
Comparing pagination efficiency in term of depth for different methodologies : Concertina, redesigned Concertina & Nomao

Table of Contents

Getting the URLs and their number of products	1
Global parameters for all algorithms	1
Structure to save the result	1
Looping over each URL to access the efficiency of each methodology	1
Computing the distribution for the following URL :	2
Saving the results	29

Getting the URLs and their number of products

```
[URL,Nbproduits] = importfile('nb_product_per_product_list.csv');
```

Global parameters for all algorithms

total number of displayable references in pagination

```
Nlinks=15;  
% padding parameter  
Npadding=3;  
% the depth of click we want to explore  
depth_click=280;
```

Structure to save the result

```
results=cell(length(URL),1);
```

Looping over each URL to access the efficiency of each methodology

we output a visualization only for one tenth of the URLs

```
progression_vector=[1:10,11:15:(length(URL)-10),(length(URL)-9):length(URL)];  
for i=1:10:length(URL)  
  
    url=URL(i);  
    nb_product = Nbproduits(i);
```

Computing the distribution for the following URL :

```
disp(['Computing depth reachability for ' num2str(nb_product) ' product list a
disp(url);
% we here assume a number of 23 products per page
Ntotal=round(nb_product./23);
% notice that relevant cases are Ntotal >> Nlink
disp(['Number of pages to paginate : ' num2str(Ntotal)]);
% affect the pagination computation methodology
concertina_distrib=@(x)concertina_compute_pagination(x, Nlinks, Npadding, Ntot
designed_concertina_distrib=@(x)designed_concertina_compute_pagination(x, Nlin
nomao_distrib=@(x)nomao_compute_pagination(x, Nlinks, Ntotal);

% Computing the Concertina efficiency
distribution=concertina_distrib(1);
click=1;
my_evolving_distrib=cell(depth_click,1);
while (click <= depth_click)
    % links_to_add instantiation
    new_list=[];
    for link=1:size(distribution,1)
        % we here compute the number of pages reachable at the variable click
        new_list = union(new_list,concertina_distrib(distribution(link)));
    end
    my_evolving_distrib{click}=new_list;
    distribution=new_list;
    % links_to_add=added_links+newlist
    % we here list the number of pages reached at click number
    click=click+1;
end
concertina_length_vector = cellfun(@length, my_evolving_distrib);

% Computing the Redesigned Concertina efficiency
distribution=designed_concertina_distrib(1);
click=1;
my_evolving_distrib=cell(depth_click,1);
while (click <= depth_click)
    % links_to_add instantiation
    new_list=[];
    for link=1:size(distribution,1)
        % we here compute the number of pages reachable at the variable click
        new_list = union(new_list,designed_concertina_distrib(distribution(link)));
    end
    my_evolving_distrib{click}=new_list;
    distribution=new_list;
    % links_to_add=added_links+newlist
    % we here list the number of pages reached at click number
    click=click+1;
end
redesigned_concertina_length_vector = cellfun(@length, my_evolving_distrib);
```

Comparing pagination efficiency
in term of depth for different
methodologies : Concertina, re-

~~Designed Concertina~~ & Nomao

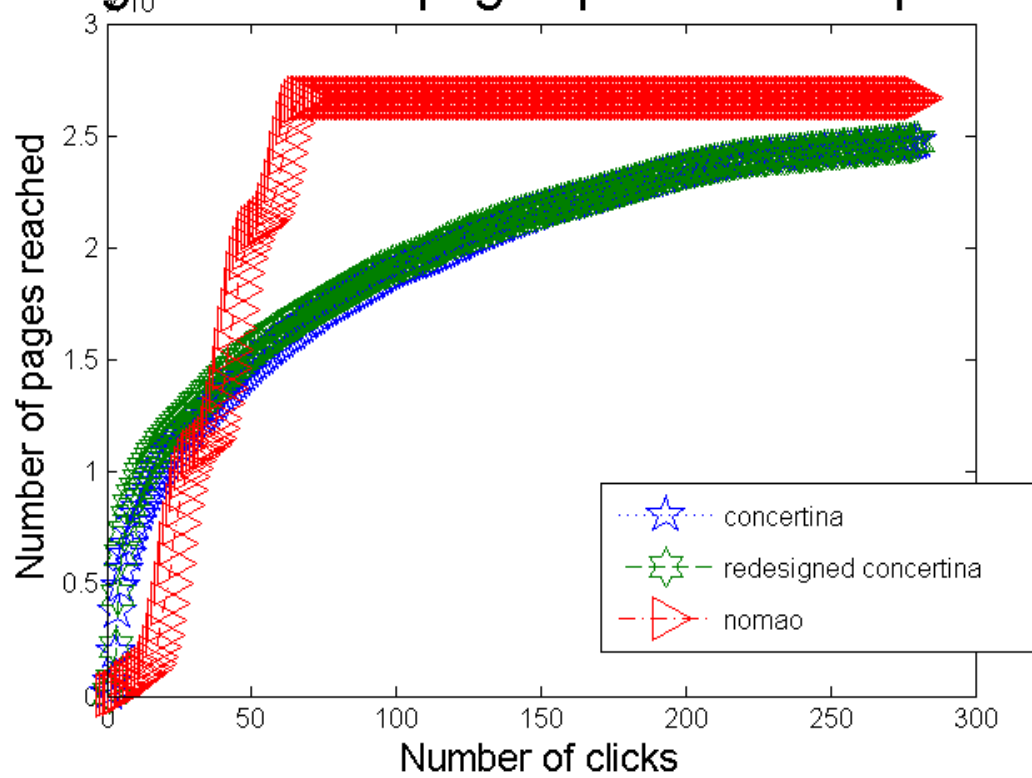
```
% Computing the distribution of the links
distribution=nomao_distrib(1);
click=1;
my_evolution_distrib=cell(depth_click,1);
while (click <= depth_click)
    % links_to_add instantiation
    new_list=[];
    for link=1:size(distribution,1)
        % we here compute the number of pages reachable at the variable click
        new_list = union(new_list,nomao_distrib(distribution(link)));
    end
    my_evolution_distrib{click}=new_list;
    distribution=new_list;
    % links_to_add=added_links+newlist
    % we here list the number of pages reached at click number
    click=click+1;
end
nomao_distrib_length_vector = cellfun(@length, my_evolution_distrib);

% Displaying both results on a same graph
% filtering the asymptote
filter=(concertina_length_vector<Ntotal | nomao_distrib_length_vector<Ntotal |
matrix=[concertina_length_vector(filter), redesigned_concertina_length_vector(
% storing the result
results{i}=matrix;
%displaying the results
figure;
createfigure(matrix,['Atteignabilité des pages pour ' num2str(nb_product) ' pr
```

*Computing depth reachability for 614130 product list at the following url
'http://www.cdiscount.com/telephonie/accessoires-portable-gsm/1-14420.'*

