Project: File System extension

The Problem: We only have one device to use for private projects, education and work related files, and we want to keep those seperate and organized.

The Solution: Extend the file system, so you can tag documents as "private", "education", "work" and potentially other categories. Thus making it easier to search through only one of those categories and potentially even hiding some categories while working on others. For example when showing a work colleague your screen, you can hide your private files and directories from the folder (and maybe even visually from the quick acces bar on the side).

Requirements:

- The new tag should be available for all elements in the file system (directories and files)

- The user should be able to specify the tag while creating the file and / or change it at a later time

- The tag can either be allowed to be empty or it should get a default value if nothing was specified during creation.

- It should be possible to recursivly assign the tag -> if assigned to a directory, the user could chose to assign it to it's content as well

- The file system should provide the service of searching for files via the tag. If the user searches for a tag, all directories and files with that file must show up. This seach option should be combinable with "normal" text search for file names.

- The file system should provide the option to switch "modes" to only show one kind of tag -> All file operations should be applied to the filtered files. For example in the "work mode" only files with the work tag would be displayed (as if we had first searched for that tag) Further searches are then only applied to this subset of our files and files with other tags are not displayed until the mode is changed / disabled.

- Additionally this could be applied to a visual interface: In a certain mode all untrelated files would not show up. Or if no mode is selected the files would have a visual indicator, as to which tag they belong to, for example color, or a small icon.

- The first focus is to implement this functionality so it can be used in the terminal in a second step one could also implement it in a visual file management system.