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Multifactor technique to bookmark and shop items from a screenshot

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Multifactor technique to bookmark and shop items from a screenshot

ABSTRACT

Users often take screenshots or photos of items that they like, with the intent to further review and/or purchase those items at a later time. This disclosure utilizes computer vision techniques to parse a screenshot, e.g., to identify image content. Metadata associated with the screenshot is also determined. The information thus obtained is utilized to enable a user to continue shopping at a later time by starting from the screenshot. A deep link to the identified item from a particular vendor, price information, similar styles, other stores that sell the item, etc. are determined and are presented in a user interface.

KEYWORDS

- Screenshot
- Online shopping
- Image-based shopping
- Product identification
- Price comparison
- Product recommendation
- Style comparison

BACKGROUND

Users often take screenshots or photos of items that they like, with the intent to further review and/or purchase those items at a later time. For example, such items can include apparel or other items. To resume shopping from a screenshot, the user needs to recreate the previous state by viewing the screenshot, and parsing the information in the screenshot, e.g., to identify a link to an online store where the item was viewed, e.g., by the user or another user that took the

screenshot. In some instances, as online stores change, it is possible that the item that corresponds to the screenshot is no longer available or becomes out of stock.

Some social media platforms provide features that enable users to shop from posts created by sellers. For example, such posts may be displayed as advertisements. However, this setup works for only for posts that are tagged manually by the vendor. Users need to visit the seller website to obtain more information regarding product availability or to perform a price comparison with alternate seller. While the social media platform can select and show similar products from other vendors, information such as product availability is not included in such platforms. Further, such platforms do not enable users to narrow down search results based on preferences such as size, color, brand, etc. for which the user needs to visit the seller’s website.

DESCRIPTION

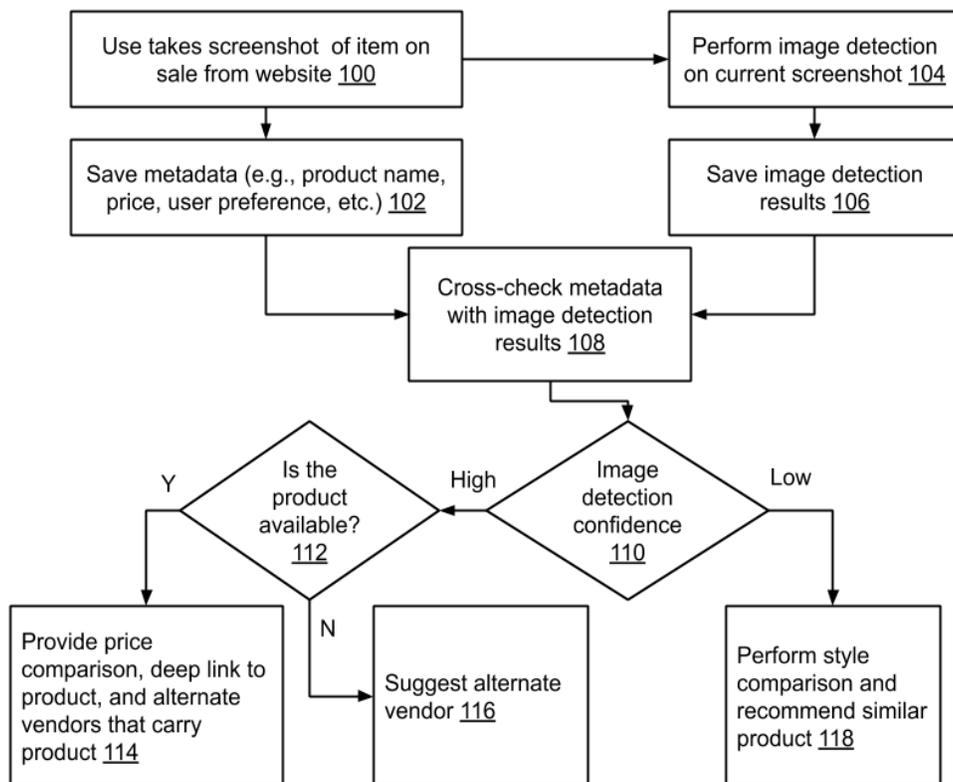


Fig. 1: Screenshot-enabled shopping

Fig. 1 illustrates an example process for screenshot-enabled shopping, per techniques of this disclosure. A user takes a screenshot of an item on sale on a shopping website or social media platform, etc. (100). For example, the user may select a particular item and then take a screenshot. The website that lists the item may use cascading style sheets (CSS) for different parts of the site. Metadata can be extracted from the website, including the CSS, and be saved (102) with reference to the screenshot. The metadata can include, e.g., product name, price, user preference, etc. In addition to saving metadata, the screenshot is analyzed (104), e.g., using machine vision techniques to detect items within the screenshot. The results of the image analysis are also saved (106). The metadata obtained from image analysis of the screenshot and from the website can be cross-checked (108) for validation.

At a later time, when the user (or another user) accesses the screenshot, it is determined whether the cross-check resulted in item detection that meets a threshold confidence level (110). If the confidence is high, the corresponding source website (or social media platform), e.g., identified from the screenshot and/or metadata is accessed (112). If the item on sale is available, the user that is viewing the screenshot is provided with information such price (and comparison with price of that item at other website), deep link to the website (e.g., that takes the user directly to the product-specific webpage or ordering webpage), and links to alternate vendors that carry the product (114). If the item is unavailable or out of stock, alternate vendors are suggested (116). If the confidence is low, style comparison of the item depicted in the screenshot is performed to identify similar items on sale that are then provided to the user (118).