Number of pages to paginate : 26701

Atteignabilité des pages pour 614130 produits



Comparing pagination efficiency in term of depth for different methodologies : Concertina, re-

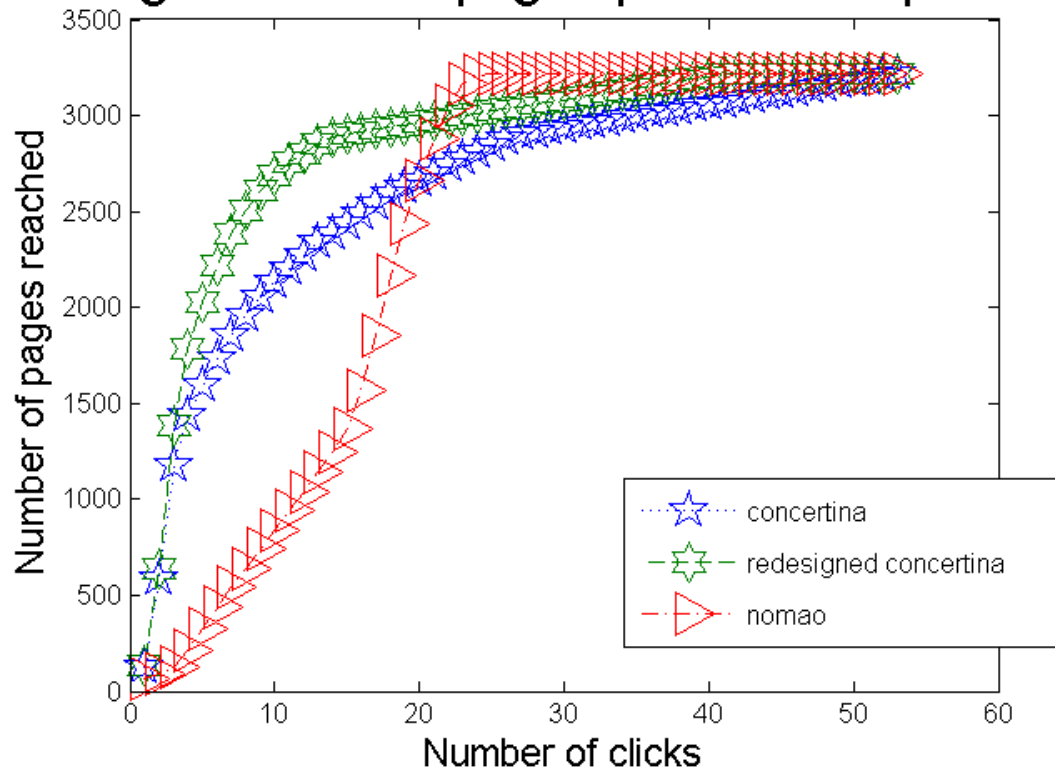
Computing depth designed Concertina & Nomad 74040 product list at the following url :

'<http://www.cdiscount.com/juniors/toutes-nos-marques/1-12015.html>'

Number of pages to paginate : 3219

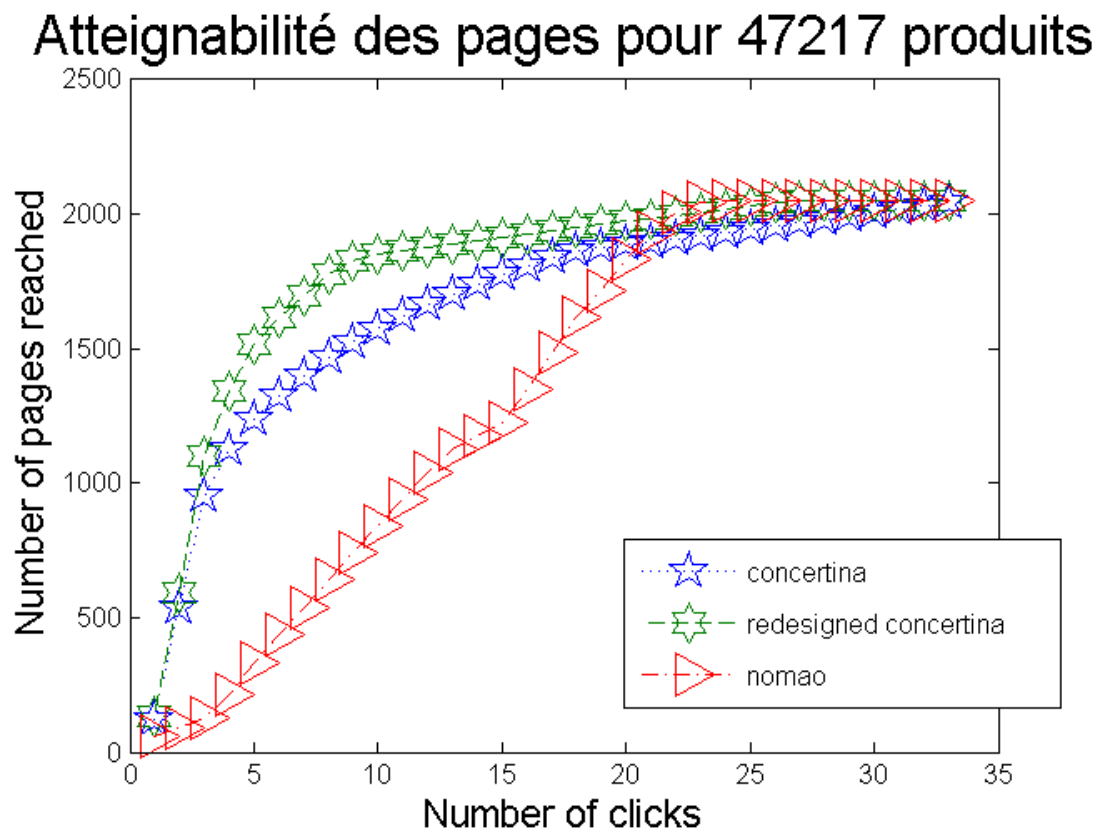
Comparing pagination efficiency
in term of depth for different
methodologies : Concertina, re-

Atteignabilité des pages pour 74040 produits



Computing depth reachability for 47217 product list at the following url :
'<http://www.cdiscount.com/livres-bd/actualite-politique-societe-religi>

Number of pages to paginate : 2053



Comparing pagination efficiency in term of depth for different methodologies : Concertina, re-

