To: Linus Torvalds
From: John Wang
Date: February 13th, 2013
Subject: Creating a Version Control System for Fast Branching using Minimal Diskspace

Good version control systems usually satisfy one of two critical features: the system either operates quickly or employs disk space efficiently. However, few attempts have been made to combine the techniques used to achieve both of these goals. Doing so could lead to a hybrid system capable of fast operation and efficient space usage.

I propose a new version control system which shall borrow concepts from Git and Subversion, two successful version control systems, and achieve the dual goals of fast operation and efficient storage. By employing file deltas (used by Subversion for conserving space) in conjunction with snapshotting (used by Git for fast operation speed), this new system shall provide users a versatile way of storing and accessing file versions.

The Canonical Use Case

This system plans to address the challenges inherent in the management and versioning of a large open source project. Many developers will be contributing code to such a project. This requires a space efficient versioning system so that the project can be distributed quickly to its many contributors. However, speed of operation is crucial since the project likely has an extensive codebase, yet it should be easy to make quick changes.

Timeline for Completion of the System

To complete the design of the system, the following deadlines are proposed:
- February 22, 2013. Analyze and digest use cases into a set of goals.
- February 27, 2013. Create overall system design, begin proposal.
- February 28, 2013. Finish writing proposal.
- March 15, 2013. Create system design with all goals incorporated. Begin writing report.
- March 19, 2013. Finish details of the system design.
- March 21, 2013. Finish report.

This timeline follows the natural progression of the design process. The first course of action is to understand how the use cases result in a set of goals. After this is understood, the overarching system design should be completed. This should lead to ever finer points of detail. The proposed timeline, therefore, mirrors a natural design process.

If you authorize the creation of this system, the proposed timeline will be put into effect immediately and I shall begin the design of the new version control system.

Best,
John Wang