## CS 851: Assignment #2

Due on Thursday, March 5, 2014  $DR\ NELSON\ 4{:}20pm$ 

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## Problem 1

Choose 100 URIs from A1

Generate WARC files of those URIs using: wget WARCreate Heritrix (stand-alone or via WAIL) webrecorder.io

Describe the resulting WARC files: quantitatively compare & contrast the results of the WARC files of the same URI as generated by different tools choose interesting examples.

Demonstrate playback of 2-3 WARCs in the (Wayback Machine (via WAIL or stand-alone) or pywb) and (webrecorder.io)

Listing 1: Script to download wget Warc files

```
import requests
   import urllib2
   import urllib
   from urlparse import urlparse
   import subprocess
   import os, sys
   import httplib
   import re
   fh = open("sample.txt",'r')
   count = 0
   for line in fh:
        try:
             url=line
15
             proc = subprocess.Popen(["wget --warc-file="+str(count)+" -p -l 1 "+url+
                 " "], stdout=subprocess.PIPE, shell=True)
             (out, err) = proc.communicate()
             count = count + 1
        except BaseException, e:
             print 'failed ',str(e)
```

I used the same 103 URIs for wget, warcreate, webrecorder. I could not use the same 100 URIs for WAIL because of the delimeter errors I experience while doing it, so I changed the URI mixes to minimise the errors I experienced. I conbimed the warc file using WARCMerge.

In order to quantitatively compare the different methods, I selected 4 URIs to generate warc files using the 4 methods, and I discovered this: Warcreate was over 33.5 MB, over because 1 URI failed to generate a warc file. WAIL was 3.71 MB, Web Recorder 4.6 MB, Wget 165.4 KB. Hence Warcreate warc files are the largest while wget warc files are the smallest.

Figure 1: Comparing file sizes for the different warc tools

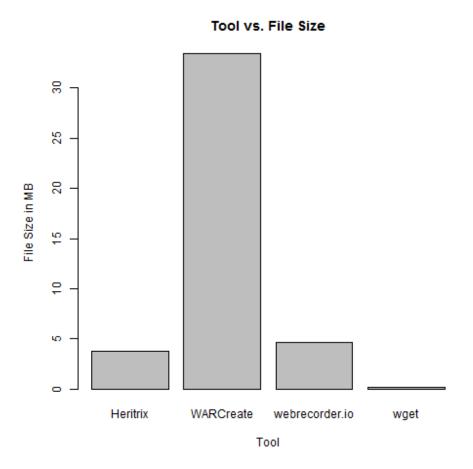


Figure 2: Replaying Warc file with webrecorder

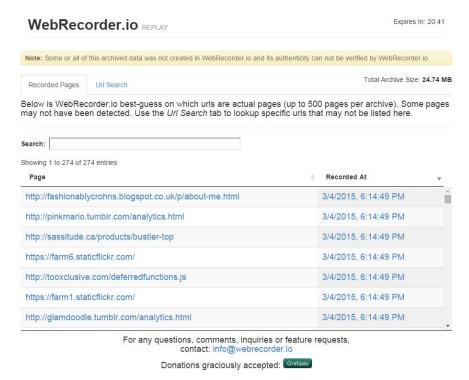


Figure 3: Replaying Warc file with webrecorder

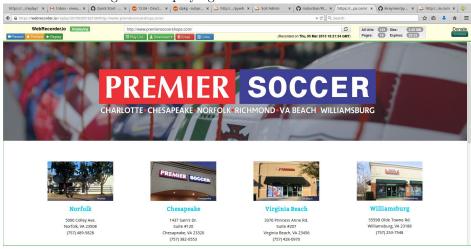


Figure 4: Replaying Warc file with Wayback Machine



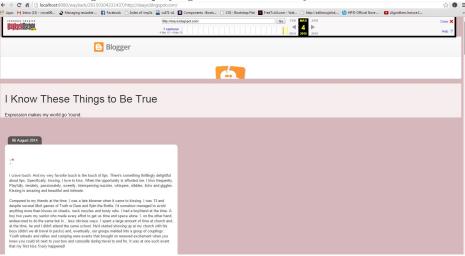


Figure 5: Replaying Warc file with Wayback Machine

I noticed for wayback machine I could only search for 1 URL at a time even if I have a warc file with several URIs, while for webrecorder I could see all URIs in a warc file, then you can click on the link you want.