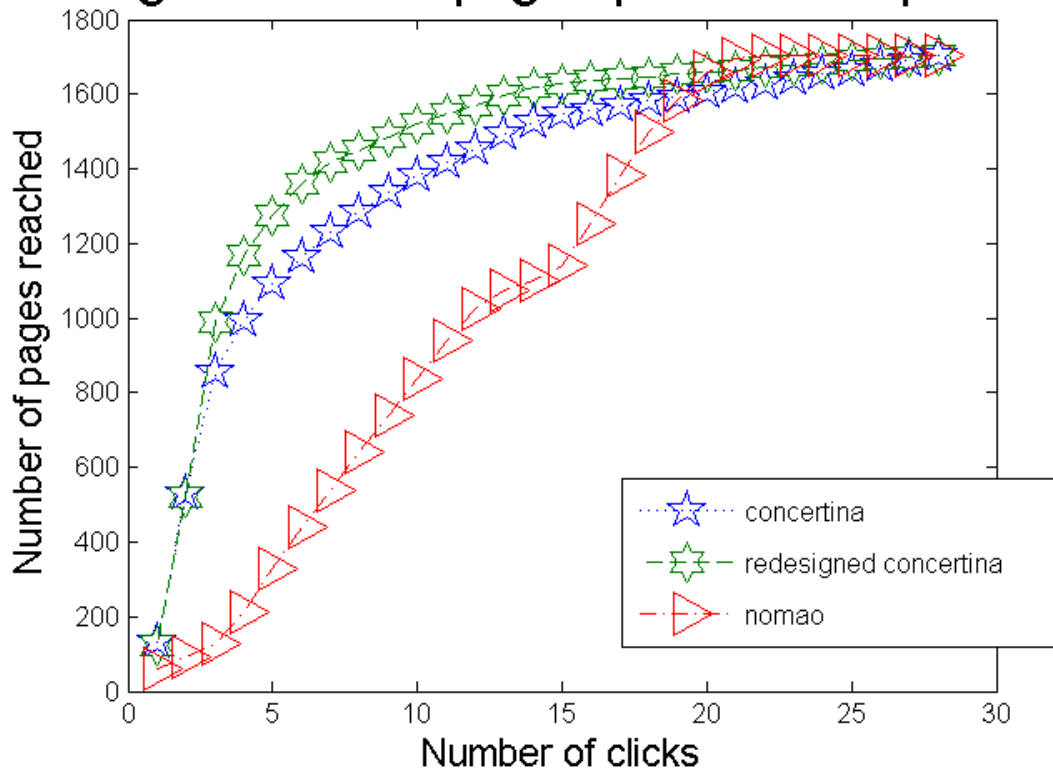
Computing depth designed Concertina & Nomao39194 product list at the following url :

'<http://www.cdiscount.com/livres-bd/livres-sciences-humaines/histoire/>

Number of pages to paginate : 1704

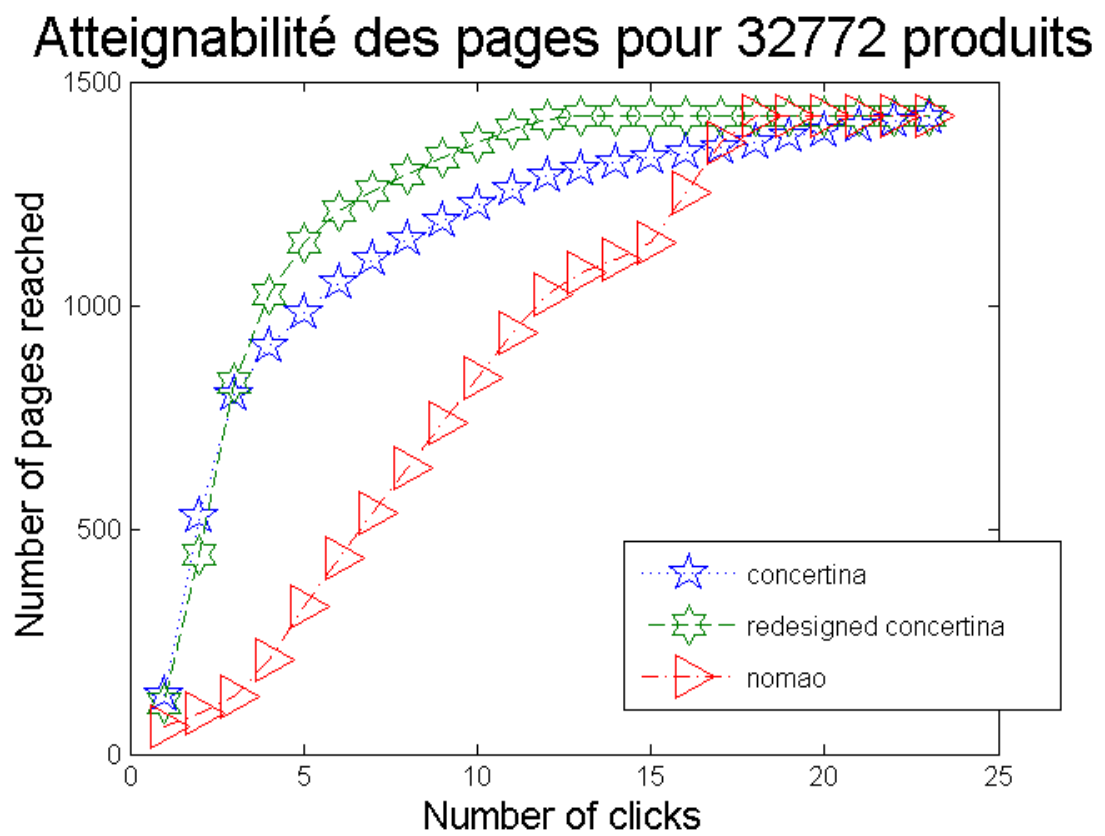
Comparing pagination efficiency
in term of depth for different
methodologies : Concertina, re-

Atteignabilité des pages pour 39194 produits



Computing depth reachability for 32772 product list at the following url :
'<http://www.cdiscount.com/telephonie/accessoires-portable-gsm/alimenta>

Number of pages to paginate : 1425



Comparing pagination efficiency
in term of depth for different
methodologies : Concertina, re-

