**Supplemental File 3**

**Title:**

A snapshot of 3,649 web-based services published between 1994 and 2017 shows a decrease in availability after two years

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**Description:**

Pings addresses extracted with parser.pl from Pubmed abstracts

#returns return code and message after getting info from site

**Usage:**

perl ping.pl <address file from parser.pl> <output file name>

**Requirements:**

Parser output file

**Script:**

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require LWP::UserAgent;

use Data::Dumper;

use Net::Ping;

use strict;

use warnings;

open FH, $ARGV[0] or die; #read table that stores addresses (created with parser.pl

my @data = <FH>;

close(FH);

chomp(@data);

#open OUTPUT file to print results

open OUT, ">$ARGV[1]" or die;

#print first line, and headers

print OUT "$data[0]\tcode\tmessage\ttime\n";

for(my $i = 1; $i <= $#data; $i++) {

 my @line = split "\t", $data[$i]; #split line by "\t" value

 if(defined $line[8]) { #check if address was defined

 print "[ $i / $#data ] Address: $line[8]";

 }

 else {

 print "[ $i / $#data] Address:";

 }

 print OUT "$data[$i]";

 my ($sec,$min,$hour,$mday,$mon,$year,$wday,$yday,$isdst) = localtime; #get current time of pinging

 my $currtime = "2016:$mon:$mday:$hour:$min:$sec"; #create time stamp string

 if(defined $line[8]) { #if address is defined (there is actual text in cell)

 my $host = $line[8];

 if($host =~ m/^(www\.)(.+)/) { #check if address begins with www.

 $host = "http://$host"; #if yes, add "http://"

 }

 my $ua = LWP::UserAgent->new(); #initialize ping object

 $ua->timeout(20); #set timeout to 20 seconds

 my $res = $ua->get($host); #get host data

 my $rtext = $res->code(); #retrieve return message code

 my $mtext = $res->message(); #retrieve return message

 print "\t$rtext\t$mtext\t$currtime\n"; #print result in command line

 print OUT "\t$rtext\t$mtext\t$currtime\n"; #print result to file

 }

 else { #in case of empty cell

 print "\t404\tNOT FOUND\t$currtime\n"; #simply print not found

 print OUT "\t404\tNOT FOUND\t$currtime\n"; #simply print not found to file

 }

}

close(OUT);