## Problem 2

Ingest the 100 URIs from their resulting WARC files into a SOLR instance see the code + tutorial at: https://github.com/ukwa/webarchive-discovery Demonstrate several functioning queries on the files (a full front-end is not required) describe the configuration choices you made in setting up SOLR and processing the documents.

The configuration choices I made are still the same as the default settings. Some of which are; Maximum payload size allowed to be kept wholly in RAM: 10M. Maximum payload size that will be serialised out to disk instead of held in RAM:100M. URLs to skip: NONE. Use the hash+url as the ID for the documents. Do not check SOLR for duplicates during indexing. Solr document batch size for submissions: 500.

Figure 6: Embedding URIs in SOLR

```
Terminal - vnwala@template: ~/webarchive-discovery/warc-indexer
 File
     Edit View Terminal Tabs Help
vnwala@template:~/webarchive-discovery/warc-indexer$ java -jar warc-indexer-2.0.
1-20150116.110435-2-jar-with-dependencies.jar -s http://localhost:8080/discover
 -t /home/vnwala/merge/*.warc
 015-03-05 21:27:38 INFO WARCIndexer:153 - Extract text = true
2015-03-05 21:27:38 INFO WARCIndexer:156 - Store text = true
2015-03-05 21:27:38 INFO WARCIndexer:198 - Hashing & Caching thresholds are: <
10485760 in memory, < 104857600 on disk.
2015-03-05 21:27:38 INFO WARCIndexer:201 - Setting up analysers...
2015-03-05 21:27:38 INFO WARCPayloadAnalysers:85 - Image feature extraction = t
2015-03-05 21:27:42 INFO TikaExtractor:116 - Config: MIME exclude list: [x-tar,
x-gzip, bz, lz, compress, zip, javascript, css, octet-stream]
2015-03-05 21:27:42 INFO TikaExtractor:119 - Config: Parser timeout (ms) 300000
2015-03-05 21:27:42 INFO TikaExtractor:122 - Config: Maximum length of text to
extract (characters) 524288
2015-03-05 21:27:42 INFO TikaExtractor:126 - Config: extractAllMetadata false
2015-03-05 21:27:42 INFO TikaExtractor:129 - Config: useBoilerpipe false
2015-03-05 21:27:42 INFO HTMLAnalyser:59 - HTML - Extract resource links false
2015-03-05 21:27:42 INFO HTMLAnalyser:61 - HTML - Extract host links true
2015-03-05 21:27:42 INFO HTMLAnalyser:63 - HTML - Extract domain links true
2015-03-05 21:27:42 INFO HTMLAnalyser:65 - HTML - Extract elements used true
2015-03-05 21:27:42 INFO
                             ImageAnalyser:69 - Image - detect faces = true
2015-03-05 21:27:42 INFO
                             ImageAnalyser:71 - Image - max size in bytes 1048576
                             ImageAnalyser:74 - Image sample rate 0.1
 015-03-05 21:27:42 INFO
                             FaceDetectionParser:90 - Face detection enabled.
2015-03-05 21:27:42 INFO
2015-03-05 21:27:42 INFO
                             FaceDetectionParser:92 - Dominant colour extraction en
abled.
2015-03-05 21:27:43 INFO LanguageAnalyser:51 - Constructing...
2015-03-05 21:27:45 INFO WARCIndexer:206 - Initialisation of WARCIndexer comple
Parsing Archive File [1/69]:/home/vnwala/merge/100.warc
Parsing Archive File [2/69]:/home/vnwala/merge/101.warc
Parsing Archive File [3/69]:/home/vnwala/merge/102.warc
Parsing Archive File [4/69]:/home/vnwala/merge/103.warc
Parsing Archive File [5/69]:/home/vnwala/merge/34.warc
Parsing Archive File [6/69]:/home/vnwala/merge/35.warc
2015-03-05 21:32:00 ERROR TikaExtractor:405 - ParseRunner.run() Exception: Write
OutContentHandler.WriteLimitReachedException: Your document contained more than
524288 characters, and so your requested limit has been reached. To receive the
full text of the document, increase your limit. (Text up to the limit is however
 available).
Parsing Archive File [7/69]:/home/vnwala/merge/36.warc
Parsing Archive File [8/69]:/home/vnwala/merge/37.warc
2015-03-05 21:32:27 ERROR WARCPayloadAnalysers:162 - java.lang.IllegalArgumentEx
eption: Illegal character in path at index 10: file:///./[KAIRISM]+140917,+1409
20-140921,+140928+KAI_32P.rar: Illegal character in path at index 10: file:///.,
[KAIRISM]+140917,+140920-140921,+140928+KAI 32P.rar;dd; http://www.mediafire.com
download/5nm8xqxql48qdin/%5BKAIRISM%5D+140917%2C+140920-140921%2C+140928+KAI 32/
 .rar @3121
2015-03-05 21:32:27 ERROR AbstractPayloadAnalyser:66 - uk.bl.wa.tika.parser.imag
efeatures.FaceDetectionParser.parse(): org.apache.sanselan.ImageReadException:
an't parse this format.
2015-03-05 21:32:27 ERROR WARCPayloadAnalysers:162 - java.lang.IllegalArgumentEx
ception: Illegal character in path at index 10: file:///./[KAIRISM]+140917,+1409
 0-140921,+140928+KAI_32P.rar: Illegal character in path at index 10: file:///.
```