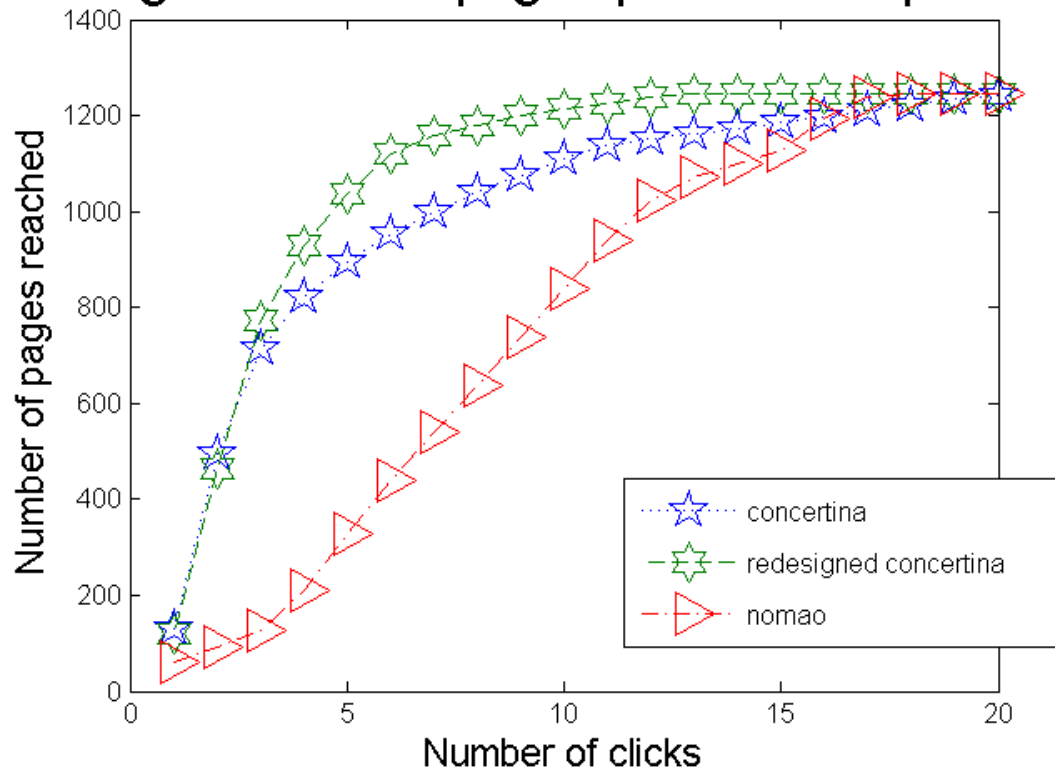
Computing depths designed by Concertina & Nomao 28651 product list at the following url :

'http://www.cdiscount.com/animalerie/toute-l-offre-animalerie/1-16218.'

Number of pages to paginate : 1246

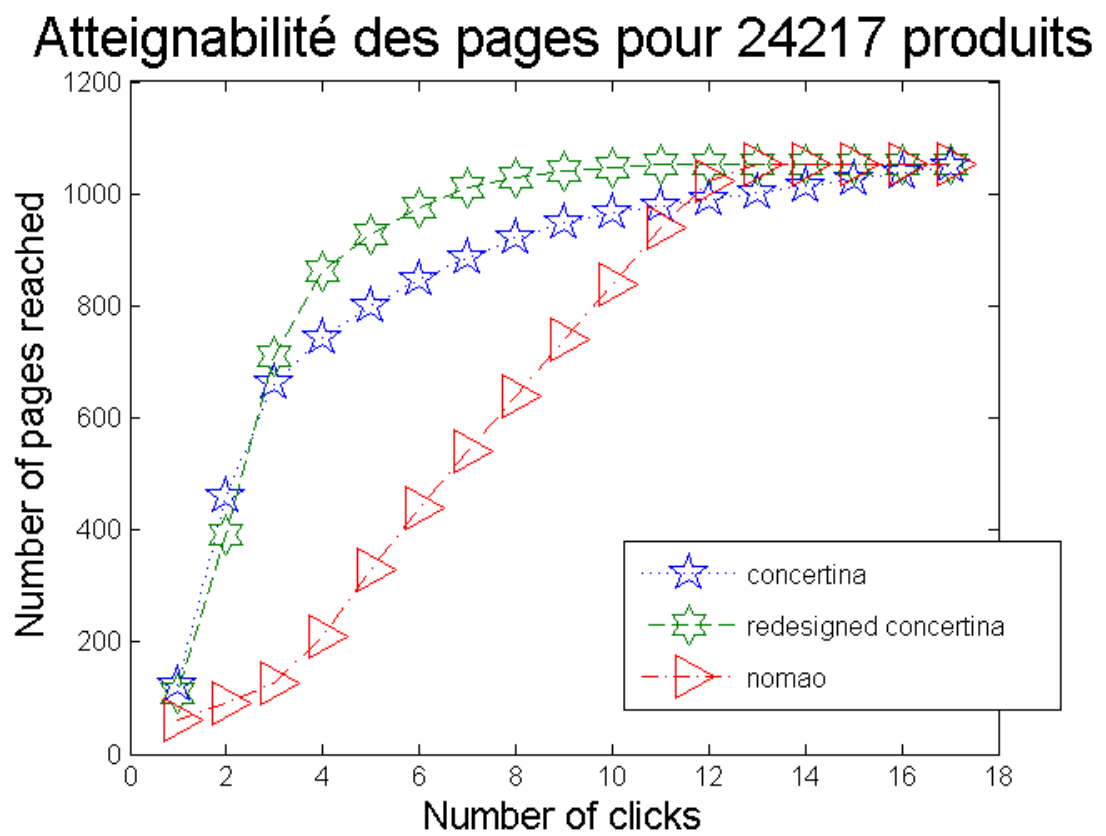
Comparing pagination efficiency
in term of depth for different
methodologies : Concertina, re-

Atteignabilité des pages pour 28651 produits



Computing depth reachability for 24217 product list at the following url :
'<http://www.cdiscount.com/juniors/jeux-et-jouets-par-type/maquettes-mo>

Number of pages to paginate : 1053



Comparing pagination efficiency in term of depth for different methodologies : Concertina, re-

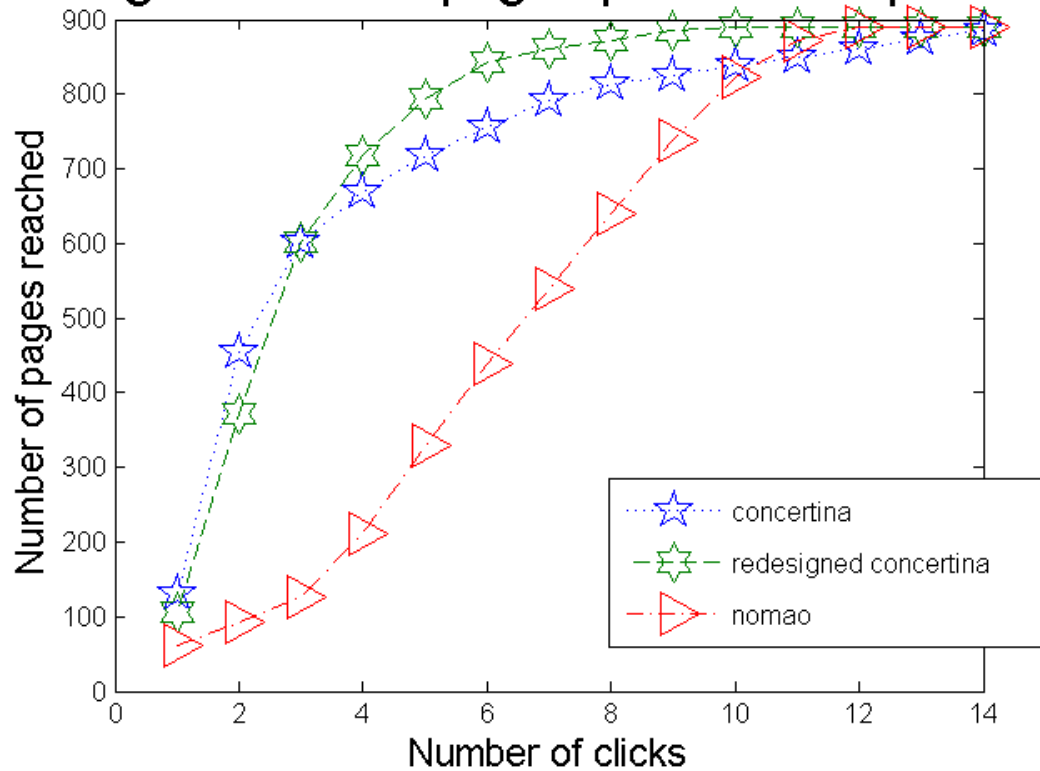
Computing depth designed Concertina & Nomao 20504 product list at the following url :

