Software Requirements Specification

For

Video Search Engine

Version 1.0 approved

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Contents

Revision History

Name	Date	Reason For Changes	Version
Will	2/03/09	Creation of document	1.0

1. Introduction

1.1 Purpose

This document will give a detailed description of the Video Searching software. The software will be used to search multiple web sites for streaming videos and torrents and return these results to the user.

This document will cover the features of the software and include specifics on what the system will do and any constraints and external factors that might affect the system.

1.2 Intended Audience and Reading Suggestions

This document is intended for the developers of the system and project managers as guide to building the software. It will also be used by the potential users of the product to get their opinions on the software, this will help to revise and improve the product.

The Overall Description will give an overview of the product functionality and features. Also mentioned are the constraints that will affect the system and the interface. This section will be used by the rest of the document and will give a better understanding of the system.

The third section, the System Features, gives a full description of the actions preformed by the system and gives details on the functions that are executed. All the major services that will be provided by the product are documented here.

The fourth section, the External Interface Requirements, will give details on the interaction between the user and the software through external interfaces. This section will give a description on hardware and software interfaces that the Video Searching software requires to perform an action.

Other requirements of the software will be described in the fifth section, Other Nonfunctional Requirements. This will give the requirements for the software when dealing with external entities and restrictions.

1.3 Project Scope

This Video Searching software will be a system that uses an active internet connection to search multiple websites for streaming videos or torrents. The system will be used to aid the user when trying to locate a specific video or genre of video. It will help them reduce searching time through various different websites by searching all these websites with just one query. It provides tools to help when navigating through search results which will save time and effort.

The software aims to help the user by providing a simple interface and a more efficient way of finding the video they require. It will also provide the user with

various options and tools to help make their search more relevant to the content that they need. The system will contain databases of the different websites that will be used within the search. These databases can be easily updated to provide a wider searching range.

1.4 References

Separate studies conducted by Damien C Holmes, William J Josephy, Alan Woosnam, Mustapha A Sherrif, and Irshad A Qabool on video distribution within the home. All studies based on private homes of the authors' choosing, all studies created on Feb 2009.

http://www.youtube.com
http://www.megavideo.com
http://www.facebook.com
http://www.surfthechannel.com
http://www.bbc.co.uk/iplayer/
http://www.google.com

2. Overall Description

2.1 Product Perspective

The program is a new self-contained product. It has come about due to the demand for such a product being identified in a series of Ethnography studies. From these studies we saw that the main activity people used video for was the watch content found online. These people would regularly spend periods of time searching websites to try and find the videos they wanted to watch, either somewhere to stream the video from or the files to download the video. This was especially true of the studies by Alan Woosnam, Irshad Qabool and Will Josephy. Our system will aim to speed up this process.

2.2 Product Features

The main feature of the system will be a search engine for finding the location of torrents and streaming sites for videos on the internet. The user can specify which of the 2 or both to look for. The results will be divided into the types that were specified using different tabs, and then the results will be orderable by different categories, such as name, size, site, etc. The user will have the option to filter out videos containing certain content depending on age restrictions, for example adult content. In addition the user will have the option to filter out or only search certain websites; for example a user may only want to look at videos on YouTube. They will have the facility for users to store their favorite videos, so that they can come back to the video at another time.

2.3 User Classes and Characteristics

There will be two levels of user for our system. The first will be the general user that will be using our software to find their videos. They will only see the front end of the system. The second level will be the system developers. They will be able to edit which sites the system will search, depending on whether they think the site is safe, compatible with our software, the speed at which the site can be searched, and how useful the site is to us, i.e. how many results have come back from that site.

2.4 Operating Environment

The system will be portable; this means it will work across different operating systems including Microsoft XP and Vista, Mac OS X and a range of Linux platforms. Also it will work with different web browsers, for example Internet Explorer, Firefox, and Safari.

The hardware needed for our system will be a reasonably up-to-date computer that is connected to the internet via a modem.

3. System Features

3.1 Torrent Search

3.1.1 Description and Priority

The user will give a search-term that will search through a database of compatible torrent websites that are added by the development team. The results of this search will be displayed as web links in a tab on the program's main window. This is one of the main features of the software and therefore has a high priority for development.

3.1.2 Stimulus/Response Sequences

User ticks torrent tick box – system will now query the torrent websites in its database when a search is started.

User enters search term and starts search – system sends queries to the torrent websites in its database based on the search term. Results for this query will then be sent to the torrent tab in the program where they will display information such as website, seeds, peers, size, date posted and a link for the webpage.

User sorts the search results by clicking once on a column header – system sorts all results by descending/ascending order.

User clicks on next page button – system displays the next set of results for the search.

3.1.3 Functional Requirements

REQ-1: Torrent search will share the same search bar with the streaming search.

REQ-2: Database of torrent sites can be updated via the internet.

REQ-3: There will be a tick box to allow the user to choose to include torrent searching in the search.

REQ-4: Query will retrieve the no. of seed and peers, size of the file, date posted and a link to the webpage itself.

