

The Improvement of Web Page Ranking on SERPs

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Abstract—We can easily and quickly use search engines to find what we want. However, search engines tend to place ads or irrelevant web pages in obvious web pages based on business considerations. This result causes the user really need the information is ranked behind them. In addition, for new content providers, their content often be underestimated by search engines and placed it on unobtrusive web pages. In general, to increase the rank of a particular web page to the previous one in search results, the main factors are paid ads, web page click rate and web page with important keywords. Therefore, this study is based on the development of network technology and software functions to improve the ranking of search results on a specific web page.

I. INTRODUCTION

According to the referred paper [1], it discusses about the factors of search engine optimization that includes click rate, visibility, keywords, page title relevance, and link o reliability. Therefore, this study will improve the ranking of web search results based on keywords and click rate. The proposed system mainly includes two main functions: Web Page Crawler (WPC) and Automatic Distributed Random Web Page Auto-click (ADRWPA). The former (WPC) is used to download the content of a particular hot web page and perform keyword statistics to provide administrators with a reference to modify the web page. The latter is the use of network technology to enhance the click rate of the specified web page. This function is automated and decentralized to meet search engine impact factors. In addition, the system also provides web interface to users and system administrators. For the user, the interface may set the goal to be achieved, including a specific webpage, clicks and click intervals, and may check the completion progress. For system administrators, they can monitor and operate the needs set by each user and confirm whether the user-defined goals are met. Note that the web interface designed with Responsive web design (RWD) that makes web pages render well on a variety of devices and window or screen sizes.

II. RESEARCH MOTIVATION

Web search engine can easily and quickly find the information you need daily. Note that the web search engine designed to search for information on the World Wide Web. The search results are generally presented in a line of results often referred to as search engine results pages (SERPs). For web content providers, it is important to be able to easily find the content on a large number of web pages. Obviously, based on commercial considerations, specific web pages can be placed directly on the first page of the SERPs for payment. This situation is not good for users and content providers. Therefore, we have to study how to make the specific web

pages can be placed in front of the SERPs without payment.

III. RESEARCH METHODS AND STEPS

The proposed system architecture shown in Fig. 1. The system has two main functions, namely, WPC and ADRWPA. The former mainly retrieves popular web content from the Internet and retrieves popular keywords from search engines. All retrieved information is stored in a database (MySQL [2]) and analyzed for content to get the keywords for popular web content. These keywords shown in descending order of their appearance to provide the user as a reference to modify the content of the web page. The latter is mainly for a specific web page in a limited period time to increase the click rate. This function will be executed automatically until the set conditions are met. The source IP address of the click process will be set in random to avoid the result of click invalid. This is because a large number of clicks on a single IP address that would be considered a cyberattack and thus blocked by the firewall. Finally, the system provides a web-based user interface on the server for user and system administrator.

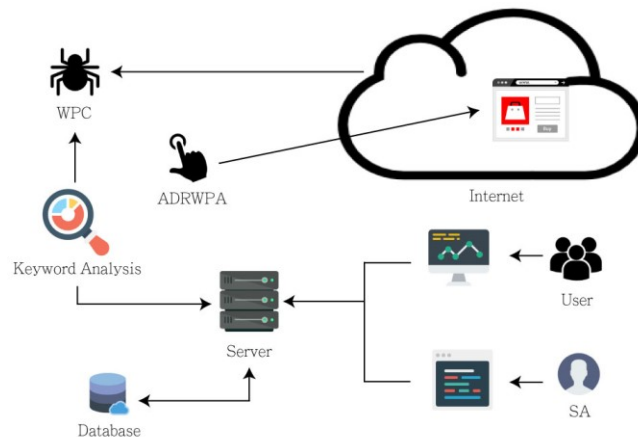


Figure 1. System Architecture

A. System Process

The operation process of the proposed system as shown in Fig. 2 and the process steps listed as follows:

- Step(1) Start the system login web page.
- Step(2) Enter the account, password and login verification code to determine whether the login user or system administrator.
- Step(3) Identity (ID) verification check. If ID is system administrator, then go to Step (4), else go to Step (12).
- Step(4) Present manager's options.
- Step(5) There are three options to be chose: user demand, progress check, and account maintenance. If select

the first, second and third one, it goes to Step (6), Step (10), and Step (11), respectively.