'<http://www.cdiscount.com/livres-bd/livres-jeunesse-adolescent/3-6-ans>

Number of pages to paginate : 891

Comparing pagination efficiency
in term of depth for different
methodologies : Concertina, re-

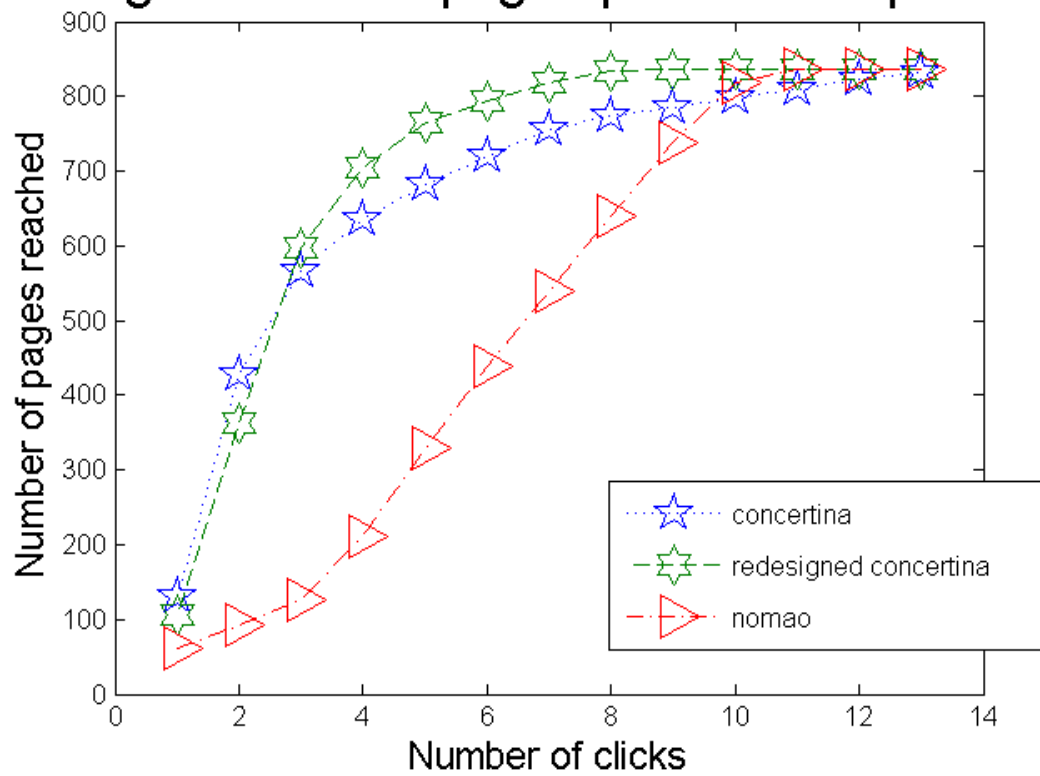
Atteignabilité des pages pour 20504 produits



Computing depth reachability for 19253 product list at the following url :
'<http://www.cdiscount.com/juniors/jeux-jouets-super-heros/1-12017.html>

Number of pages to paginate : 837

Atteignabilité des pages pour 19253 produits

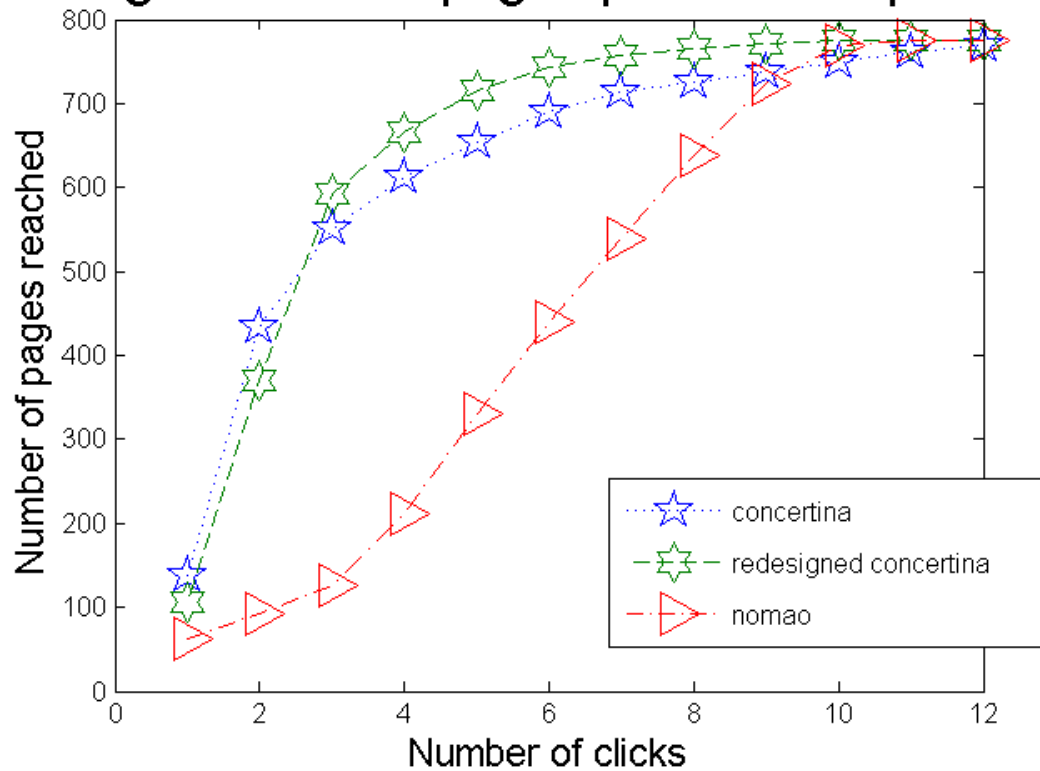


Comparing pagination efficiency in term of depth for different methodologies : Concertina, redesigned Concertina & Normal

