ALGO-MATE

A Design Pattern Insertion Extension for Visual Studio Code

PROBLEM

- A "Software Design Pattern" is a general, reusable solution to a commonly occurring problem

- Hard to find helpful information on

- Many programmers never learned them

- Easy to find misinformation and distractions online.

WHAT IS ALGO-MATE? - METHODOLOGY

- Algo-Mate is an extension for VSCode which allows users to quickly search for, and insert commonly used design patterns into their code without leaving their IDE.

- The chosen design pattern is added to the file in the proper language based on file extension

- Algo-Mate then assists the user to quickly fill in variable names or insert values into the algorithm through helpful comments and variable grouping.

- If the user needs more information on a design pattern, they can follow our built in help menu to a reputable website.

TECHNOLOGY

- VS Code and VS Code Extension API

- JSON

- The programming languages we're supporting are
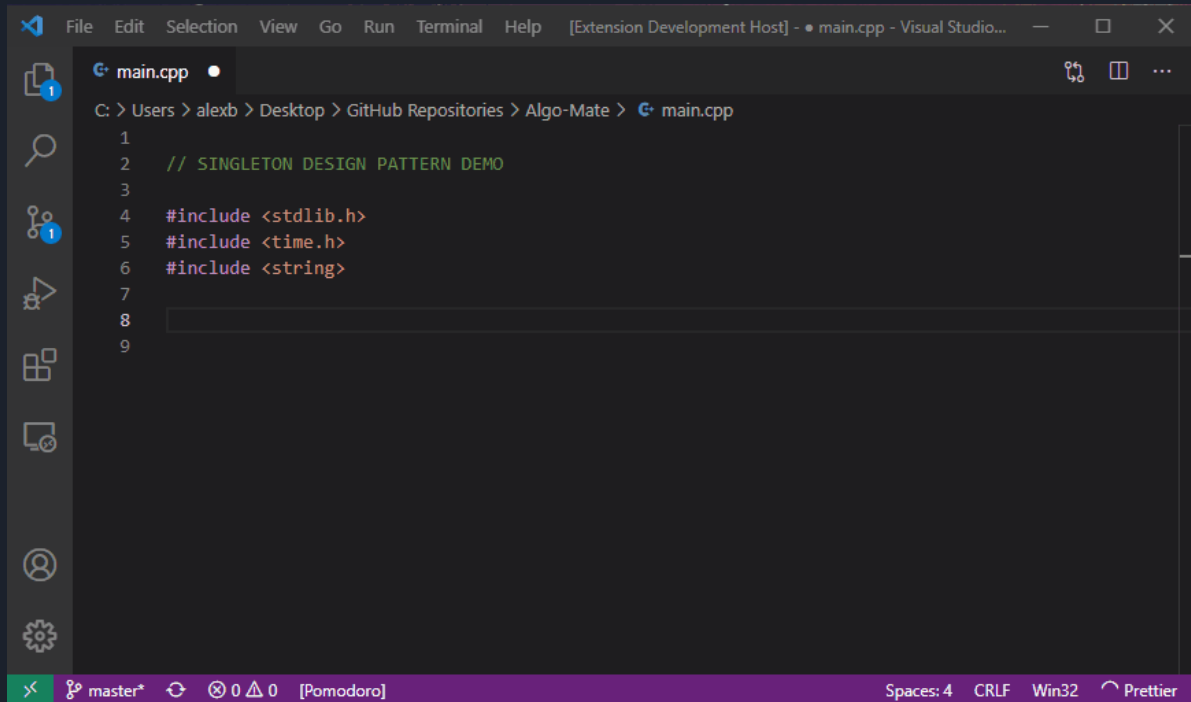 C++, Java, JavaScript, and Python

WHY ALGO-MATE?

- Design pattern snippets across multiple programming languages is a novel idea.
- Algo-Mate is helpful for users who are attempting to implement common design patterns into their code.
- Reduces the need for <u>finding</u> forum-based coding solutions or design pattern documentation, which can quickly draw the user's attention off of their current project.

The Design Patterns

- Creational
  - Singleton
  - Builder or Factory
- Structural
  - Adapter or Facade
- Behavioral
  - Observer

