Technical Disclosure Commons

December 03, 2018

Unbiased review of apps

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ABSTRACT

To obtain favorable ratings for their apps, developers often present rating screens to users who are believed to like the app. Further, to suppress poor ratings, some app-developers neglect to send every rating to the app store. Thus app-ratings are affected by selection bias and by preferential reporting.

This disclosure uses the facility of rewarded ads to present a ratings form to the app user. Both ad and its embedded ratings form are controlled by the app store, such that users are selected with lower statistical bias. Free-form textual reviews can be included such that the app store passes these as feedback to the publisher. Ratings and reviews are reported to the app store regardless of their level or sentiment.

KEYWORDS

Ratings fraud, rewarded ads, ratings-fraud detection, unbiased reviews, unbiased sample selection, non-preferential rating, textual review

BACKGROUND

To obtain favorable ratings for their apps, developers often present ratings screens to users who are believed to like or enjoy the app. For example, in a game-app, ratings forms may be presented only to those users who have shown engagement with the app, e.g., by spending a certain amount of time with the app or by reaching a certain achievement level within the app. Further, to suppress poor ratings, some app-developers neglect to send every rating to the app store. Thus app-ratings are affected by selection bias and by preferential reporting.

DESCRIPTION

Rewarded ads are an ad format that gives users the option to watch an ad in exchange for a reward, e.g., in-game or in-app points. Because the choice of watching the ad rests with the users, they don't have to watch ads they're not interested in, and the ads they do see are played out in full. This disclosure uses the facility of rewarded ads to present a ratings form to app users. Both ad and its embedded ratings form are controlled by the app store, such that reviewing users are selected with lower statistical bias. Ratings and reviews are reported to the app store regardless of their level or sentiment.
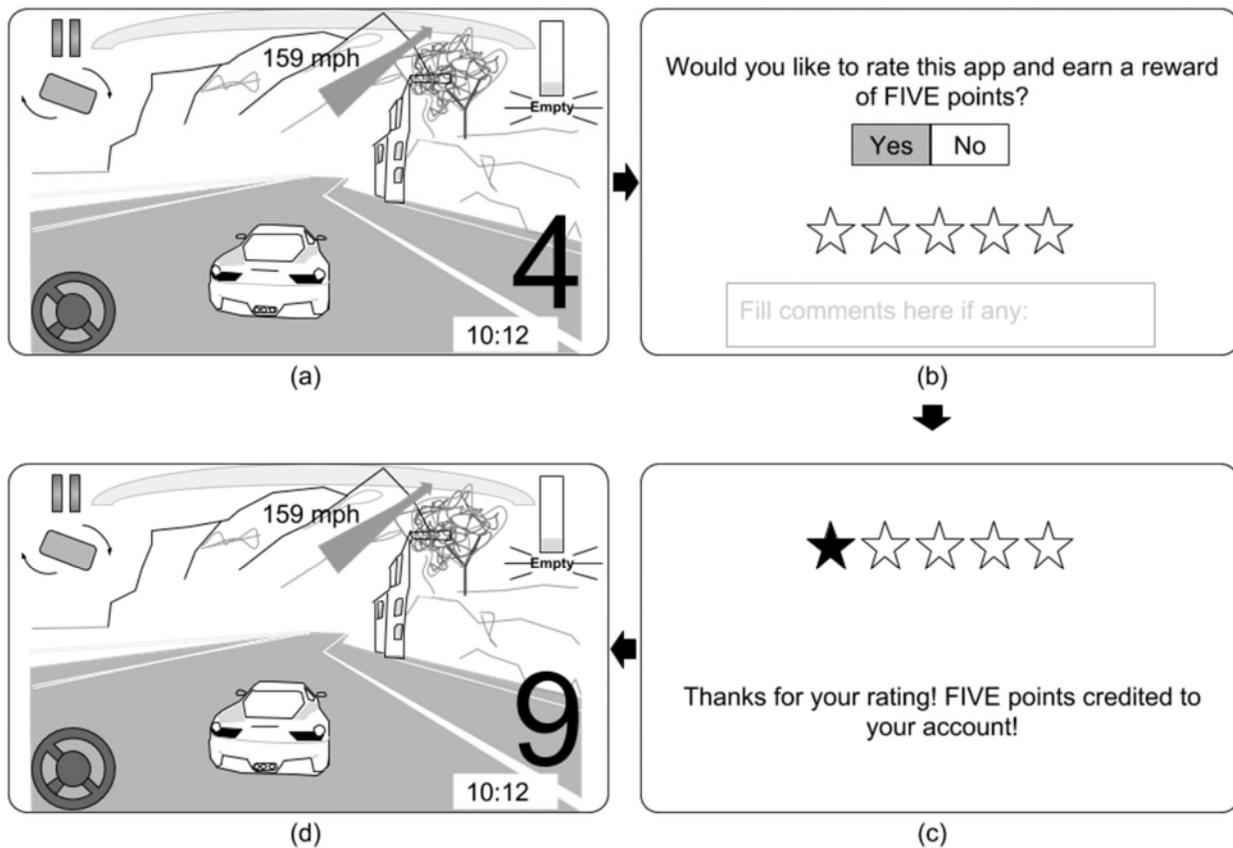

