Programming Project Write-up

Analysis

(still working on the structure diagram with pikchr, the svg is being a bit strange right now, i'll fix it soon)

The problem

- Write a backend and a frontend for robust user authentication, implementing modern security.

Success critera

- Provide a mostly intuitive user interface (not just a cli tool)
  - Something like a TUI
  - The UI must handle user error gracefully
- Separate the fronted and backed
  - The backend need not know of the frontend
  - Use dependency injection over inheritance
- Have the option to sign in and to sign up, and when signing in, if the user provided an email address and a username, they can use either to sign in
- Use modern hashing algorithms (hashing the password using SHA256 or similar, not just MD5) to store the password, the password must NEVER be kept in plain text
- Store the user credentials in a separate file (a 'database' if you will)
- Helpfully suggest options through the frontend menu system, such as to generate a random password, either randomly or invoking a tool like diceware.
- Allow code to be reusable and useable for other projects that require user auth.