Computing depth for 17824 product list at the following url :
'http://www.cdiscount.com/musique-cd-dvd/cd-classique/1-10115.html'
Number of pages to paginate : 775

Comparing pagination efficiency
in term of depth for different
methodologies : Concertina, re-

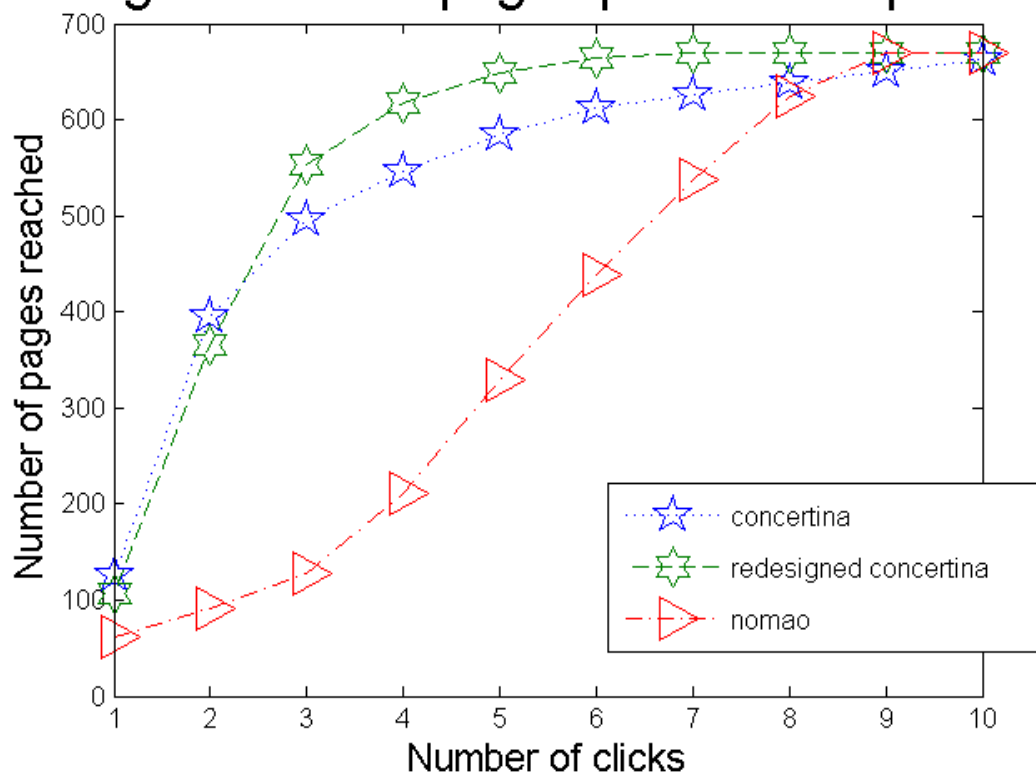
Atteignabilité des pages pour 17824 produits



Computing depth reachability for 15390 product list at the following url :
'<http://www.cdiscount.com/maison/achat-meuble-literie/le-coin-des-marg>

Number of pages to paginate : 669

Atteignabilité des pages pour 15390 produits



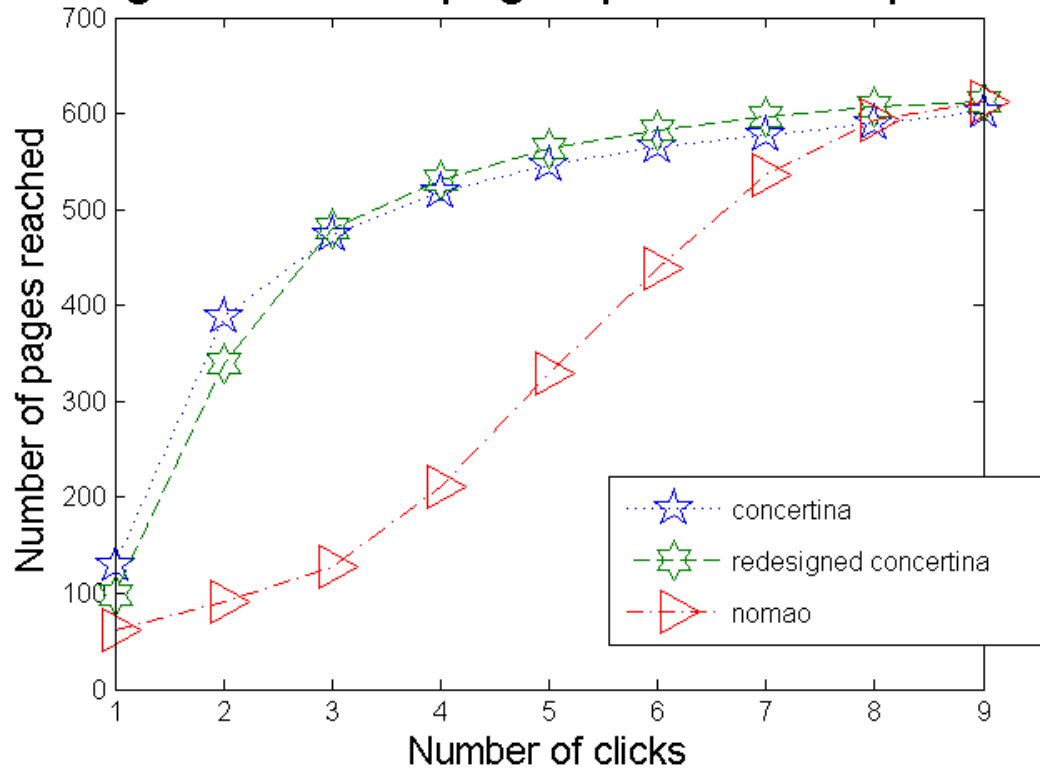
Comparing pagination efficiency in term of depth for different methodologies : Concertina, re-

Computing depth designed Concertina & Normal 14070 product list at the following url :