- Step(6) Present the information that requested by the user.
- Step(7) Execute the WPC and ADRWPA process.
- Step(8) Determine whether to achieve the goal of page rankings. If yes, go to Step (9); if no, the system will go to Step (8) and repeat the step.
- Step(9) Whether the manager wants to return to the manager option interface. If yes, go to Step (5); if no, then end the system.
- Step(10) Present the progress of the system that is completed, and the go to Step (9).
- Step(11) View and modify member information. After that, it goes to Step (9).
- Step(12) When the login user is the general user, the user's options showed in this step.
- Step(13) There are four options to be chose: user demand, keyword of google, account maintenance and keyword statistics of user's web pages. If select the first, second, third and fourth one, it goes to Step (14), Step (16), Step (17), and Step (18), respectively.
- Step(14) Present the information that requested by the user. If necessary, the user can modify the relevant parameters. After that, it goes to Step (15).
- Step(15) Return to the user selection interface. If yes, then go to Step (13); if no, then end the system.
- Step(16) Present Google's popular search keywords. After that, it goes to Step (15).
- Step(17) View and modify member information. After that, it goes to Step (15).
- Step(18) Present the keyword statistics of user's webpage. After that, it goes to Step (15).

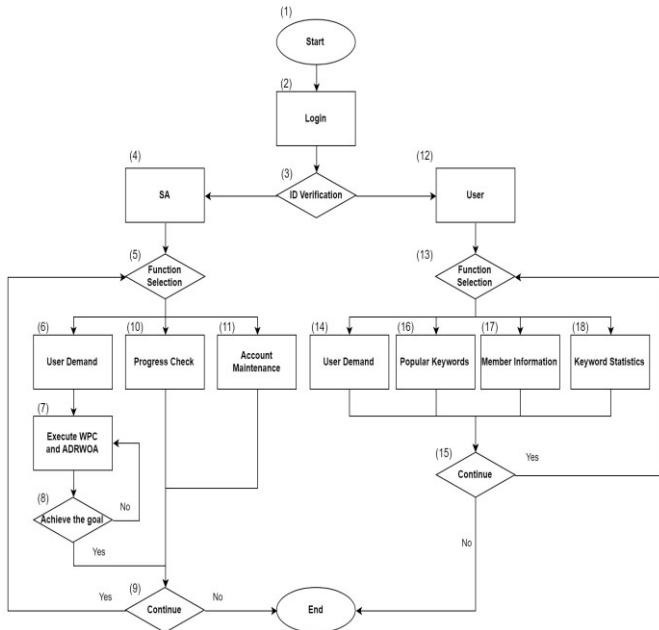


Figure 2. System flow chart

B. The system implementation

As shown in Figure 3, the lower highlighted text shows the rank of "No. 28" in the search results page using the keyword "Taiwan". After 30,000 clicks on the specific web page, the

search for the same keyword is performed again in 5 days, and the result is shown in Fig. 4. The lower highlighted text shows the rank of "No. 21" in the search results page using the keyword "Taiwan"

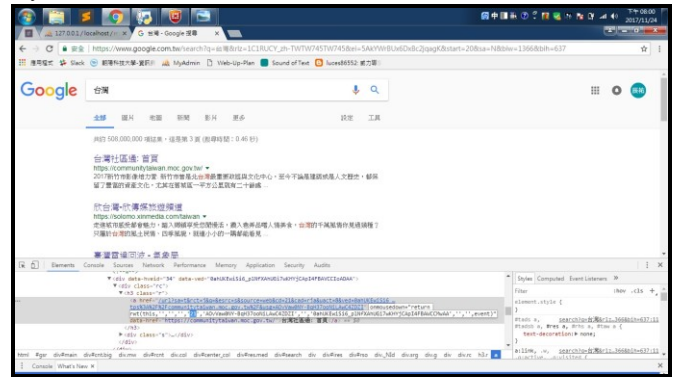


Figure 3. Screenshot for Search Result for Keyword "Taiwan" on Nov. 19, 2017.

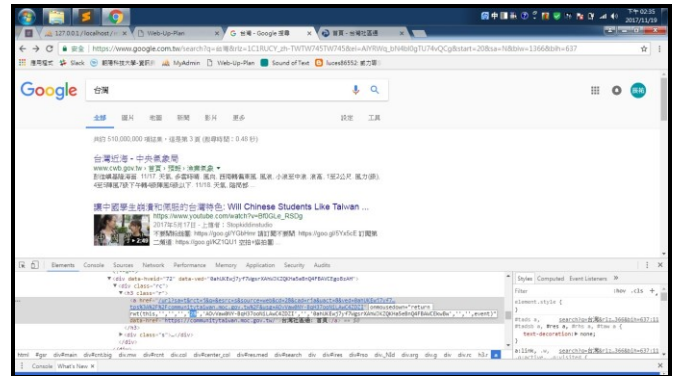


Figure 4. Screenshot for Search Result for Keyword "Taiwan" on Nov. 24, 2017.

IV. CONCLUSION

This study proposes two main functions on the web page rankings: WPC and ADRWPA. The former download the content of a particular popular web page and show the keyword statistic results. The latter increase the click rate of the specific web page automatically, effectively and reliably. According to the practical tests, it shows that the proposed system can effectively improve the ranking of a specific web page.

V. REFERENCES

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