

# Technical Disclosure Commons

---

Defensive Publications Series

---

November 2019

## Dynamically generated and targeted augmented reality shopping campaigns

Aiko Nakano

Diane Wang

Max Spear

Follow this and additional works at: [https://www.tdcommons.org/dpubs\\_series](https://www.tdcommons.org/dpubs_series)

---

### Recommended Citation

Nakano, Aiko; Wang, Diane; and Spear, Max, "Dynamically generated and targeted augmented reality shopping campaigns", Technical Disclosure Commons, (November 01, 2019)

[https://www.tdcommons.org/dpubs\\_series/2636](https://www.tdcommons.org/dpubs_series/2636)



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.

## **Dynamically generated and targeted augmented reality shopping campaigns**

### **ABSTRACT**

In augmented reality (AR) shopping, a user points a mobile device camera at a specially-designed poster (or other object) and receives information or shopping deals. Today, AR shopping content, e.g., QR-code-based AR or time-triggered ad filters, is largely templated, static, and one-to-one between a specific target and a specific result. A gap exists between users looking at an ad and actually making a purchase. This disclosure describes techniques that enable a suite of dynamically generated and targeted AR shopping campaigns that directly link to products based on inventory conditions. Facility is provided for contextual deals, e.g., location-specific, time-based, and/or chance-based offers.

### **KEYWORDS**

- Augmented reality (AR)
- AR shopping
- Shopping campaign
- Dynamic AR

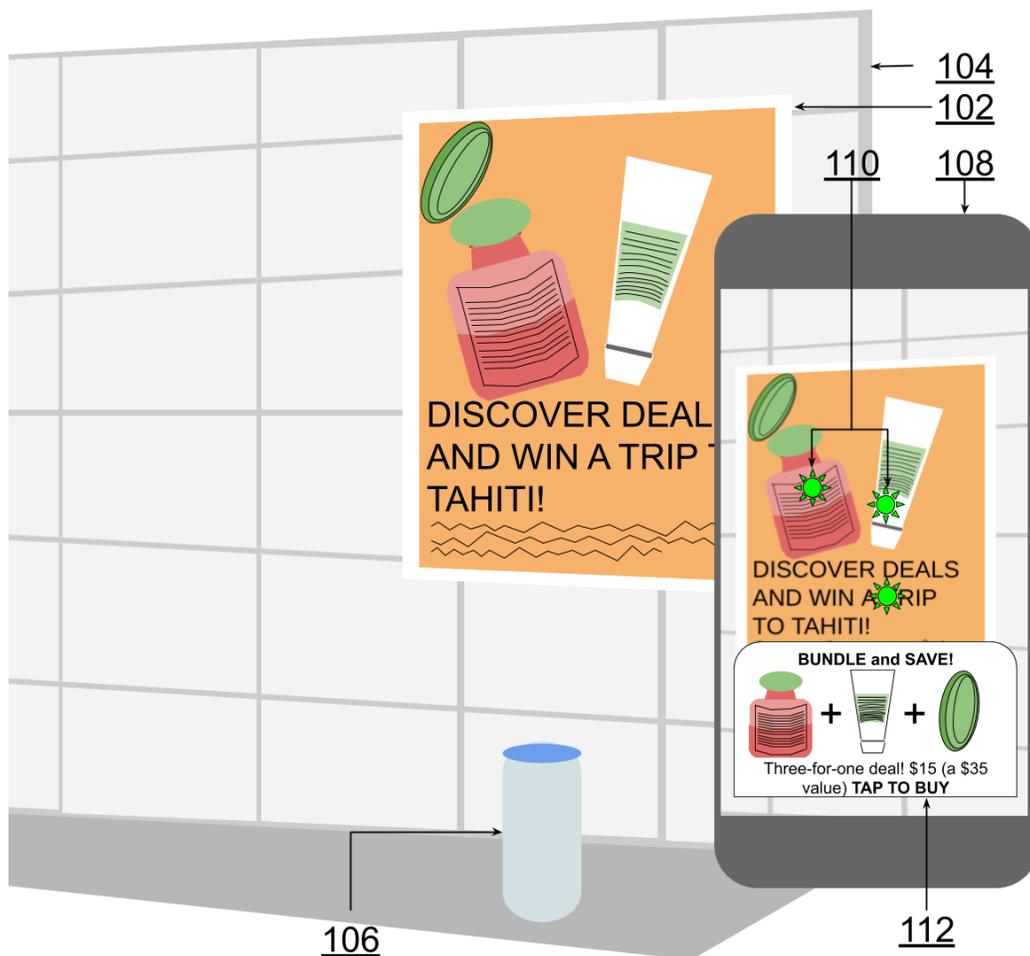
### **BACKGROUND**

In augmented reality (AR) shopping, a user points a mobile device camera at a specially-designed poster (or other object) and receives information or shopping deals. Today, AR shopping content, e.g., QR-code-based AR or time-triggered ad filters, is largely templated, static, and one-to-one between a specific target and a specific result. The existing AR-shopping techniques restrict creators in the type of content they can create to engage users. These techniques simply surface a series of advertising assets and do not build on or integrate into a full

shopping experience. A gap exists between users looking at an ad and actually making a purchase.

