

**Appendix A to
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The following five pages illustrate each of the five “features” discussed in the USPTO Report.

Redistribution Features

Description: By default, almost all filesharing programs will share all files that a user downloads from a filesharing network. Programs usually do this by creating a new, empty folder when they are installed; this folder has a name like “Shared” or “My Downloads.” By default, this folder stores downloaded files, and all files in it are shared. So unless a user changes the default settings or physically moves downloaded files, all downloaded files will be shared.

Users may receive no or misleading information about redistribution features during a filesharing program’s installation-and-setup process: Some programs, like eDonkey, do not inform users about redistribution during their installation. Other programs provide potentially misleading information: For example, the installation process of a 2003 version of Morpheus makes it look like *no* folder would be shared by default. But this version of Morpheus had a redistribution feature—the folder used to store downloaded files was shared by default.

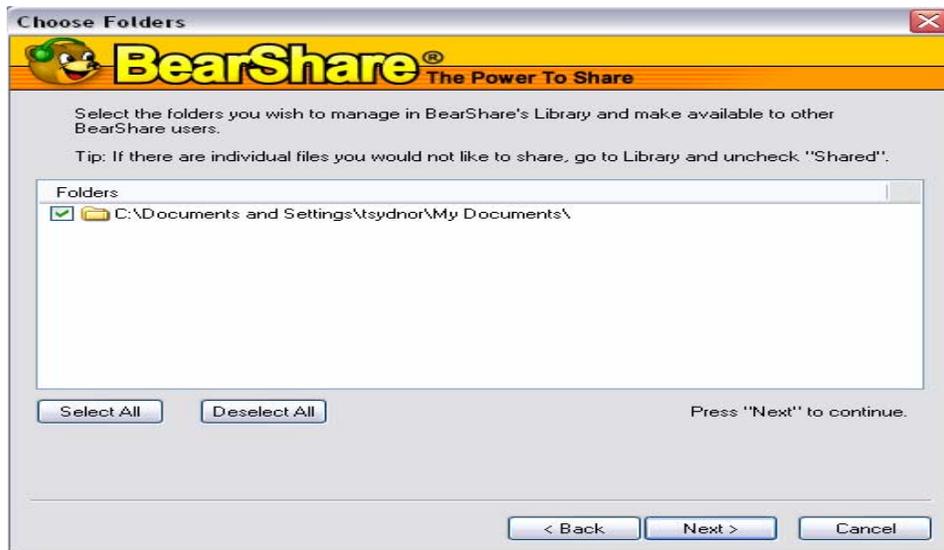


Users may receive no or little information about sharing when a filesharing program is operating: Research shows that most users of filesharing programs do not want to share files from their computers; they only want to search for and download files shared by others. Some programs, like eDonkey, provide download-only users with no information about their shared files on their main interface. Other programs do provide very little information about sharing on the main interface. LimeWire, for example, provided *less* information about shared files on the main interface over time.

Search-Wizard Features

Description: A search wizard scans the hard drive of a user's computer and presents the user with a list of folders that the user might want to share with others. Sharing caused by search wizards is usually recursive: The user will share not only all files stored in a folder selected by the wizard, but also all files stored in any of its subfolders.

Problems: The problems with search wizards are evident in this screenshot of the results screen of a BearShare search wizard from 2005:



Wizards will “recommend” the sharing of folders that are inherently unsafe to share: This wizard recommends that the user share “My Documents.” By default, almost all user-created files will be stored in this folder or its subfolders. It would never be wise to share “My Documents.” But the wizard recommends that the user do so.

Wizards may not disclose recursive sharing: This wizard tells the user that the folder “My Documents” has been selected for sharing, but not that the *files* stored in this folder will be shared. More importantly, it does not disclose that this folder will be shared *recursively*: All of the hundreds of files stored in its scores of *subfolders* will also be shared.

