

## DETAILED ABSTRACT



### Batch Members

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## PROJECT OBJECTIVE

To design and implement a downloading tool that seamlessly integrates with most popular browsers, provides comprehensive error recovery and resume capability to restart broken or interrupted downloads, protects against viruses and other attacks by integrating with anti-virus software .

## PROJECT DESCRIPTION

**S.M.A.R.T. Downloader** is a software tool designed to download files from the Internet, unlike a web browser, which is mainly intended to browse web pages on the World Wide Web (with file downloading being of secondary importance).

Our product would be useful for active Internet users. For dial-up users, they can automatically dial the internet service provider at night, when rates or tariffs are usually lower, download the specified files, and hang-up. **S.M.A.R.T. Downloader** can record which links the user clicks on during the day, and queue these files for later download. For broadband users, our product can help download 100+ megabyte files by resuming broken downloads, by limiting the download capacity used, so that the user's browsing is not affected much and the server is not overloaded, or by automatically browsing a site and downloading content specified by user (photo galleries, MP3 collections, etc.), including automatically downloading whole sites and regularly updating them.

**S.M.A.R.T. Downloader** integrates seamlessly with popular web browsers, and is designed such that it is extremely easy to use. Clicking on a link in a browser automatically starts the download in the download manager. For power users, additional features are available, such as scheduling, traffic shaping, virus-checking and Download statistics.

## BASIC FEATURES

These are features that most of the existing download managers provide.

Such features include the following :

### ♣ **Download Accelerator**

- Automatic and dynamic file segmentation.
- Multiple channels for parallel multipart download.

### ♣ Pausing the downloading of large files.

### ♣ Resuming broken or paused downloads (especially for very large files).

### ♣ Downloading files on poor connections.

### ♣ **Site Grabber Feature**

- Downloading several files from a site automatically according to simple rules (file types, updated files, pattern template etc.).

### ♣ Automatic recursive downloads (mirroring).

### ♣ Scheduled downloads (including, automatic hang-up and shutdown).

### ♣ Searching for mirror sites, and the handling of different connections to download the same file more quickly.

### ♣ Queue jobs, assign priorities, limit bandwidth usage for a particular job, etc. for 'fine-grained' control over downloading.

### ♣ Progressive downloading with quotas

### ♣ Uploading services.

### ♣ Streaming support.

### ♣ Support proxy servers, authentication.

### ♣ Statistics for each download.

### ♣ Interoperate with search engines.

### ♣ Automatic Antivirus checking.

### ♣ RSS Feeds.

### ♣ Simple and easy-to-use Graphical User Interface.

### ♣ Multiple browser support.

### ♣ Stand-alone or can be used as a plug-in to the browser.

## DISTINGUISHING FEATURES

These are features that distinguish our product from those that are available in the market.

Such features include :

### 🕒 **Web services support**

- Facilitate XML web services discovery and consumption.
- Support UDDI, WSDL, SOAP, etc.

### 🕒 **Built-in XML validator**

- Validate an incoming XML file against its schema so as to decide whether to proceed with the downloading of the file (in case of encountering an 'invalid' file).
- Validate XML files to be uploaded.

### 🕒 **XML based Configuration files which serve as rcscripts for the application (a feature for power users).**

### 🕒 **File system monitor**

- Set up a monitor on a file/group of files to prevent automatic updates from clogging the network bandwidth.

### 🕒 **File Versioning**

- When downloading similar files users can (optionally) specify to store only one copy on the system; the rest are obtained by applying the differences from the single stored file.

### 🕒 **Zip preview**

- Preview the contents of 'zip' compressed files before to download them.

### 🕒 **Media preview**

- A quick preview of initial few frames of a media file before downloading it completely.

- ☯ File encryption/decryption support.
- ☯ User controlled threads – Manually create and assign jobs to threads.
- ☯ FTP : Download entire directory structure as is from the server.
- ☯ Support multiple file formats – MIME, DIME, etc.
- ☯ **Redirection**
  - Download to a specified location on the network.

## CONCLUSION

With the foregoing features, we believe our application is worth the time that shall be spent developing it.