

Technical Disclosure Commons

Defensive Publications Series

January 14, 2019

Automatic extraction and provision of coupon codes for online shopping

Matthew Sharifi

Follow this and additional works at: https://www.tdcommons.org/dpubs_series

Recommended Citation

Sharifi, Matthew, "Automatic extraction and provision of coupon codes for online shopping", Technical Disclosure Commons, (January 14, 2019)
https://www.tdcommons.org/dpubs_series/1883



This work is licensed under a [Creative Commons Attribution 4.0 License](https://creativecommons.org/licenses/by/4.0/).

This Article is brought to you for free and open access by Technical Disclosure Commons. It has been accepted for inclusion in Defensive Publications Series by an authorized administrator of Technical Disclosure Commons.

Automatic extraction and provision of coupon codes for online shopping

ABSTRACT

The disclosure describes techniques to automatically extract coupon codes from email, chat, SMS messages and suggest the use of available coupon codes when a user visits a website or other platform where the coupon codes are valid. Coupon codes are stored in a user account, e.g., on a server, and are synchronized to the user's devices. User visits to shopping websites are detected, e.g., by a browser application, and corresponding coupon information is provided as a suggestion when the shopping website matches an available coupon. Expired coupons are automatically removed. User permission is obtained to extract coupon information and to detect that an accessed website matches an available coupon. Users are provided with options to disable access to messages and/or detection of accessed websites, and to turn off the techniques.

KEYWORDS

- coupon
- discount
- coupon code
- offer
- marketing SMS
- e-commerce
- shopping website
- marketing communication
- browser suggestion

BACKGROUND

When shopping online, users often compare prices across different websites in an attempt to get a good deal. Shopping websites and brands distribute coupon codes via channels such as email, SMS, and chat/messaging platforms. Users can use such coupon codes to obtain discounts and other benefits when making purchases from the corresponding website or buying a product of the particular brand. Many offers and coupons that are sent to a user via email or chat go unseen/ unutilized, e.g., if the user's email client filters out promotional messages, if the user fails to remember that there is a coupon code available for a particular website/ brand when shopping online, etc.

DESCRIPTION

The disclosure describes techniques to automatically extract coupon codes and other shopping-related information from messages received by a user via email or chat platforms and present such extracted information when the user accesses a corresponding shopping website or application. The techniques are implemented with specific user permission. If the user denies permission to access their email or restricts permission to specific messages, only such messages are accessed as permitted by the user. Users are provided with options to turn-off use of automatic coupon extraction. With user permission, the extracted coupon codes are stored on a user account, e.g., maintained on a server and/or a user device. The user device, e.g., a browser application, can suggest the use of coupon codes when user visits a shopping website for which the stored information includes a coupon code. For this purpose, user permission is obtained to match the accessed website with stored information.