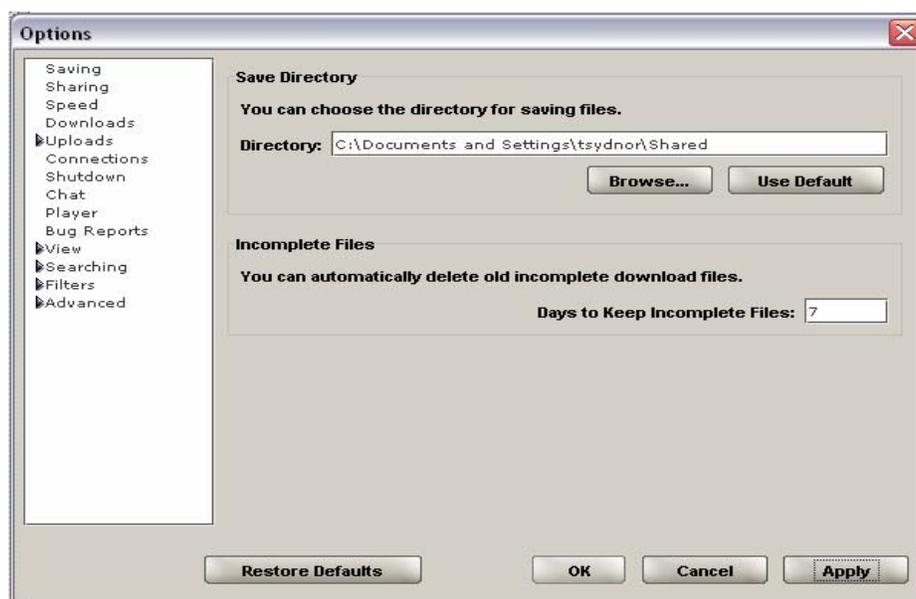
A user must have perfect information about the location of all his files and folders to respond rationally to a wizard's recommendations: *Usability and Privacy* reminded distributors that computer users are “notoriously bad” at remembering folder-subfolder structures and relationships. Unless users understand exactly how folders recommended for sharing relate to all other folders on their computers, they cannot evaluate the wizard's recommendation.

Wizards usually run during the installation-and-setup process, when the user will be most unfamiliar with the program and its potential effects: Users will encounter wizards when they are least familiar with a program and its capabilities—and thus most likely to defer to “recommendations” from its distributors.

Share-Folder Features

Description: When filesharing programs are installed, they create an empty folder, (usually called “Shared” or “Downloads”), that will store copies of downloaded files. A share-folder feature lets the user select another folder in which to store downloaded files, but it does so through an interface that fails to warn the user that existing files in the selected folder will be shared or that subfolders will be shared. Share-folder features usually cause recursive sharing: The program will share not only existing files stored in the selected folder, but also existing files stored in all subfolders of the selected folder.

Problems: The problems with share-folder features are evident in this screenshot of the Share-Folder feature in a 2004 version of LimeWire:



Nothing on this screen indicates that this feature will *share* files: Users are only told that they are selecting a “Save Directory” to store files downloaded from other users. They are not told that all files in this folder will be shared.

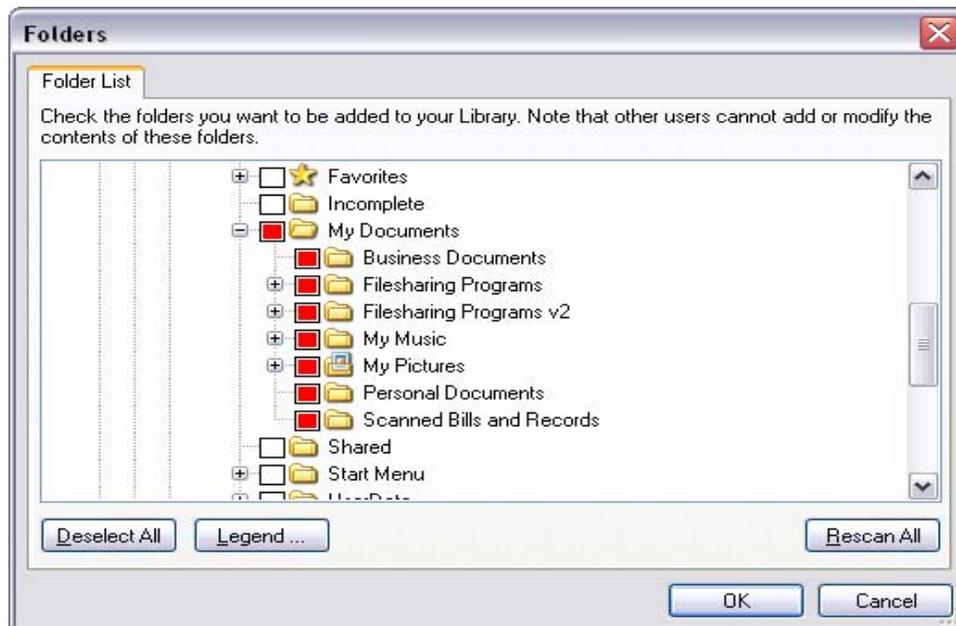
Recursive sharing is not disclosed: The share-folder feature also fails to disclose that the “Save Directory” will be shared recursively: The program will share not only all files stored in the folder selected as the “Save Directory,” but also all files stored in all of its subfolders.

“Librarying” is not disclosed: This share-folder feature has a button labeled “Use Default.” If the user has set the “Save Directory” to a folder that would not be safe to share, like “My My Music,” pressing “Use Default” will reset the “Save Directory” to the special folder that LimeWire creates when it is installed. But the program still keep sharing “My Music” recursively, even though it is no longer the “Save Directory.” We called this “librarying.” In short, *every use of a librarying share-folder feature will cause the user to share more files and folders, never less.*

Partial-Uninstall Features

Description: If a user “uninstalls” most filesharing programs, (for example, by using the “Remove Program” function on the Control Panel in Microsoft Windows), these programs will appear to uninstall. But the process will leave behind a data file that will cause any subsequent installation of any version of the same program to automatically share all folders that were shared by the “uninstalled” version of the program.