'<http://www.cdiscount.com/informatique/cables-connectiques/cable-resea>

Number of pages to paginate : 612

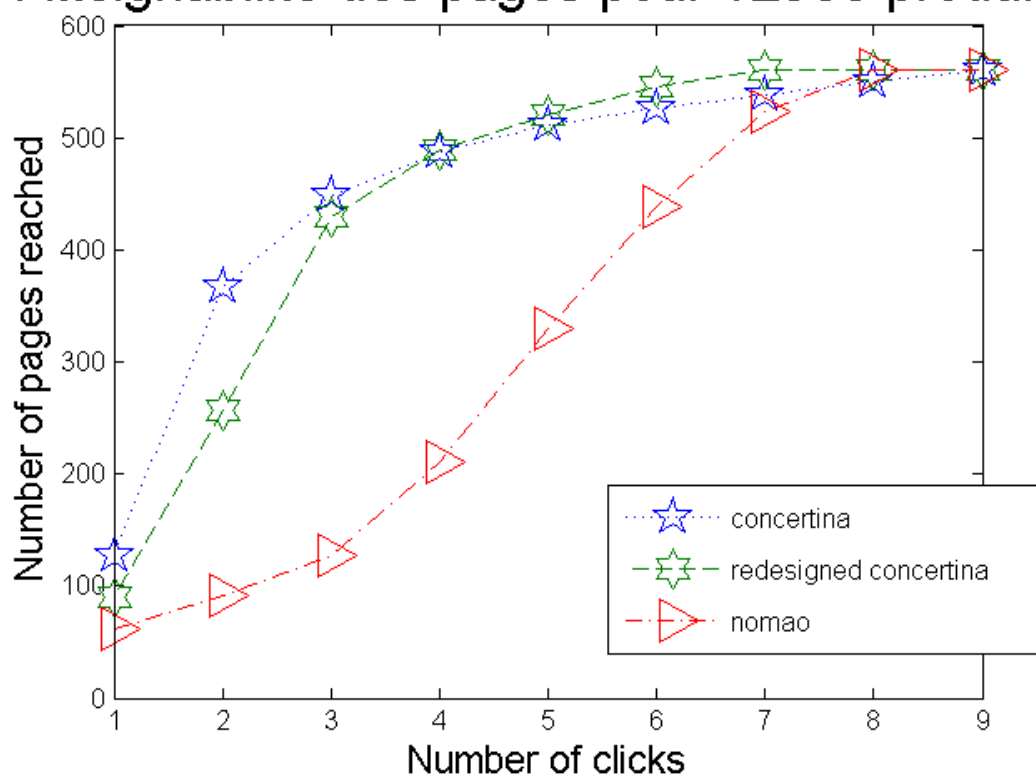
Atteignabilité des pages pour 14070 produits



Computing depth reachability for 12905 product list at the following url :
'<http://www.cdiscount.com/telephonie/accessoires-portable-gsm/accessoi>

Number of pages to paginate : 561

Atteignabilité des pages pour 12905 produits



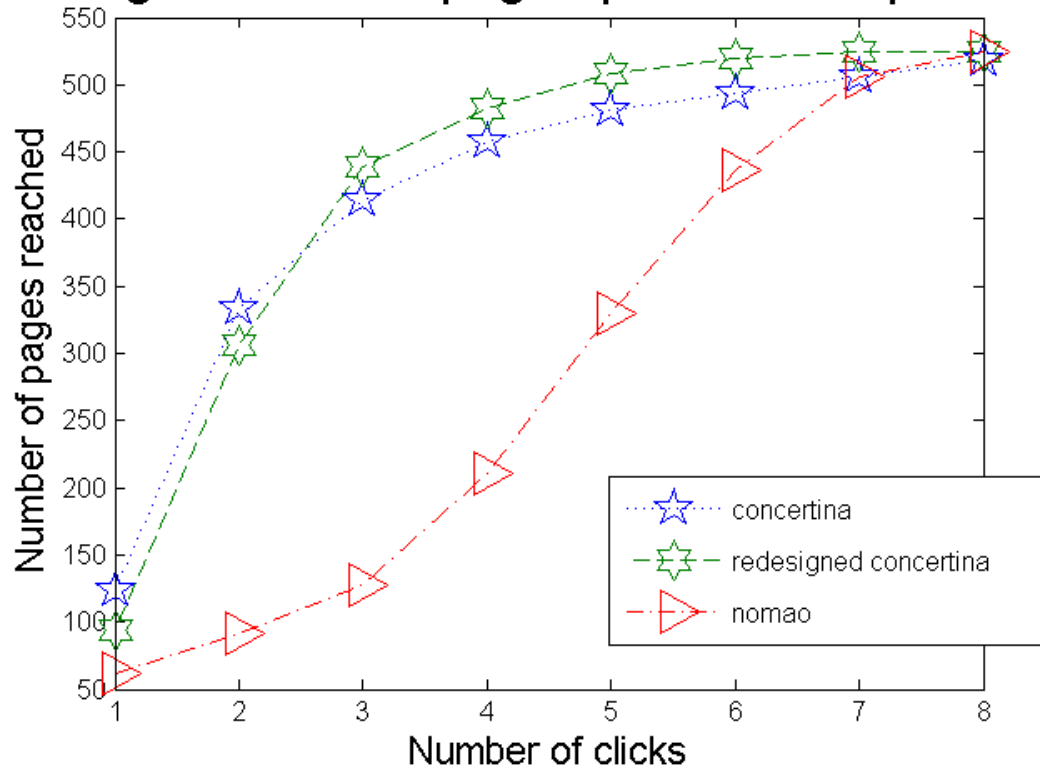
Comparing pagination efficiency
in term of depth for different
methodologies : Concertina, re-

Computing depth designed Concertina & Normal 12059 product list at the following url :

'<http://www.cdiscount.com/livres-bd/livres-jeunesse-adolescent/6-9-ans>

Number of pages to paginate : 524

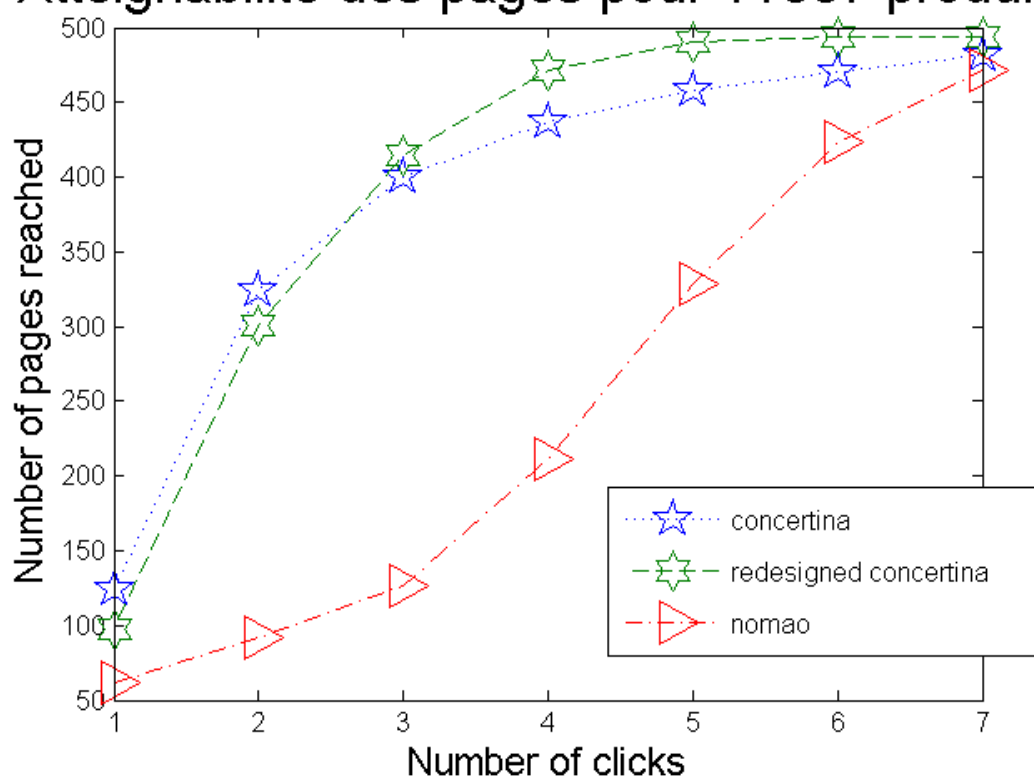
Atteignabilité des pages pour 12059 produits



