Project Proposal
Team Lead: Sean Mann srm115

Note: For this project, I would prefer to work alone. If the project has to take on a more research-based form because of this, then I will resubmit the according documents for the 493 paper.

Overview:

The goal of this software engineering project will be to design and implement a software-building generator. This software could be used to create new programs, executables, and software through a low-code GUI. Potential uses for this software includes prototyping (throwaway and evolutionary), rapid development, source-to-source code generation, or template software implementation.

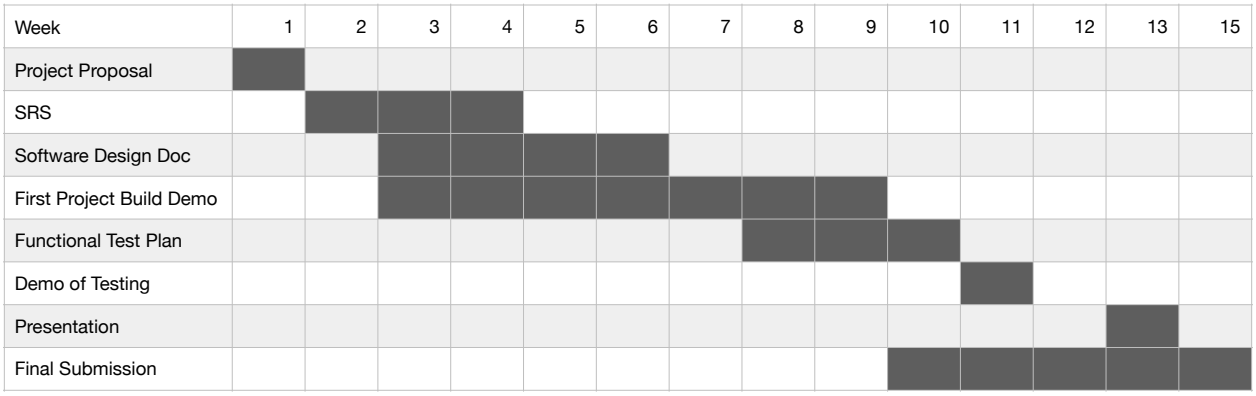
Background and Research Fields

In order to complete this project, I will do research into the current literature on a variety of topics including:

- Automatic Programming
- Generative Programming
- Component-based Software Engineering
- Product Family Engineering
- Source Code Generation
- Low Code Applications
- Feature-Oriented Programming
- Language-Oriented Programming

Plan of Action

In order to complete the specific project deadlines on time, I will adhere to the following gantt chart:



Details of Implementation

Ideally, the generator would be able to take input from the user either in the form of a GUI or very simple language. This input would then be translated into requirements for the software to be built. Then, by using source code generation and learning from previous projects, a prototype would be constructed. After “feedback” and adjustments are specified by the user, the generator would adjust the prototype and construct an executable in the specified file type. The user would then be able to run the software.