

Project Proposal

Big Idea

The big idea for our project will be to make a program that will emulate LaTeX, only simpler and easier to pick up. The program name will be called aztex. The program will take a text file that is in aztex format, and convert it into a nicely formatted pdf document.

The minimum viable product for our project is a program that takes a text file with minimal formatting and converts it into a professional pdf using the latex compiler. The following features are highly desired:

1. Numbered Lists
2. Unordered Lists
3. Headers
4. Links
5. Bold, italic, underline, strike-through

Some stretch goals that may be pursued are programming our own pdf compiler, integrated gui to see how the documents will be formatted, and adding further features like images and such.

Learning Goals

Shared:

1. Learn more about parsing documents
2. Learn more about working in project teams
3. Interfacing with other libraries.

Individual:

Jordan Van Duyne:

1. Make more in-line comments
2. Test more often

Thuc Tran:

1. Develop better unit tests.
2. Write more efficient code -> Use less nested for loops.

Isaac Getto:

1. Write more tests
2. Organize code better

Implementation Plan

1. Find latex compiling library
2. Determine how to simplify LaTeX language
 - a. Develop our own language based off of simplified LaTeX
3. Learn how to parse our language
4. Separate projects into components -> i.e. compiling, parsing, processing
5. Develop our own compiler

Project Schedule

Weekly Goals:

1. Figure out the program architecture (with UML/diagrams)
2. Create our language (unit tests for individual formatting options)
3. Working on parsing text file into intermediate representation.
4. Processing intermediate into LaTeX Format
5. Compile the intermediate into a PDF
6. Stretch Goals + Debugging.

Collaboration Plan

Overall plan is to work collaboratively on the program architecture and developing the simplified language. This is to make sure that we are all on the same page for what kind of implementation on which we will be working. After which we will subdivide parts of the parsing, processing, and compiling when we have functions and subfunctions that do not interact with each other directly. This will let us work in parallel for sections of the project.

Risks

- The project could be more complex than we thought
- Libraries are non-existent or difficult to work with.
- Unexpected lack of free work time.

Additional Course Content

- language processing