

System Enhancement - Search Shell Extension for ReactOS

Proposal for Google Summer of Code 2018

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General Information

Name : Abhishek Bisht
Country : India
College: SJCE, Mysore
University : JSS Science and Technology University
Year of Study : Third year, B.E. Computer Science and Engineering
Languages : English (Proficient), Hindi (Proficient)
Github ID : <https://github.com/awesomeAB>
Awards : Campus TopCoder 2017 (Linux Campus Club, SJCE).

Technical Skills: C, C++, Python, Java, Github, Unix & Shell
Relevant Courses : C programming, Advanced C programming, Unix and Shell Programming, Algorithms & Data Structures(in C), Object Oriented Programming(C++)

Time Constraints

- Hours per day : 6+
- Time zone : IST (Indian Standard Time)
- Other Commitments : None
- Vacation : Might be going away for 3-4 days in may.

Contact Information:

- IM client : Google hangouts (ID: abhisinghbisht04@gmail.com).
- ReactOS website account : AwesomeAB
- IRC Nickname on Freenode: awesomeab_
- Contact No. : +91 9738959449

Proposed Project

In this proposal, I have described my plan on how to implement the Search Shell for ReactOS, which works and replicates the actual windows search shell. It would enable the user to search for files, documents, objects etc.

Just like the Windows search, ReactOS search would comprise of three components:

- I. React Search Service : The main objective for the search service is to organise the features extracted from a set of documents, which is indexed for fast access. A set of

documents/files comprises a catalog. This catalog may contain an inverted index (for quick word matching) and property cache (for quick retrieval of property values).

- II. Shell Data Source : The preferred way of implementing the ReactOS search is through a shell datasource. A shell datasource is a component that is used to extend the shell namespace and expose the items in a data store. These items can be indexed by the search system using a protocol handler. A handler is a Component Object Model (COM) object which provides functionality for a shell item. Specific handlers are required for different file types.
- III. User Interface: The search shell must be integrated with the file explorer on reactOS, thus enabling the users to quickly and conveniently perform a search. The search results maybe displayed on the same window, or maybe saved for future use.

Proposed Milestones

Community Bonding Period:

Making sure my ReactOS development environment is set up and reading through the wiki & codebase to get a thorough understanding of the architecture of ReactOS. Also discuss the queries and difficulties regarding the project, with the dev community.

Weeks 1-4: Implementing the shell data source and the protocol handlers for the most common file types.

Weeks 5-8: Implementing the search service which deals with indexing and organising the catalog of files and documents

Weeks 9-10: Integrating the search service, the shell with the explorer, along with the user interface design.

Weeks 11-12: Working with my mentors to get the code merged with the main ReactOS GitHub repository.

Legal Requirements

I hereby swear that I have not used nor seen the source code to any version of the Windows operating system nor any Microsoft product that may be related to the proposed project that is under a license incompatible with contribution to ReactOS, including but not limited to the leaked Windows 2000 source code and the Windows Research Kernel.