Figure 7: Query for movies

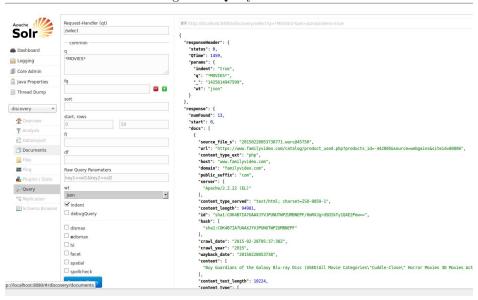


Figure 8: Query for domain

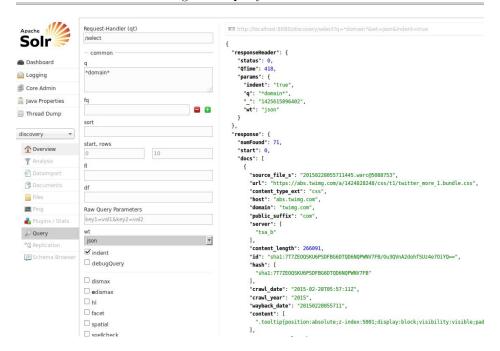
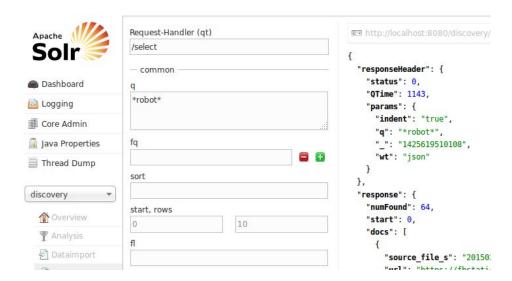


Figure 9: Query for files with robot.txt or the word robot, 64 documents with robot.txt files



## **CONCLUSION**

I could not upload my warc files on github because of their size, I also noticed some URIs did not produce warc files in either Warcreate or Web Recorder. I produced 1 warc file for Heritrix with 100 URIs, while for the rest I did it one at a time and combined them. I am still learning how to query SOLR, hence my querying methods were not really complex. I did not change the configuration of SOLR because I had already uploaded my warc files.