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Dhandapani Shanmugam

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Automatic Extraction and Application of Offer Codes from Promotional Messages

ABSTRACT

Retailers often send customers offer codes for various promotions such as price discounts, free shipping, etc. Customers can avail of the promotional offer by providing the codes when purchasing the corresponding products or services from the retailer. It is not uncommon for customers to overlook the offer codes or forget to provide them during purchase. This disclosure describes techniques, implemented with user permission, to automatically detect promotional messages, extract and save offer codes, and present the offer codes during purchase. The techniques can be implemented within any suitable combination of messaging, web browsing, shopping, and payment applications, and on any device. The techniques can help users save money and shop more efficiently, thus enhancing the user experience (UX) of shopping and payment applications.

KEYWORDS

- Promotional message
- Offer code
- Discount code
- Coupon
- Retailer promotion
- Payment application
- Message parsing
- Online shopping
- Shopping app

BACKGROUND

Retailers often send customers offer codes for various promotions such as price discounts, free shipping, etc. Customers can avail of the promotional offer by providing the codes when purchasing the corresponding products or services from the retailer. Such codes can be delivered via a variety of mechanisms, such as paper coupons sent by physical mail, marketing messages delivered by email, text messages sent to mobile phone numbers, advertisements on web pages, social media, and messaging apps, etc. It is not uncommon for customers to perceive such communication as spam and overlook the promotional codes. Even when customers note a relevant offer code of interest, they may forget to provide it at the time of purchase. Web browsers, shopping apps, digital payment apps, or other commonly used software does not currently include functionality to remind users to provide relevant coupon codes when making purchases.

DESCRIPTION

This disclosure describes techniques that help users avoid overlooking promotional offers of relevance and/or forgetting to provide the offer codes at the right time when making a purchase. With appropriate user permission, communication that contains promotional offers sent via any pertinent channels, such as email, text messages, notifications, etc. are detected. The communication can be parsed to extract and save the offer codes. At a later time, when the user proceeds to pay for products/services covered by a saved offer code, the user can be reminded to provide the relevant code to the retailer prior to the payment. In the case of online shopping, the relevant codes can be entered automatically at the appropriate step during the checkout process.

