**AC210009 Report**

Upon beginning this assignment, we set up a ‘To-Do’ list to guarantee that as a group we could track completion of tasks. By doing this, we ensured that would be able to commit to a structured approach through features from the baseline requirements to the extensions.

A member had medical issues disrupt their ability to meet in-person. While this had to be accounted for, smooth online communication and project management via GitHub made this mostly a non-issue.

GitHub also made code conflicts uncommon and helped reduce overlap in what was being worked on while enabling group members to stay abreast of updates without needing to communicate through other channels, though supplementing one with the other would have lessened wasted time.

We opted for a multi-levelled select menu, as they minimise opportunities for user error with comparatively little loss in user control. Any system we could make within the time frame would be much less powerful than the terminal, so we felt this was the logical solution.

Optimally, an object-oriented language would be better suited to how variables were being tracked with references and easily directed pipes and the like, but as that is not a native feature to BASH, we opted for multiple arrays with associated values. These have worked admirably but their implementation likely cost time and effort in implementation and additionally could perhaps have been replaced by 2d arrays, though this could potentially have hampered assignment compatibility with older versions of BASH.

We chose to design file management around the action of checking out files, so instead of the system automatically trying to check out files when the user attempts to take an action which requires it, it instead only allows the user to take said actions after checking out the file. To prevent issues from arising from this, the system also checks in all checked out files upon leaving the file submenu and prompts the user to check a file in after they make any adjustments to maximise ease of commit logging.

Upon examining how tracking multiple repositories should function with such a system, we came to the conclusion that storing addresses of all repositories and separately storing the active repository address would be ideal. This improves user ease-of-access as they would not need to fully navigate to these locations multiple times between access sessions and compliments the menu system that is in use.

In merging two group members work it became apparent that several functions were not written to accommodate for additional features within the system, causing a major unpredicted time disruption. Thorough commenting and more frequent commits could have minimised this type of impact and therefore should be prioritised in future group projects.

Due to time constraints, we were unable to properly examine security options outside of the basic checkout features. As this assessment was made before attempting to undertake this, we were able to avoid wasted time and effort and thus still was managed well.

We fulfilled most requirements for the project and included several features that were not requested in the initial outline that provide additional user functionality while minimising disruption to user freedom. Though several issues arose in this process, we were able to resolve these and successfully implement all features we moved to attempt.

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