Fig. 2 illustrates an example user interface with different alternatives for screenshot-enabled shopping. A screenshot of an item (202) is analyzed, e.g., as described above with reference to Fig. 1.

As illustrated in Fig. 2A, when there is a match found for the product depicted in the screenshot, a deep link is provided to the product (204) on the website from which the screenshot was captured. Further, a price comparison is provided for the item, listing prices from alternate vendors that carry the item (206) are suggested.

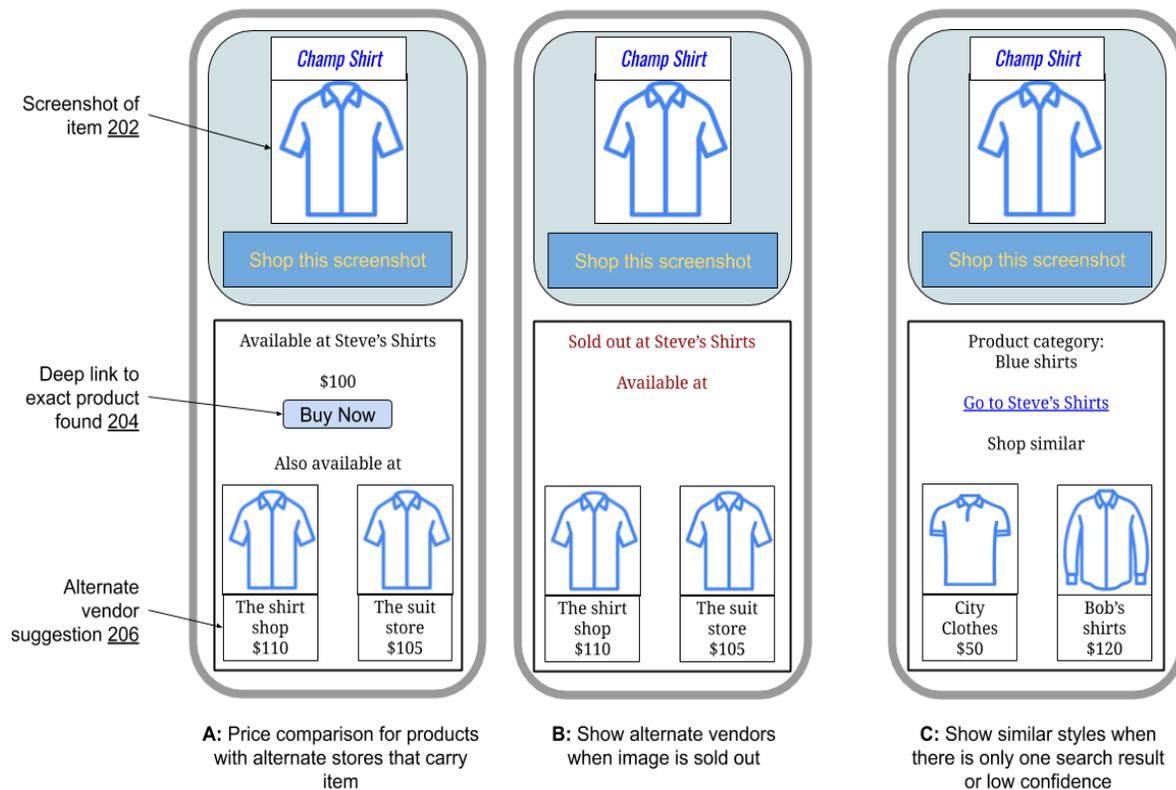


Fig. 2: Screenshot-enabled shopping: user interface showing different alternatives

When the detection confidence is high but the item is sold out at the store identified by the screenshot, alternate vendors that stock the same item are shown, as illustrated in Fig. 2B. If the image detection confidence is low or if the screenshot matches a single search result for the item, similar items are suggested to the user, as illustrated in Fig. 2C.

The described techniques can be used for image-based shopping from any screenshot. The techniques can be implemented as part of an operating system or browser, or within an application. The starting point can be a screenshot, or the content of a displayed user interface.

Searches for items can be performed across multiple shopping platforms based on image matching when there is no metadata associated with the screenshot. For example, an existing photo stored on a user device or obtained from a camera feed can be used. No manual tagging of product is necessary. The techniques enable users to directly and quickly access information such as availability, source, price, etc. without prior knowledge of the item in an image.

Price comparison mode

While certain categories such as apparel, furniture, etc. benefit from display of similar items in the absence of exact match, other categories such as skincare products, electronics, etc. may be categories where finding a good price is more valuable, e.g., when the exact match may already be known or the products are undifferentiated. For these categories, the screenshot and metadata can be used to provide a price comparison for the price of item for the website or application from where the screenshot was taken and other sellers that sell the item.

CONCLUSION

Users often take screenshots or photos of items that they like, with the intent to further review and/or purchase those items at a later time. This disclosure utilizes computer vision techniques to parse a screenshot, e.g., to identify image content. Metadata associated with the screenshot is also determined. The information thus obtained is utilized to enable a user to continue shopping at a later time by starting from the screenshot. A deep link to the identified item from a particular vendor, price information, similar styles, other stores that sell the item, etc. are determined and are presented in a user interface.

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