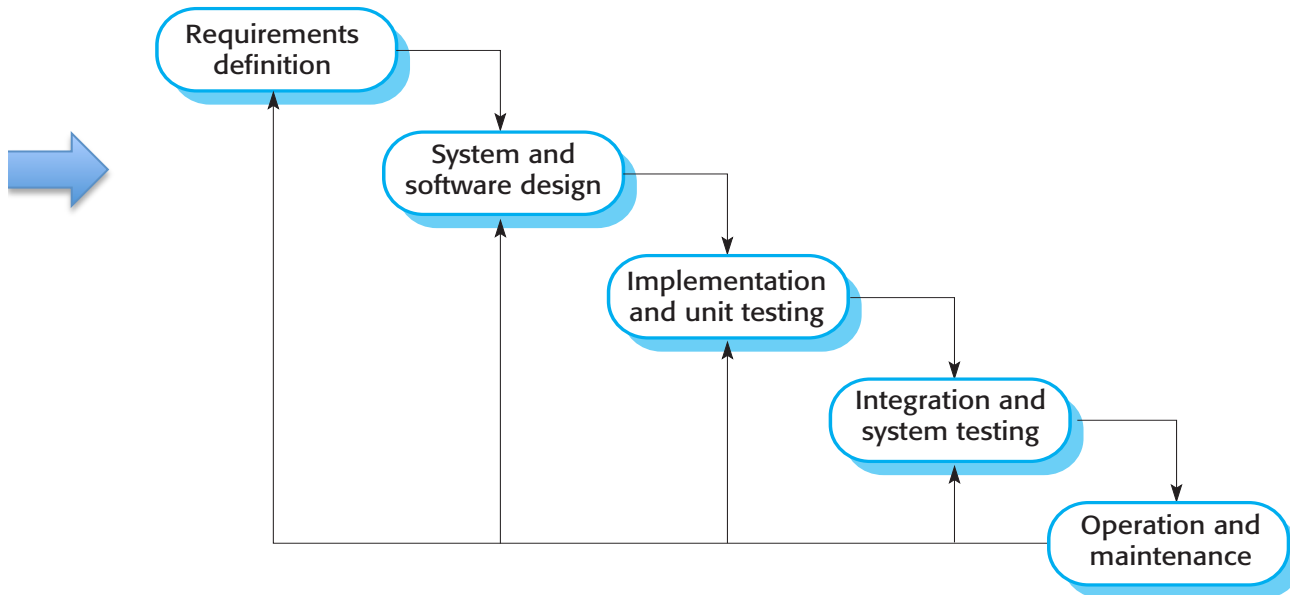
- Name this document **SDD_Team#.xxx** where the # is your team number and the XXX is the documents formatting extension (e.g. docx, pdf).
- If you have additional documents, name them using a similar naming convention (e.g. ActivityDiagram_Team1.pdf).
- Create a subdirectory under your repo-Team# called SDD. This will be where you put all documents generated for this assignment. Do not put your files on Moodle. We will have an assignment location on Moodle to record your each team's scores and to store this project description. You will not upload your work to Moodle 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 **11:55 p.m. on Wednesday, March 18**. If you are not done, turn in what you have to GitHub by the due date and time. Anything received late will be given a 0. We can give you partial credit even if you are not fully finished.

The Problem

You are tasked with creating a voting system that is capable of running the single transferable voting (STV) algorithm using the Droop Quota and a popularity voting algorithm. As part of Project #1, Task #1 you wrote the software requirements specification (SRS) document. Now you will collaborate with your team to complete the system and software design portion of the Waterfall methodology for your voting system, called the software design document (SDD).

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
- 2) Sequence diagram for running the STV algorithm with the droop quota
- 3) UML activity diagram (process model) for both algorithms. (2 diagrams are expected)

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 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 bring questions to class on Monday, February 24th. I will set aside time to answer questions at the start of class.

Deliverables and Due Date

You are required to turn in the 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: Wednesday, March 18 at 11:55 p.m.**