Problems: The problems with partial-uninstall features are evident in the following screen shot, which shows the folders that were shared by default, without notice to the user, when a 2005 version of BearShare was installed on a computer on which no filesharing program was installed.



Thanks to a partial uninstall feature, this user is now sharing his “My Documents” folder recursively, by default, and with no notice.

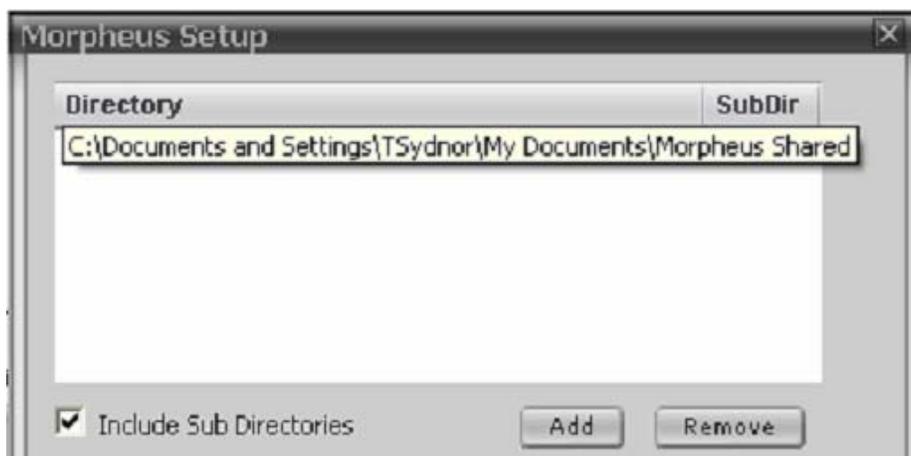
These features prevent users from correcting mistakes by removing the program: Users who discover that they are inadvertently sharing files might well try to correct their errors by removing the program and “starting over” with a new default installation. These features ensure that there is no starting over.

These features are particularly dangerous when more than one person uses a given computer: Users have been warned to avoid inadvertent sharing by using the “default” settings created when a filesharing program is installed. But when more than one person uses a computer, like a family computer, users have no way to know how a “default” installation of a filesharing program will behave.

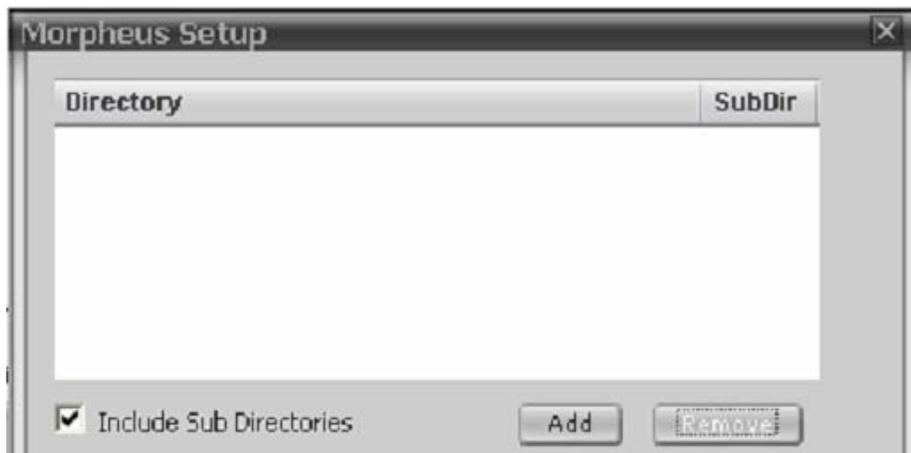
Coerced-Sharing Features

Description: Coerced-sharing features make it more difficult for users to halt sharing caused by redistribution, search-wizard, share-folder and partial-uninstall features. Different programs achieve this different ways, but most coerced-sharing features ensure that users who try to stop sharing particular folders will fail while thinking that they have succeeded.

Problems: The problems with coerced sharing features are evident in the following two screenshots taken during the installation-and-setup process of a 2006 version of Morpheus:



Users who guess that this screen lists the folders that users will share might realize that Morpheus has a redistribution feature. These users might then try to halt sharing of downloaded files by selecting this folder and clicking the "Remove" button. If so, Morpheus will provide the following feedback on the effects of the users' actions:



The list of shared folders is now empty, so users would probably conclude that they will not share downloaded files because they have halted all sharing of all folders. But this would be wrong: The users' actions have had no effect; the folder that stores downloaded files will still be shared. This sort of misleading coerced-sharing feature also makes it more difficult for users to correct the effects of all the other features discussed above.