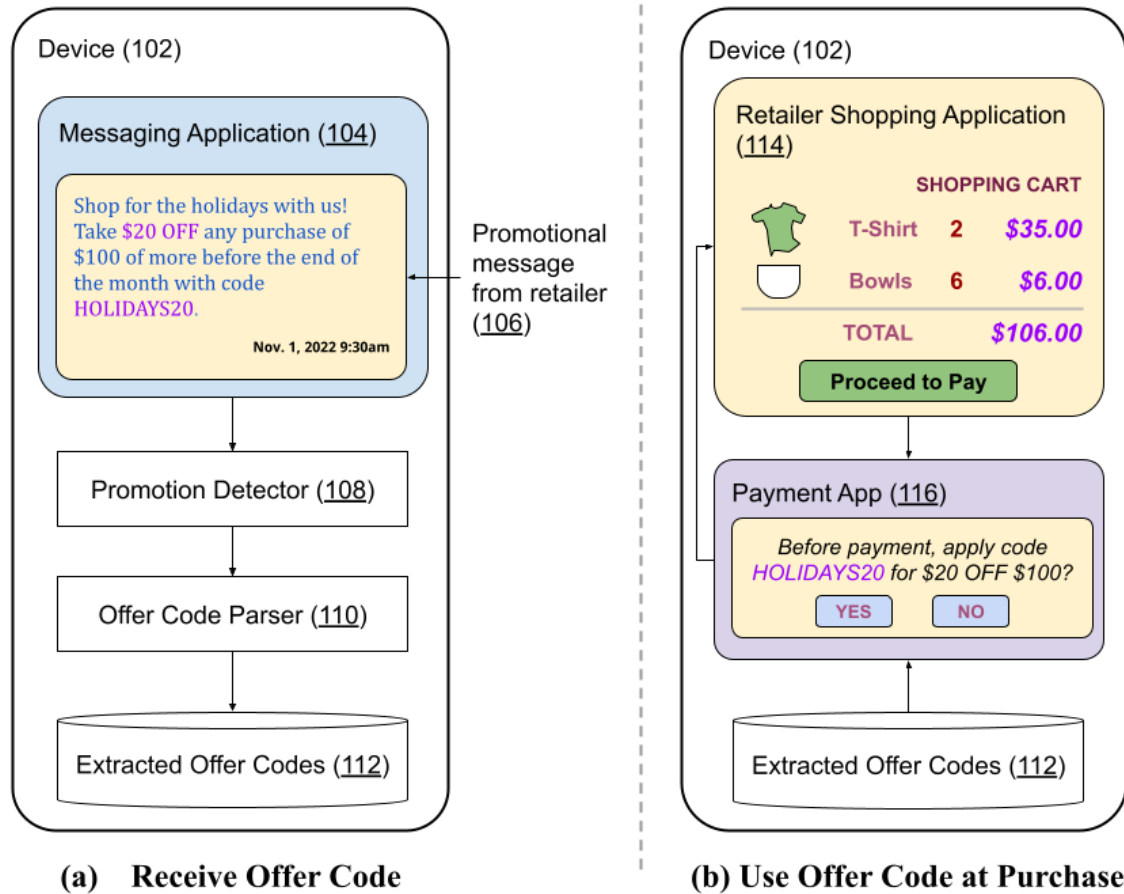


Fig. 1: Extracting incoming promotional offers code and applying them at purchase time

Fig. 1 shows an example of operational implementation of the techniques described in this disclosure. As shown in Fig. 1(a), a user receives a promotional message (106) from a retailer via a messaging application (104) on a device (102). With user permission, the message is detected as a promotion by a promotion detector module (108). The message is parsed (110) to extract the offer code for the promotion along with relevant metadata, such as the retailer name, expiration date, applicable products and services, etc. The extracted offer code is stored for later use.

The techniques are applicable to promotional messages received via various channels such as text messages, messages received via messaging apps, email messages, advertisements

on a website or in an app, etc. Also, the extracted offer code may be made available to the user on other devices, e.g., a code received and extracted on a smartphone may be made available when the user is shopping using their laptop computer.

Fig. 1(b) shows the user using the device (102) at a later time to shop for products via a shopping application (or website) (114) of the retailer. When the user proceeds to pay for the items in the shopping cart, e.g., via a payment application (116), the user is shown the previously saved offer code that is applicable to the order. Upon confirmation that the user wishes to provide the offer code for the order, the offer code is provided to the retailer and the payment for the amount due after applying the code can be completed as usual.

With user permission, promotion detection and offer code parsing as described above can be performed via any suitable technique, such as the application of a suitably trained machine learning model. The user-permitted techniques can be implemented within shopping and/or payment applications, as a standalone application or service on the device, or via a suitable mechanism such as an application programming interface (API). The content of incoming communication from retailers can be accessed with user permission for processing via the models using suitable mechanisms, such as subscriptions, listeners, OS notifications, etc.

If the user permits, the extracted offer codes and relevant metadata can be stored at any suitable location, such as within shopping or payment applications, on a cloud platform, etc. Offer codes can be automatically deleted from storage upon expiry.

In addition to presenting the offer code within the payment app prior to payment as shown in Fig 1(b), the operation can be implemented in various other ways, such as: showing a notification pop-up on the device prior to proceeding to the payment, automatically providing relevant codes without user intervention at appropriate times within the purchase task flow, etc.

For instance, if the user is shopping in person at a physical store location of the retailer, a notification can be shown at an appropriate time, e.g., when the user enters the store, when the user is at the cashier's desk, etc.

The techniques described in this disclosure can be implemented within any suitable combination of messaging, web browsing, shopping, and payment applications, and on any device. Implementation of the techniques can help users avoid overlooking relevant promotional offers and forgetting to provide the appropriate offer codes at the time of making a purchase. Moreover, in the case of online shopping, the operations can be automated to save users the time and effort of manually entering or confirming offer codes. As a result, the described techniques can help users save money and shop efficiently, thus enhancing the user experience (UX) of shopping and/or payment applications.

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 messages, device applications, social actions or shopping activities, 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

This disclosure describes techniques, implemented with user permission, to automatically detect promotional messages, extract and save offer codes, and present the offer codes during purchase. The techniques can be implemented within any suitable combination of messaging, web browsing, shopping, and payment applications, and on any device. The techniques can help users save money and shop more efficiently, thus enhancing the user experience (UX) of shopping and payment applications.