REQ-5: If no results are found on a search it will display a message "No results were found for this search."

REQ-6: Results will be arranged in size/date/alphabetical order by clicking on the column headers.

REQ-7: There will be page button for the user to navigate the results.

3.2 Video Stream Search

3.2.1 Description and Priority

This feature will search a term the user enters, through a database of compatible video streaming websites that are added by the development team. The video websites will range from sites that actually host video such as MegaVideo, YouTube, etc as well as websites that show links to videos hosted on other sites such as surfthechannel.com, alluc.org, etc. The results will be displayed in a tab on the programs main window. This tab will be split horizontally into two sections, the top half for the video hosting sites and the bottom half for the video link sites. This is another of the main features of the software and also has a higher priority for development.

3.2.2 Stimulus/Response Sequences

User ticks streaming host tick box – system will now query the video hosting sites in its database when a search is started. Hosting sites will include the actual videos on their servers, e.g. YouTube.

User ticks streaming links tick box – system will now query the video link sites in its database when a search is started. The link sites will include external video links to different video hosting sites, e.g. surfthechannel.com.

User enters search term and starts search – system sends queries to the video websites in its database based on the search term. Results for this query will then be sent to the video stream tab in the program. The hosting half of the tab displays the website, full video name, length and date posted. The link half of the tab displays the website and video name (e.g. combination of the show's name and the episode name).

User sorts the search results by clicking once on the column header – system sorts all results by descending/ascending order.

User filters websites they want to be shown in the results – system removes unselected websites from the results.

User clicks on next page button – system displays the next set of results for the search.

3.2.3 Functional Requirements

REQ-1: Streaming search will share the same search bar with the torrent search.

REQ-2: Database of video hosting and video linking sites can be updated via the internet.

REQ-3: There will be a tick box to allow the user to choose to include video host searching in the search.

REQ-4: There will be a tick box to allow the user to choose to include video link searching in the search.

REQ-5: Query to video hosting sites will retrieve full video name, length, date posted and a link to the video itself.

REQ-6: Query to video link sites will retrieve the show's name, episode name and a link to the webpage itself.

REQ-7: If no results are found on a search it will display a message "No results were found for this search."

REQ-8: Results will be arranged in length/date/alphabetical order by clicking on the column headers.

REQ-9: There will be page button for the user to navigate the results.

4. External Interface Requirements

4.1 User Interfaces

The user Interface will consist of one main screen, allowing all the functionally to come from this one screen. This allows the user to use the software with ease by not flicking through a number of different screens. In addition to this the user can always see the videos they are looking for. The main screen will be laid out as in Appendix: B Diagram along with the description of the diagram. We decided on this type of interface because we felt that it would be very simple for the user to navigate. From our reports we found that the simpler the interface was, the more people liked it.

With all these features complied into one screen it will give the software more flexibility and allows for easy and simple usage. This will appeal to both naïve computer users and experienced computer users with a higher selling market.

4.2 Software Interfaces

The software will use hyperlinks to allow the user to open websites in their default web browser.

4.3 Communications Interfaces

Communication standards that will be used through the software will be PHP or other such languages. These will be used to query the different servers that the websites use and will give us back

5. Other Nonfunctional Requirements

5.1 Performance Requirements

REQ-1: Query times will take no longer than 5 seconds to any website.
REQ-2: Sending the hyperlink to the default browser will take less than 1 second.
REQ-3: Loading the program will take less than 10 seconds.
REQ-4: Any torrent result with 0 seeds will not be displayed. [1]
REQ-5: Sorting results should take less than 0.1 seconds.
REQ-6: A results page will display 100 results.
REQ-7: Any torrent result with a rating of less than 1 will not be displayed. [2]

1 – Any torrent with 0 seeds cannot guarantee to be fully downloaded.
2 – Any torrent with a rating of less than 1 should not be fully trusted; this was one of the main complaints from users in William Josephys ethnographic study.

5.2 Safety Requirements

Our development team must thoroughly investigate each website within our database each month, to ensure that no illegal or harmful content is exposed to our users.

5.3 Security Requirements

We don't maintain any user data or host any content.

5.4 Legal Requirements

While all safety measures resulting from the site may not be fully identified, a recommendation of a full legal review of the software should be undertaken before the site is available to the public. In doing so, the site will be subject to full indemnification of liability.

The system we produce will stay within all the legal requirements on our behalf, as our software is only listing links for video streams and video download, and this is not illegal. Our system will not host any videos.

Appendix A: Glossary

Terminology taken from Google:

Peer: A peer is one instance of a BitTorrent client running on a computer on the Internet that you connect to and transfer data.

Seed: a complete copy of the file being made available for download.

Torrent: A Torrent in the Internet world is a site that uses BitTorrent technologies to host file for P2P file download and sharing. A torrent contains the location of data files that can be download from the BitTorrent peer-to-peer network. ...

