Project Outline

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Outline

Version Control Systems are a type of software that allows users to track changes to files over time. This is useful for a number of reasons, including the ability to revert to previous versions of files, and to collaborate with other users[1].

Such systems are widely used in the software industry, and are becoming more common in other fields. Modern VCSs facilitate parallel development, allowing multiple developers to collaborate and work simultaneously within the same project. Simplifying the process of combining/managing changes made by different developers is a key feature of modern VCSs.

The project will be split into two parts. The first part will be to research existing VCSs, and to identify the strengths and weaknesses of each. The second part will be to create a new VCS, based on the research from the first part.

Project Plan

- **October**: Research existing Version Control Systems, identify details of their design and implementation. Create a list of features that are desirable in a VCS.
- **Novemeber**: Research traditional implementation strategies for a VCS. Examine potential data structures and algorithms, and assess their strengths and weaknesses.
- **December**: Begin planning and designing a new VCS using the research gathered in the previous months. Create a prototype implementation of the VCS.
- **January**: Evaluate the progress of the prototype implementation, and consider the next steps for the project. Explore more complex features of the VCS (e.g. merging algorithms, file diffing algorithms, etc.).
- **February**: Gather data on the performance of the prototype implementation, analyse the data, and visualise the results. Discuss the results of the analysis, and consider the next steps for the project.
- **March**: Identify any decisions, assumptions, or actions that were made during the project, and document if they could have been done differently.
- **April...**: Review the project and conclude on the success of the project. Finalise the project report.

References

[1] N. N. Zolkifli, A. Ngah, and A. Deraman, "Version control system: A review," *Procedia Computer Science*, vol. 135, pp. 408–415, 2018.