

Memorandum

Date: Thursday, February 13, 2014
To: 6.033 Staff
From: Will Oursler
Subject: Search Folders Proposal

I propose we implement a new feature to create *Search Folders*, directories populated dynamically with files relevant to a particular topic. This system will enable new approaches to file-system organization, particularly where it is useful to collect all information on a particular topic from many sources for quick access later. I therefore anticipate that this feature will have broad impact for users, as many everyday use-cases fit this model.

Motivation

Traditional file / directory based file organization schemes provide users with many widely-accepted metaphors to interact with their data. These schemes, however, have some severe limitations in practice. Folders, which typically are conceptualized as being categorized around some topic, are usually constrained to that topic only by the continued efforts of users and their programs. Files, which may be relevant to many topics, typically exist only in a single folder to avoid duplication. For these reasons, the model of a topic per folder which many users rely on is currently flawed.

Search folders will be initialized with information about what sorts of files and directories they should contain, rather than their contents. They will subsequently be automatically maintained so that they remain curated sources of information on the query. Thus, they provide a means to restore the topic-directory metaphor without vastly revamping the file system.

Envisioned User Interaction

In a fully developed product, I envision that a user, wishing to collect all their pictures of a trip to Hawaii, would be able to quickly create a folder which would automatically collect all files in their home directory which were taken in the Spring of 2013 *and* in State of Hawaii by selecting among possible query filters. Should, at any point in the future, they add more images from their trip to their computer, they can expect that these images will be quickly included in their Search Folder for their perusal.

Preliminary Technical Feasibility

While the exact technical requirements of such a system will only be explored upon approval, there are good reasons to think that this feature can be implemented and run as an unprivileged daemon. As a result, I anticipate that the final product will be able to be integrated into existing deployments with a minimum of effort and overhead.

While future versions will focus on user friendly filtering and UI interaction, I wish to first pursue a command line proof of concept that will demonstrate effectiveness and performance and serve as a basis for further efforts.