Appendix B: Diagrams
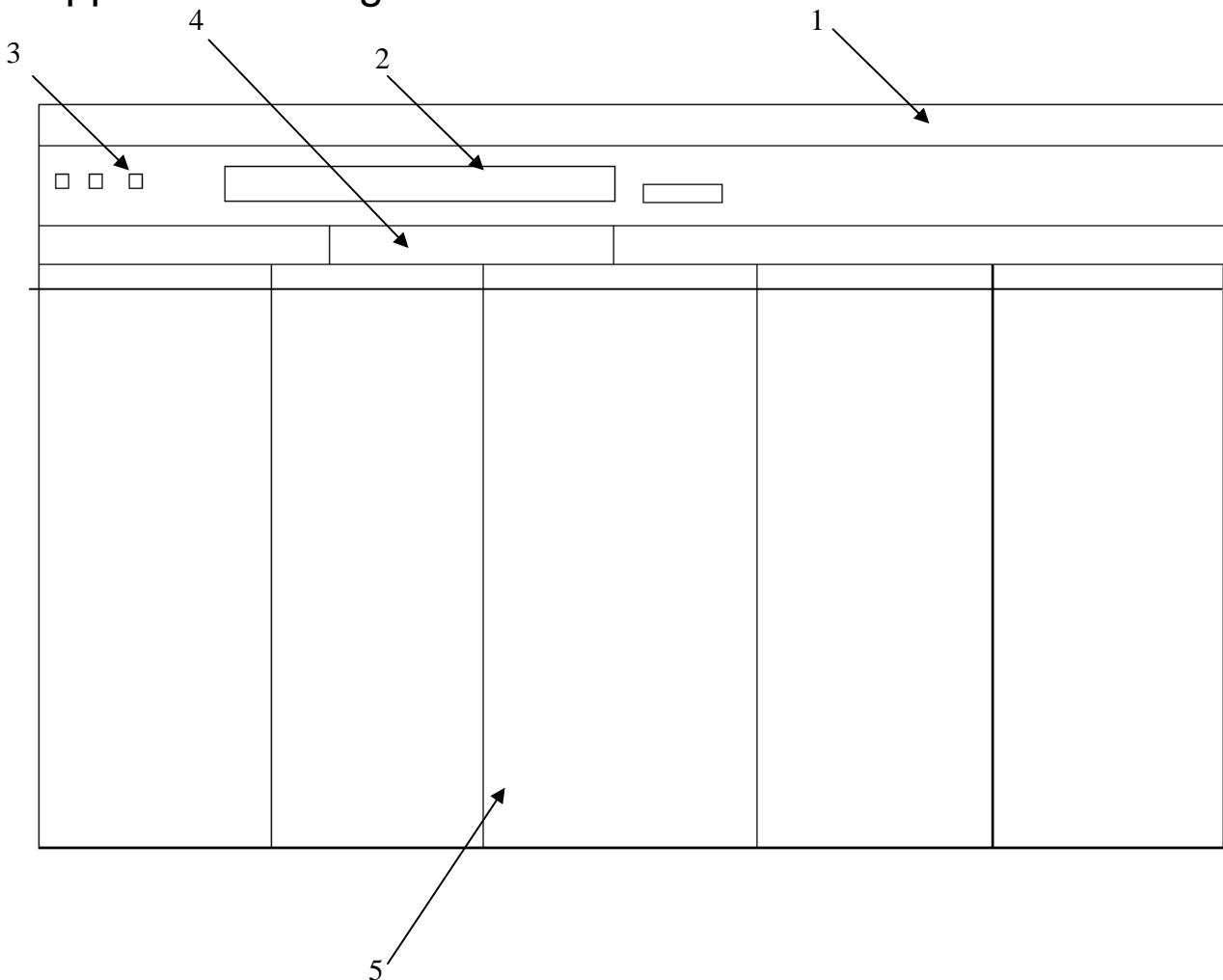
1- The first feature of the software is a menu bar. This software includes the basic features used in similar products such as new search, close, load etc. However with our software there are two extra features. These being a filter option which allows the user to set parental controls over the software. This enables the user to be able to search for videos without getting explicit content. In addition to this there is a favorite's option. This feature gives the user the option of being able to store links to their favorite videos in the software, and be able to go back to these websites after restarting the software.

2- This is the main engine behind the software. This is where the user enters the name of the video they wish to search for. Once the user has typed in the name of their desired video they can either press the enter key or the search button to run the query.

3- These tick boxes tell the software to search for either torrents or streaming videos, depending on what type of video the user wishes to view.

4- These are the tabs which bring up the different pages of the search results. This allows the user to run multiple searches and keep different search results stored at the same time.

5- This is where the actual search results will be displayed. Within these display fields the user will be told the name of the video, the location of the video (which website the video is on), the size of the video so the user can decide if they wish to download the video or just to stream the video, the rating of the video with information on how safe the website is, and finally comments on the video (what other user think of the video). With this the user can then decide on how he wants the search results sorted using the column headers at the top.

Appendix C: Issues List

In the next version we will consider adding a system to also search UseNet Binaries.