Fig. 1: Interstitial rewarded ad used as a ratings form

Fig. 1 illustrates a rewarded ad used as a ratings form, per techniques of this disclosure. In the example of Fig. 1, the ad is interstitial, e.g., an ad that is displayed at a natural transition point in the flow of an app, such during a pause between levels of a game-app. Fig. 1(a) illustrates the home screen of an app. At a transition point in the flow of the app, an interstitial ad comprising a ratings form is displayed, as illustrated in Fig. 1(b). The ratings form includes an in-app reward offer. So as to prevent selection bias from entering the ratings, the appearance of the ratings form is not predicated on the level of engagement of the user with the app, e.g., the ratings form is displayed to randomly selected users. A space can be provided for textual review, and provision made for additional reward if textual review is completed (or bonus reward for completing both rating and textual review). If the user does choose to rate the app (Fig. 1(c)), the reward is posted to their account regardless of the rating level or sentiment of textual review. The rating and/or textual review entered by the user is transmitted to the app store and the app returns to its home screen and flow (Fig. 1(d)).
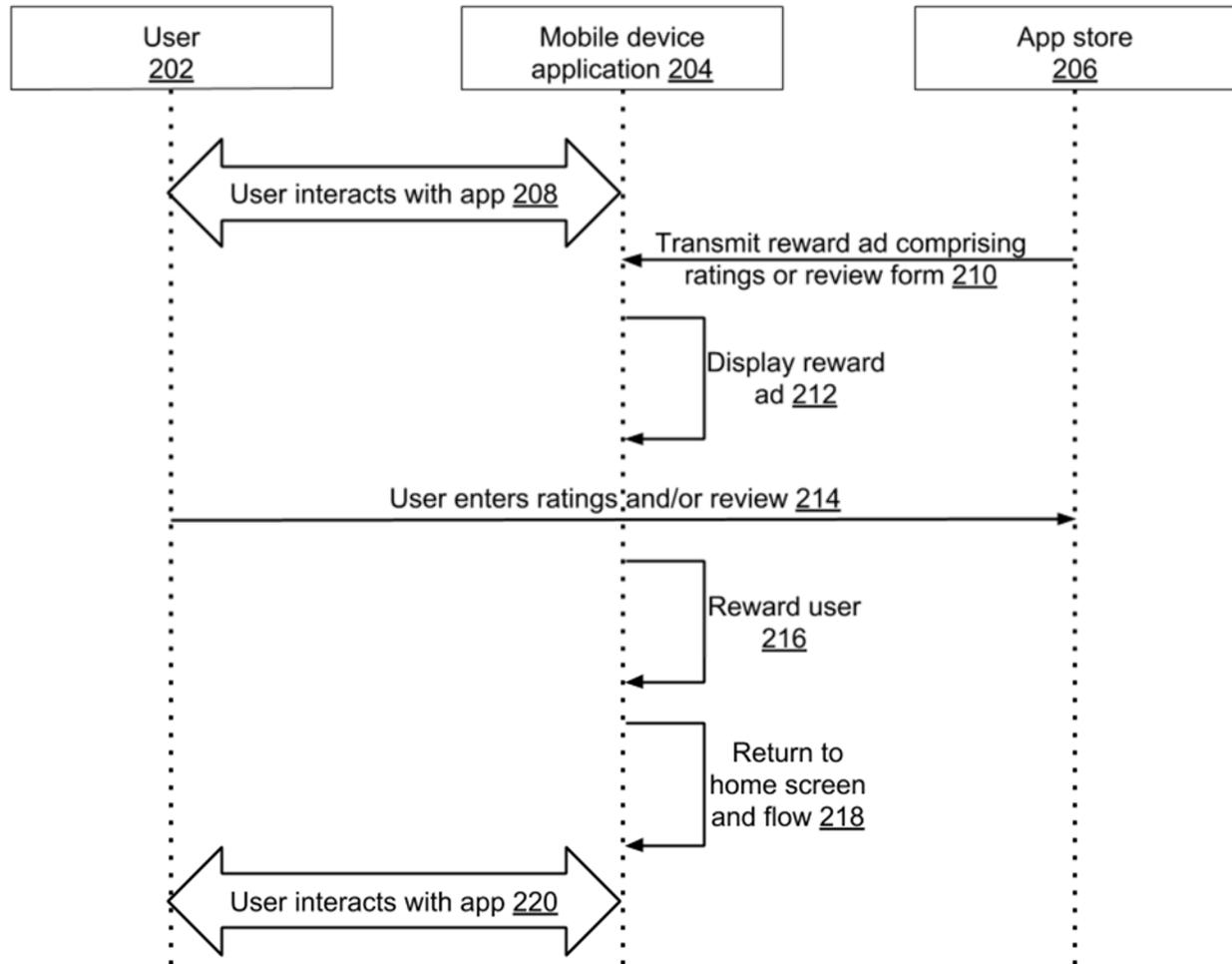
Fig. 2: Unbiased review of apps using rewarded ads