In the shopping context, current use cases are limited to linking an advertising asset to a physical target or a static asset. Although this is a reasonable first step, AR has considerable untapped potential in enabling dynamic content and engaging users throughout their entire shopping journey.

### DESCRIPTION



**Fig. 1: Augmented reality shopping campaign**

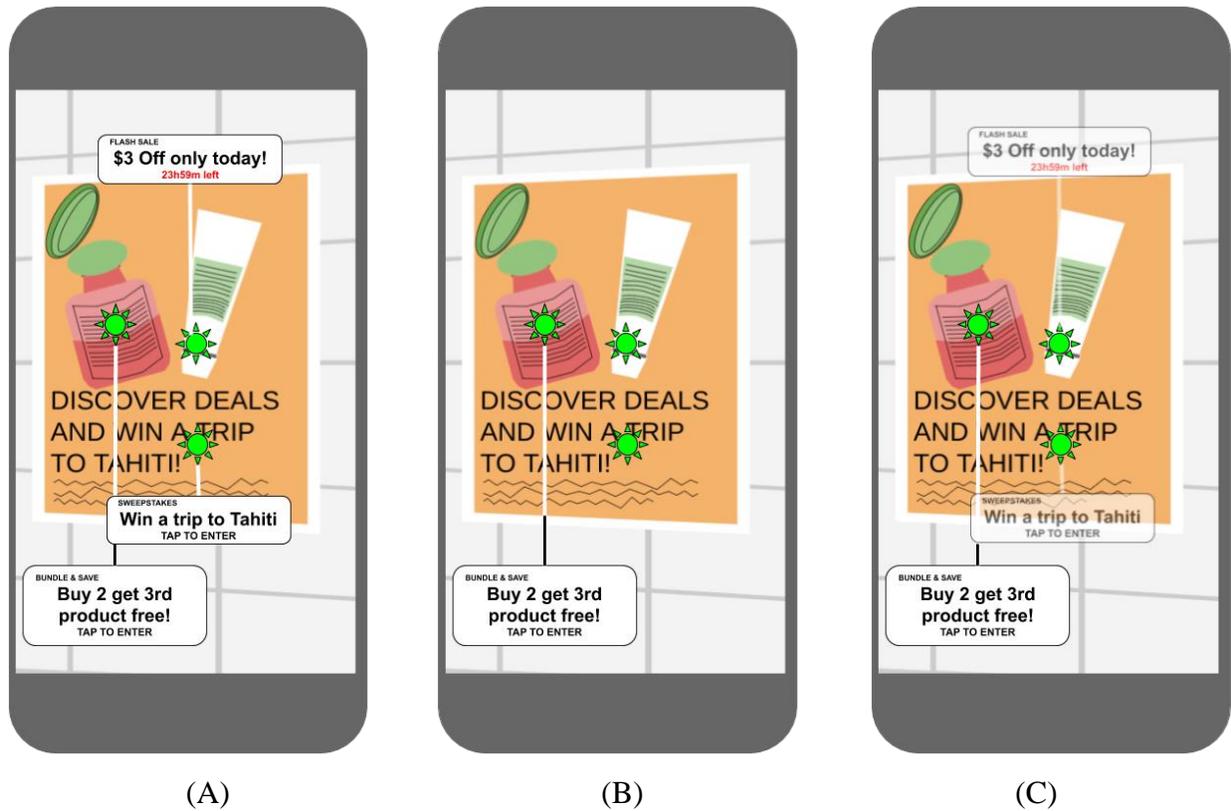
Fig. 1 illustrates an example of a dynamically generated and targeted AR shopping campaign, per the techniques of this disclosure. Advertising assets are created, e.g., in the form of physical posters (102) stuck on a wall (104), products, or objects (106). Hereinafter, the advertising asset is referred to as a poster, with the understanding that it could be any AR-tagged object such as a physical or digital poster, product, or object.

A user points a mobile-device (108) or other camera at the poster. Image recognition techniques are utilized that recognize the ad and the objects therein, and enable the user's AR-based shopping experience. Virtual objects (110) known as gleams are displayed on the screen at locations that correspond to AR tags on the poster. The gleams link to specific offers in live product inventory that are displayed in a panel (112). The panel that shows the offer can also show product details, reviews, etc. In this manner, the techniques leverage visuals and text on a physical poster to provide a deeper in-store experience.

Per the disclosed techniques, an offer can be contextual, e.g., based on location, time or chance, and can also funnel the visitor to an e-commerce site.