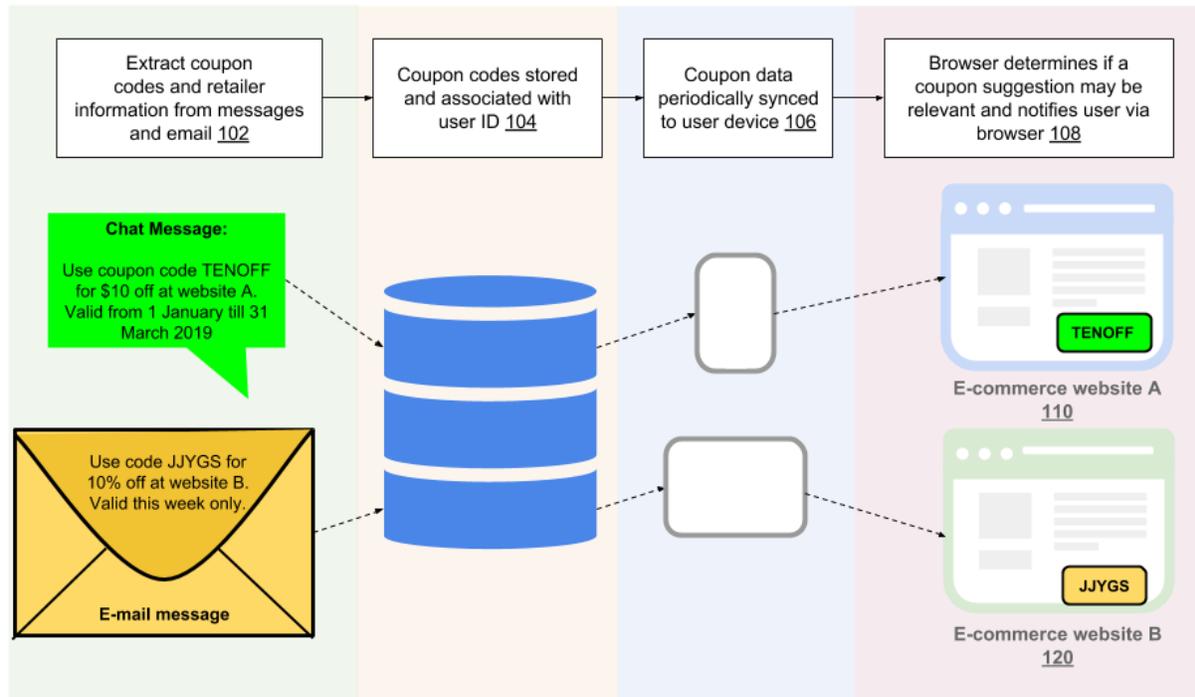


Fig. 1: In-browser suggestions of personal coupon codes

Fig. 1 illustrates an example process for a browser application to proactively suggest using coupon codes received by a user, implemented with user permission. Email and chat messages received and permitted for access by a user are automatically analyzed to identify a coupon code and other related information, e.g., a start date, an end date or duration of the coupon, value of discount, etc. (102). Two examples of coupon codes (“Use coupon code TENOFF for \$10 off at website A. Valid till 31 March 2019” and “Use code JJYGS for 10% off at website B. Valid this week only”) are shown in Fig. 1, received via chat and email respectively.

Automatic analysis can be performed using a machine-learning model, e.g., a neural network trained to identify and extract such information. Other suitable pattern recognition techniques can also be utilized. The content of the accessed messages, including text and formatting information, is provided as an input to the extractor. The extractor identifies

information, e.g., {code, start_date, end_date} for coupons in the messages, e.g., {TENOFF, 1-January-2019, 31-March-2019} for the first coupon of Fig. 1. The extracted information also include brand or retailer information. Extraction of such information is based on, e.g., the sender domain name and the domain names of outbound links in the messages.

Once the coupons are extracted from email and messages, the extract information is stored in a user account of the user (104). When coupon data is stored on a server, such data is periodically synchronized with a user device of the user, e.g., a smartphone, computer, wearable device, etc. (106).

When the user engages in shopping activity using the user device, e.g., visits a shopping website via a browser, the browser matches the website with the stored coupon data to determine whether a coupon stored on the server is likely usable at the website. Matching can include, e.g., a comparison of the domain name of the visited website with the domain names of available coupons. If a matching coupon is available, e.g., is valid for use on the website, the browser displays a notification (108). For example, the notifications include coupon codes valid at the website, e.g., “TENOFF,” “JJYGS,” as shown in Fig. 1

For example, with user permission, the webpage is analyzed to detect a checkout page or a field where a coupon code can be entered. When such a page or field detected, a more prominent notification can be shown to suggest that the user avail the identified coupon. When coupons expire, the stored information for the coupon is deleted from the user account.

The described techniques can be implemented as part of an email or messaging service/application (e.g., a cloud-based email or messaging account), a device operating system (e.g., a mobile OS for a phone that receives SMS coupons), a browser application, and/or a shopping application.

Further to the descriptions above, a user may be provided with controls allowing the user to make an election as to both if and when systems, programs or features described herein may enable collection of user information (e.g., information about a user's social network, social actions or activities, profession, a user's preferences, or a user's current location), and if the user is sent content or communications from a server. In addition, certain data may be treated in one or more ways before it is stored or used, so that personally identifiable information is removed. For example, a user's identity may be treated so that no personally identifiable information can be determined for the user, or a user's geographic location may be generalized where location information is obtained (such as to a city, ZIP code, or state level), so that a particular location of a user cannot be determined. Thus, the user may have control over what information is collected about the user, how that information is used, and what information is provided to the user.

CONCLUSION

The disclosure described a technique to automatically extract coupon codes from a user's email or messages when permitted by the user and suggest the use of coupon codes as the relevant e-commerce website is visited, detected with user permission. Extracted coupon codes will be stored on a server and synced to the user's device and proactively suggest the use of personal coupon codes. This technique can effectively utilize the coupon codes that are sent and cut costs for consumers.