

VARIANTS OF FILES IN A FILE SYSTEM

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Patent Application No. 13/047,343, filed March 14, 2011, entitled "VARIANTS OF FILES IN A FILE SYSTEM", which is incorporated herein by reference in its entirety.

BACKGROUND

[0002] Network connections for different computing devices may have different capabilities. For example, a network connection for a home laptop or workstation may be a reliable, high speed connection. By contrast, a network connection for a smartphone may be a relatively low speed connection with a relatively high probability of packet loss. In addition, different computing devices may have different physical characteristics. For example, a home workstation may have a large display, a laptop may have a relatively smaller display, and a smartphone may have a handheld display.

SUMMARY OF INVENTION

[0002a] According to a first aspect of the present invention, there is provided a non-transitory computer-readable medium embodying a program executable in at least one computing device, the program comprising: code that maintains a plurality of file systems for a plurality of users, each of the file systems including a plurality of files and at least one folder, each of the files including a respective unique identifier and a respective reference to a primary data object stored in at

least one data store; code that obtains a request to store a file in one of the file systems from a corresponding one of the users who is associated with the one of the file systems; code that creates a file corresponding to the file in the one of the file systems and stores a primary data object corresponding to the file in the at least one data store in response to the request; code that encodes the file into a secondary data object that is customized for presentation on a mobile computing device associated with the corresponding one of the users and stores the secondary data object in the at least one data store; code that creates a file variant based at least in part on the file in the corresponding file system, the file variant including a reference to the unique identifier of the file and a reference to the secondary data object stored in the at least one data store; code that obtains a request to access the file from the corresponding one of the users; code that sends the secondary data object referenced by the file variant to the mobile computing device when the request to access relates to access by the mobile computing device; and code that sends the primary data object referenced by the file to another computing device when the request to access relates to access by the other computing device.

[0002b] According to a second aspect of the present invention, there is provided a method, comprising the steps of: maintaining, in at least one computing device, a plurality of file systems for a plurality of users, each of the file systems including a plurality of files and at least one folder, each of the files including a respective unique identifier and a respective reference to a primary data object stored in at least one data store; generating, in the at least one computing device, a variant of one of the files, the variant including the unique

identifier of the one of files and a reference to a secondary data object that relates to the primary data object referenced by the one of the files, the secondary data object being stored in the at least one data store; and sending, in the at least one computing device, the secondary data object instead of the primary data object in response to a request for the one of the files.

[0002c] According to a third aspect of the present invention, there is provided a system, comprising: at least one computing device; a file service executable in the at least one computing device, the file service comprising: logic that maintains a plurality of file systems for a plurality of users, each of the file systems including a plurality of files and at least one folder, each of the files including a respective unique identifier and a respective reference to a data object stored in at least one data store; and a variant service executable in the at least one computing device, the variant service comprising: logic that maintains a plurality of file variants, each of the file variants including the respective unique identifier of a respective one of the files, each of the file variants further including a respective reference to a secondary data object stored in the at least one data store that relates to the respective primary data object referenced by the respective one of the files.

BRIEF DESCRIPTION OF THE DRAWINGS

[0003] Many aspects of the present disclosure can be better understood with reference to the following drawings. The components in the drawings are not necessarily to scale, emphasis instead being placed upon clearly illustrating the

principles of the disclosure. Moreover, in the drawings, like reference numerals designate corresponding parts throughout the several views.

[0004] FIG. 1 is a drawing of a networked environment according to various embodiments of the present disclosure.