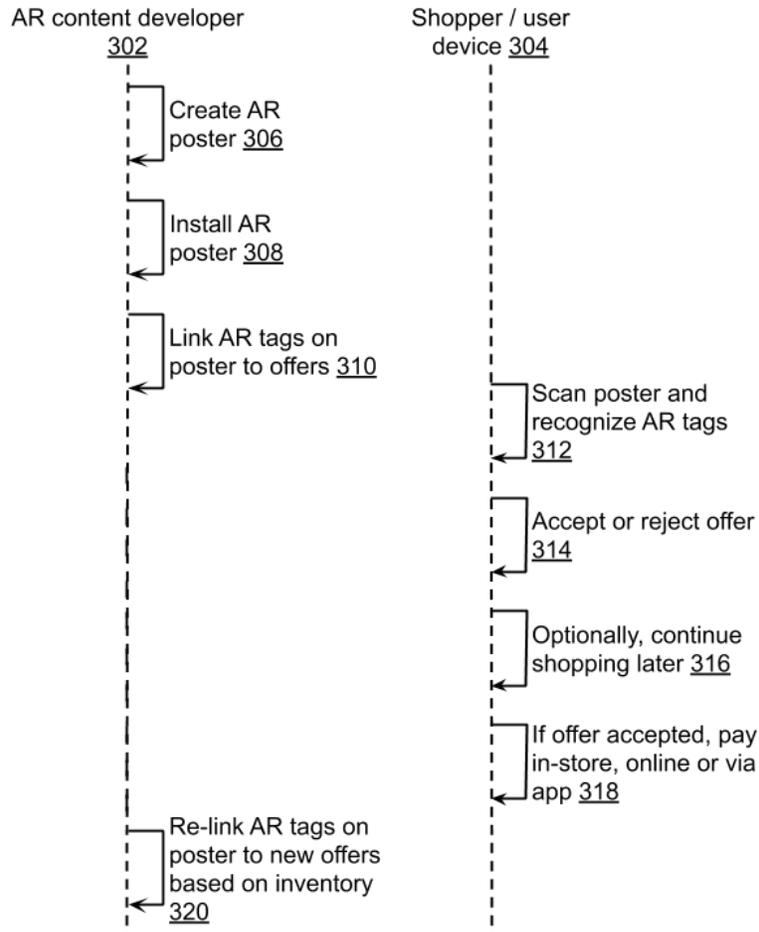
- *Location-based offer*: The offer displayed to the user is based on live retailer (or e-commerce site) inventory data.
- *Time-based offer*: The offer displayed to the user is valid for a certain period of time after the start of the AR experience, e.g., the user is to consummate a purchase within a 24-hour period to avail the offer. A time-based offer is similar to an online coupon that can connect to both physical retail and online stores.
- *Chance-based offer*: The displayed offer is similar to digital sweepstakes, or a randomized deal that is distributed in a real-time manner.

Other types of offers are also possible, e.g., an offer that bundles two or more products or other offers. The offer can include information on inventory levels, e.g., it could include messages such as “available in store,” “out of stock, purchase online,” etc.



**Fig. 2: Various examples of deal/offer user interfaces**

Fig. 2 illustrates various examples of user interfaces for panels that display the deals or offers. In Fig. 2(A), all the offers tied to the poster are displayed simultaneously. In Fig. 2(B), offers are displayed one at a time on a rotating basis. In Fig. 2(C), one offer is brought into focus while the others are displayed with lesser opacity.



**Fig. 3: Workflow for a dynamically generated and targeted AR shopping campaign**

Fig. 3 illustrates an example workflow for a dynamically generated and targeted AR shopping campaign, per techniques of this disclosure. An AR content developer (302) creates physical AR posters (306). Content can be created by the use of templates for different types of deals. Templates can be provided on a developer platform. The physical posters (308) are installed within the region of the campaign. Depending on market and inventory conditions, the AR content developer links AR tags on the posters to specific offers (310), e.g., coupons, deal-ads, etc.

A user, e.g., shopper, (304) scans a poster with a mobile device or other camera (312). The target poster and the objects and AR tags therein are recognized by the use of computer

vision techniques. The offers linked to the poster are displayed on the screen of the mobile device. The user can accept or reject one or more offers (314). An offer can include an AR try-on experience.

The user can optionally postpone the AR shopping experience for later (316). If the user chooses to do so, then during the campaign timeframe the dynamic shopping AR experience picks up from where the user last left off, e.g., timer and sweepstakes results do not refresh if these individual deals had been activated already. If an offer is accepted, the user can pay (318), using in-store, online, or app-payment modes. Depending on updated market and inventory conditions, the AR content developer can re-link the AR tags on posters to new offers (320).

In this manner, a physical poster is leveraged as a target to surface multiple types of deals or offers. Rather than launch a generic search or e-commerce application based on object detection, the techniques of this disclosure link gleams within the AR-tagged poster to specific offers in live inventory. Once the offers are examined by the user, the can be redirected to e-commerce applications. The described techniques apply to store signage, specific products, digital image targets on online stores and social network sites, etc.

When a shopper provides consent to receive personalized information, the techniques can offer to the shopper personalized bundles, time-based deals, and tiered sweepstakes based on their previous orders and/or search history within the brand using user-permitted data from e.g., membership information, loyalty programs, etc.

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

This disclosure describes techniques that enable a suite of dynamically generated and targeted AR shopping campaigns that directly link to products based on inventory conditions. Facility is provided for contextual deals, e.g., location-specific, time-based, and/or chance-based offers.