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Student Project: neoSearch

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The file systems used by Windows, namely FAT32 and NTFS, for mass storage devices have the limitation that searching for a file or folder when its location is unknown is typically a time consuming process. Unfortunately, that is a situation that is often encountered by users in this day and age of capacious hard-disk drives.
This led to the creation of a market opportunity that was exploited by Google when they released Google Desktop in 2004. Microsoft countered by including better search capabilities in the latest version of their operating system - Windows Vista. There are other smaller market players also like Copernic Desktop search but Google is the market leader by far.

neoSearch was created primarily to fill the void for a pure desktop search application with as low a performance penalty to the system as possible (particularly with no incessantly running processes in the background). Like other desktop search engines, it also uses an index but one that is created and accessed using proprietary algorithms developed and polished over a period of 2 years (in a product named KJohn DesktopSearch). To keep the application simple and straightforward, it does not support advanced data mining - an operation that can possibly add hours to the indexing process. It does, however, support reading the ID3 tags of MP3 files.
neoSearch's indexing speed can be attributed to 3 things (apart from the core indexing algorithm itself):

Intelligent exclusion of system file locations and other areas of the hard-disk where the user traditionally does not store personal files
Limitation of the indexing process to around 50 popular file types
Allowing the user to explicitly include and exclude paths for indexing
Splitting of the index into as many as 36 sub-indices
All of the above and more results in neoSearch being able to do a full system index on a modern computer in about 10 seconds (results will vary with the configuration of the system, the number of files to be indexed and the power state of the system).
Once the index is available, it is searchable in two modes - one which displays a real-time dynamically changing list of the first five results returned as the user types in their query, and, the other which returns a full list of all results returned for a particular query. Though it was originally planned to reduce the search space with every character the user types in (for the dynamically changing results), it was found unnecessary as the search algorithm proved fast enough to repeatedly return results quicker than the time delay between the user entering two successive keystrokes (<0.01 ms usually). The list of full results (that is displayed on hitting enter after entering a query or by clicking on the search button) are displayed as HTML in a browser control. Portions of the HTML are pre-rendered during indexing to save on time during the querying process. The full results list can be generated in as little as 0.01 seconds. It rarely takes more

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than half a second on a slow system with a huge index.
neoSearch features a mandatory online activation process that allows keeping count of the number of installs worldwide (keeping in mind privacy concerns, no user information is ever transmitted online). The latest install count stands at 6426 which translates as close to 25 installs per day (as of 10th April 2008).
The application was designed on Windows Vista and its interface has been designed to blend into that environment. The latest version of neoSearch takes design cues from Windows 7 (codename Vienna).

neoSearch and other similarly useful applications can be obtained for free from http://www.koshyjohn.com/

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