



# Capstone 1

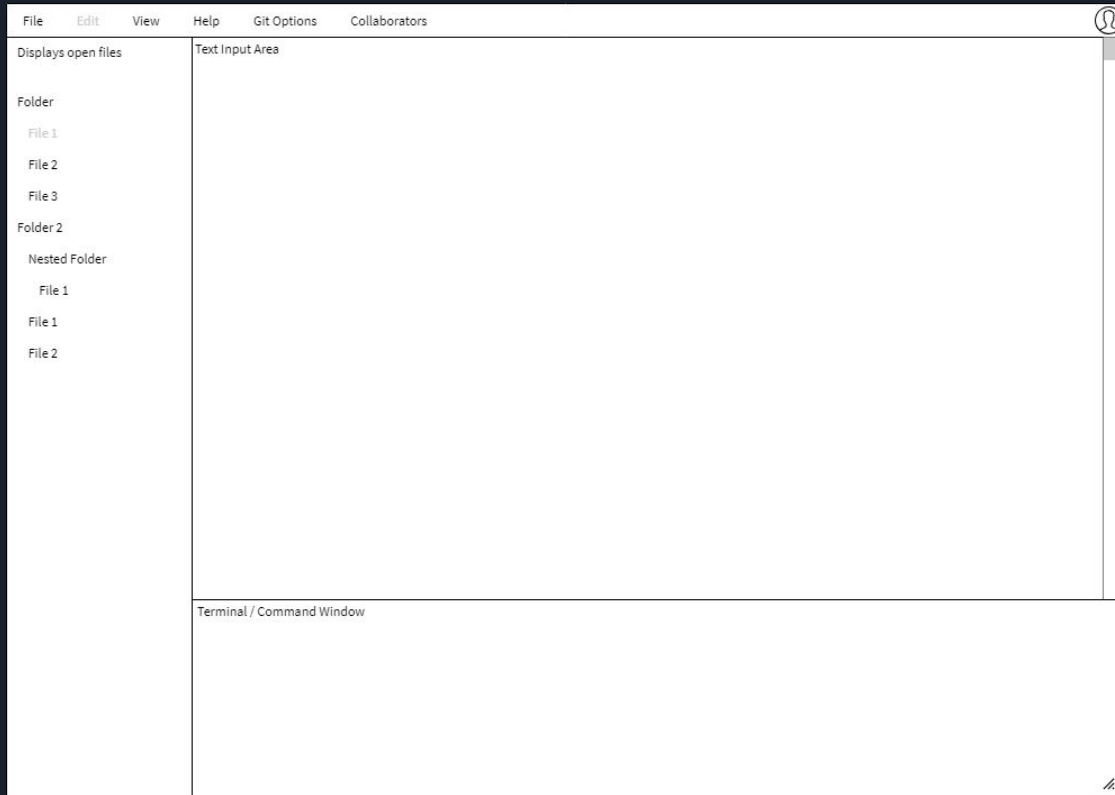
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# Problem/Abstract

- There aren't many good programs that allow users to code together.
- The goal of our project is to make an application that provides a good all-around solution to collaborative programming. It will utilize a peer-to-peer structure where whoever starts the session will act as the server. We plan on basing our application in Python, and connecting the peers to each other through sockets. When our project is finished, it will allow users to work in real time with each other easily and effectively.
- The name of our Application will be Hézuò (collaboration in chinese)

# Design



- Mockup of the proposed UI design
- Shows general idea of what editor will look like



# High Level Architecture

- GUI written in Python framework such as PyQt
- Code written in PyPy to increase performance
- Peer-to-peer connection setup to avoid need for a centralized server
- Command protocol to control and synchronize project modifications across clients



# Risks

- Unauthorized Users-Will have permissions that can be given by the host
- Loss of Data-Have either a host that stores the files locally or store the files on a remote server that is accessed
- Accessing Data Remotely-Either have access to a terminal that remotes into the host and can access their local storage or on a remote server



# Schedule

1. Understand the scope and resources needed for the project 11/11 - 11/17
2. Designing the project and components 11/18 - 12/13
3. Integrating the project 1/13 - 1/25
4. Implementing the project 1/26 - 2/8
5. Testing the project 2/9 - 2/22
6. Revising the project 2/23 - 3/14
7. 2nd Round of Testing 3/15 - 3/21 & 3/29 - 4/11
8. Final Polish Phase 4/12 - 5/2

# Deliverables

- First Quarter
  - Schedule - Timeline detailing the start and end of each phase in the development of the project.
  - Project Mockup - Visual presentation detailing the features and the look of the GUI we intend to achieve by release.
- Second Quarter
  - Working Project Demo
- Third Quarter
  - Source Code - Completed python source code
  - Readme - Simple text file explaining how to install and use the program.
- Fourth Quarter
  - Design Document - High level plan for the design of the project which will outline the goals for the program in its complete state, planned milestones, and a recreation guide .
  - Final Report - Will contain information such as the project's features, and the overall design ideas behind the source code.