ALGO-MATE UI MOCKUP
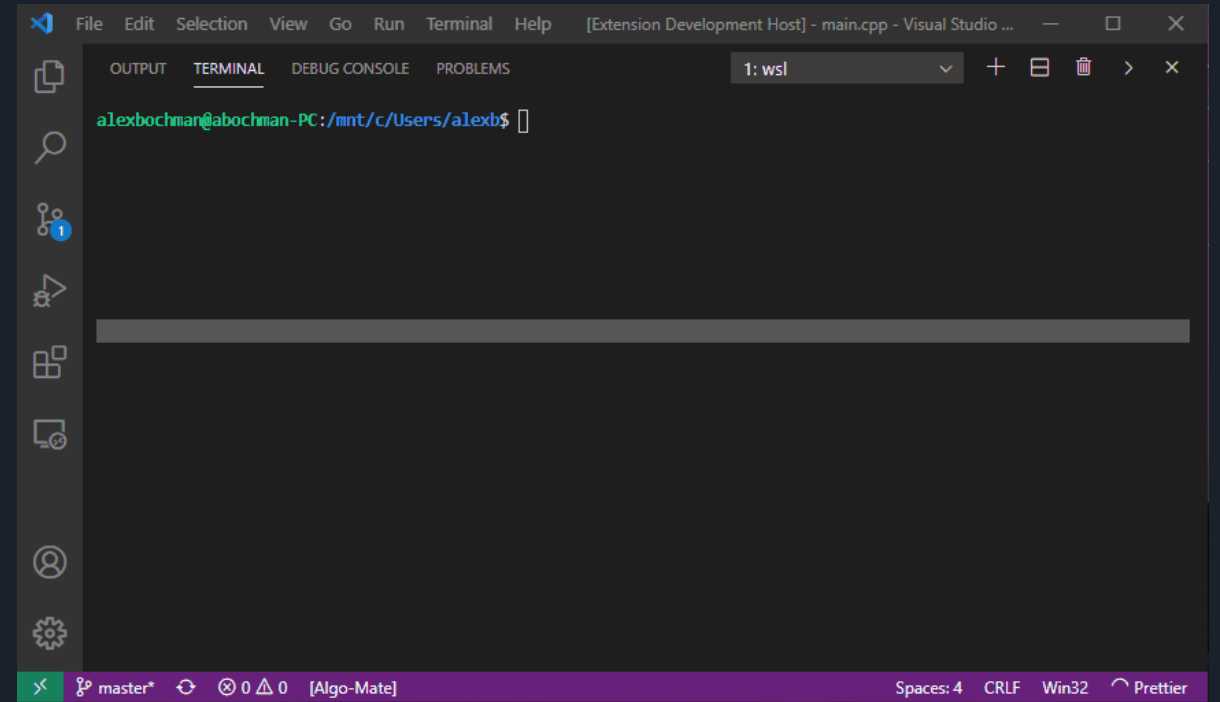
Design Pattern Auto-Completion