Fig. 2 illustrates the interactions between the user (202), the app (204) and the app store

(206) in obtaining unbiased ratings and/or reviews of the app using rewarded ads. The app store

transmits a rewarded ad comprising ratings and/or review form (210), which the app displays

(212) during the course of user interaction with the app (208). To prevent abuse by publisher of

the app, the ratings/review form is shown from a process of the app store rather than being

rendered by the app. The app store exposes an API to post ratings information entered by the

user (214) to the app store using user's authentication tokens to prove identity. After user

completes a review, a callback is made to publisher with the user's review, hiding identifying

details of review for confidentiality. The information transmitted to the publisher by the app store can comprise one or both of rating level and free-form review text. In cases where publishers differentially reward positive and negative ratings, they specify as much during display of the rewarded ad. If the publisher has not enabled confidential reviews, a disclaimer is included in the rewarded ad to indicate that the publisher receives the user's rating in the app-store-to-publisher callback. For example, a statement to the effect: "Your rating will be passed to app developer with your name attached" can be included within the rewarded ad. The review is posted to the store after some delay, e.g., a normally-distributed random delay, to enhance separation of reward from review and to prevent ratings abuse by the publisher.

Once rating and/or review is received by the app store, the app rewards the user (216) and returns to its home screen and normal flow (218), such that the user continues interaction with it (220). Rewarded ads functioning as ratings forms can be included in the software development kit (SDK) shipped by an ad network to a publisher.

In this manner, the techniques of this disclosure use rewarded ads as ratings forms to accrue several advantages:

- Ratings and/or reviews are unbiased because users are selected randomly, e.g., independent of their level of engagement with the app. There is no pre-filtering of users based on a likelihood that a user's rating of the app might be high.

- Ratings and/or reviews are handled by the app store, such that all types of ratings reach the app store, e.g., favorable ratings do not receive preferential treatment.

- An app-user is motivated to participate in the ratings process as they get rewarded, e.g., with in-app points.

- The reward received by a user for completing a rating or review of an app is not conditional on the rating given by the user, unless explicitly specified by the publisher. Thus a given user rating (e.g., five stars or 1 star) is not generally influenced by the reward, and if it is, then it is transparently stated as being so.

- App developers are released from the burden of incorporating ratings code into their app, as ratings are directly handled by the app store via API.

- The user experiences no difference, e.g., faces no additional steps, in using a rewarded ad to rate an app. As far as users are concerned, they are simply filling in a ratings form with their explicit consent.

- Rewarded ads as a category of ads grows in diversity of user interaction.

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 uses the facility of rewarded ads to obtain unbiased ratings of apps. A rewarded ad and its embedded ratings form are controlled by the app store, such that reviewing users are selected with lower statistical bias. Ratings and reviews are reported to the app store regardless of their level or sentiment.