Computing depth reachability for 11357 product list at the following url :
'<http://www.cdiscount.com/informatique/accessoires-tablettes-tactiles/>

Number of pages to paginate : 494

Atteignabilité des pages pour 11357 produits



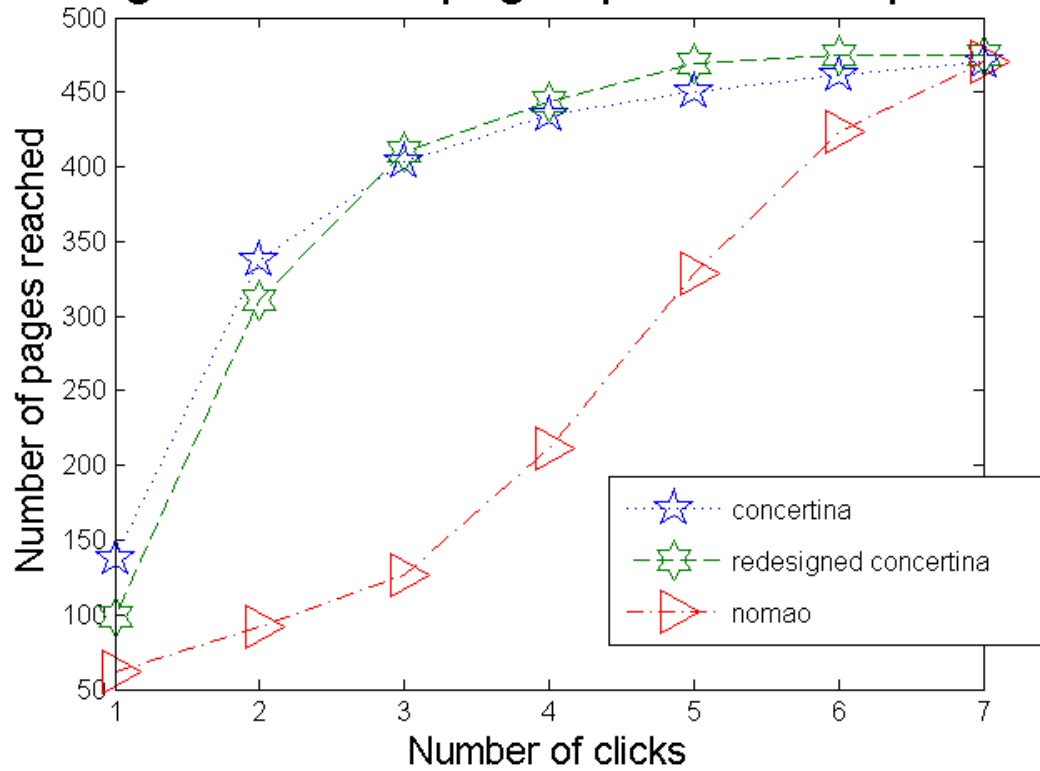
Comparing pagination efficiency in term of depth for different methodologies : Concertina, re-

Computing depth designed Concertina & Nomao10925 product list at the following url :

'<http://www.cdiscount.com/livres-bd/livres-poches/livre-romans-poche/r>

Number of pages to paginate : 475

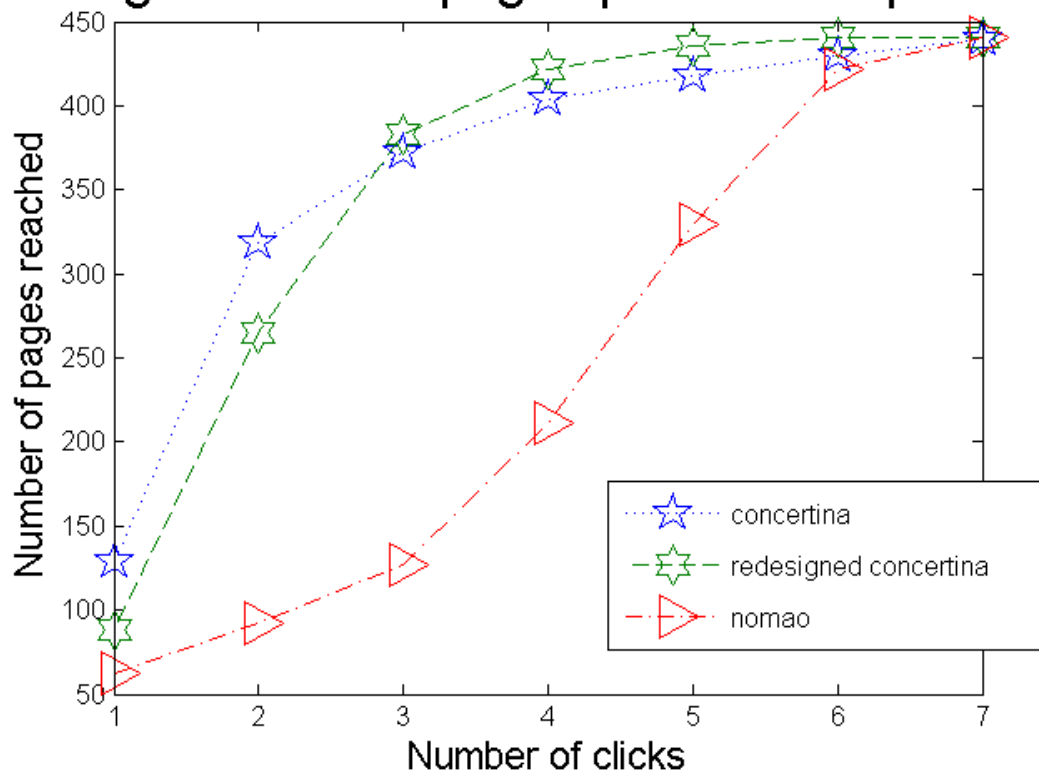
Atteignabilité des pages pour 10925 produits



Computing depth reachability for 10148 product list at the following url :
'<http://www.cdiscount.com/maison/bricolage-outillage/securite/toute-l->

Number of pages to paginate : 441

Atteignabilité des pages pour 10148 produits



`end`

Saving the results

```
save('global_results.mat');
```

Published with MATLAB® R2014a