Graphical User Interface

Architecture
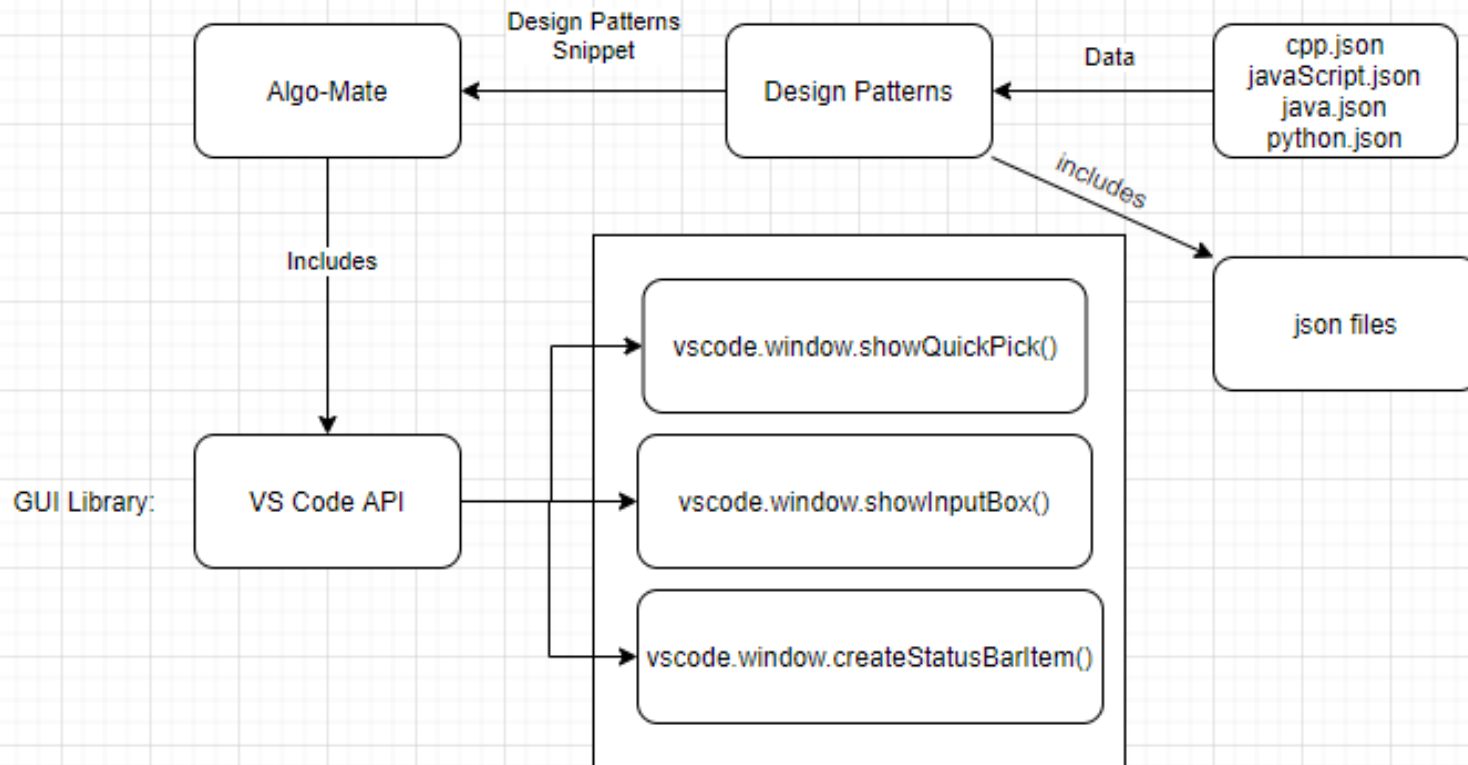
User Interaction
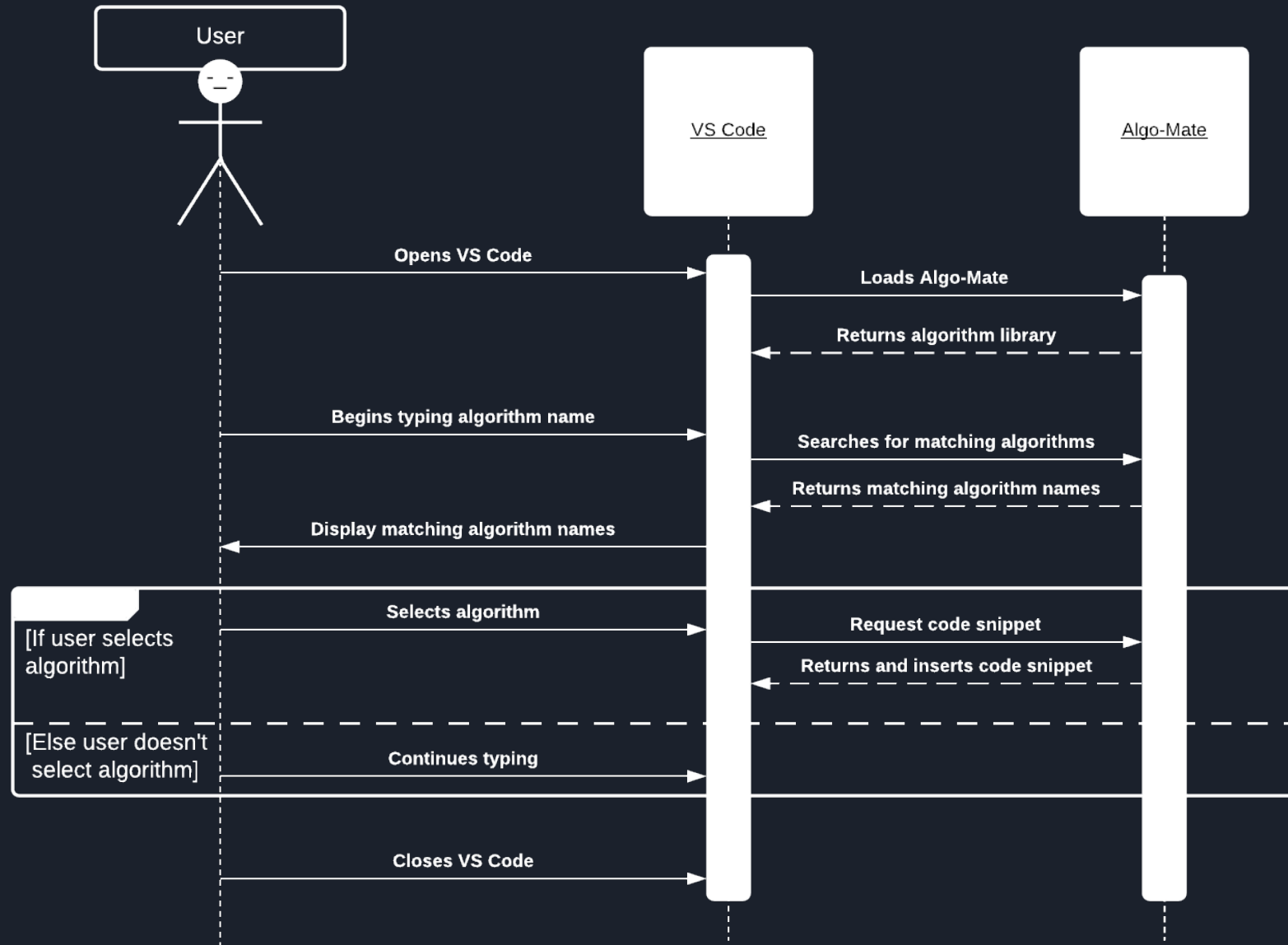
Progress & What's Left?

March 17, 2021	● Presentation ● Build and test
March 26, 2021	● Finish UI
April 12, 2021	● Finish auto-completion of four design patterns in C++: ● JavaScript, Java, and Python
April 19, 2021	● Finish auto-completion of four design patterns in each of our four languages: ● C++, JavaScript, Java, and Python
April 26, 2021	● Completion of project and the webpage
April 30, 2021 (Final week)	● Publish completed extension on Visual Studio Marketplace ● Complete and submit final reports and demonstration video. ● Present completed project to the class during this week.