Integrated Collection and Presentation of Audience Engagement for Shared Photos

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Integrated Collection and Presentation of Audience Engagement for Shared Photos

ABSTRACT

Users commonly share photos from their photo gallery application with others via social media applications, messaging platforms, email, etc. Many such applications and services allow viewers to interact with the shared photos by providing tags, comments, emojis, etc. Monitoring engagement with a shared photo requires the user to interact separately with the notifications from each app and toggle between various apps and services where the photo was shared.

This disclosure describes mechanisms to automatically determine audience interaction that occurs in response to the shared photos across multiple apps and services, implemented with user permission. When the user views the original photo within the photo gallery application, the unified audience engagement to date is presented along with the photo.

KEYWORDS

- Photo sharing
- Photo post
- Photo gallery
- Social media
- Messaging
- Audience engagement
- Comment integration
- Re-sharing
- Update polling
BACKGROUND

Many users make use of a photo gallery application on their device such as a smartphone to store, organize, and manage their photos, e.g., taken using the same device, a standalone camera, or other camera, or downloaded or otherwise received on the device. The photo gallery application can run on the user’s mobile devices and/or a traditional desktop or laptop computer and/or the cloud.

Users commonly share photos from their photo gallery application with others via social media applications, messaging platforms, email, etc. Many such applications and services allow viewers to interact with the shared photos by providing tags, comments, emojis, etc. However, the relationship between the externally posted photo and the gallery original is not maintained which makes it difficult to keep track of the audience interaction connected to the photo. Additionally, the various apps, platforms, and services used for sharing the photo result in the generation of various notifications pertaining to the interactive activity connected to the shared photo. Monitoring engagement with a shared photo requires the user to interact separately with the notifications from each app and toggle between various apps and services where the photo was shared.

For instance, a user that takes a photo of the mountain scenery while hiking in the Swiss Alps can share it on social media and include hashtags, post it to a hiking community app with details of the hiking trail, and send it to a friend group using a messaging app. Subsequently, the photo is reshared on the social media platform, is tagged with badges in the hiking community app, and generates discussion among friends in a messaging conversation. The user cannot integrate these audience reactions and needs to check the social media platform, the hiking community app, and the messaging app separately to view the reactions.
DESCRIPTION

This disclosure describes techniques to integrate audience engagement with a photo shared via various mechanisms such as social media, messaging, etc. A mechanism is provided to keep track of audience interaction generated in response to the shared photos. Such interaction can include comments, reshares, tags, emojis, etc. If the users permit, the mechanism is implemented to unify audience engagement information and connect it to the original photo within the user’s photo gallery. When the user views the original photo within the photo gallery application, unified audience engagement information is presented alongside the photo.

To provide such information, the photo gallery application is augmented with mechanisms to poll the external platforms, apps, and services where a photo can be shared. With user permission, photos within the gallery are marked as shared when a user explicitly performs external sharing from within the gallery application. The polling mechanism receives notifications of audience reactions related to a shared photo.

Alternatively, or in addition, if the users permit, data are obtained from various apps used on the user device to infer when a photo in the user’s photo gallery is shared, e.g., when photo content within an app appears to be identical or similar to that in the gallery. Any suitable trained machine learning model can be employed to determine the extent of match between a given pair of photos. A pair of photos is considered to be matched if the extent of the match exceeds a threshold value. The matching can be performed automatically or can be invoked manually by the user via appropriate user interface (UI) mechanisms pertaining to a photo, e.g., tapping, pressing, right clicking, etc. Such UI mechanisms enable the user to ask the system to “match the photo with those in the gallery.”
The polled updates from various external entities (services, apps, etc.) that are connected to the same shared photo are unified. The unified audience engagement information is utilized to improve the user experience (UX) of viewing the shared photo within the photo gallery application in various ways, such as:

- Displaying popularity statistics for a photo across platforms
- Identifying and displaying other photos with similar sharing and reaction patterns
- Enhancing the functionality for finding specific photos by including audience reaction content within search mechanisms
- Linking relevant actions with the gallery and the external photo sharing entities (e.g., deleting a shared photo within the gallery application can alert the user that the photo is shared and viewable externally or unshare/delete the externally shared instances of the photo), etc.

![Fig. 1: Displaying integrated audience reactions to shared photos](image-url)
Fig. 1 shows an example implementation of the techniques described in this disclosure. A user shares a photo (106) from the photo gallery application (104) on the user device (102). The shared photo is posted to social media app (110) and is sent to friends as a message (112), using the corresponding apps on the user device. With user permission, various types of reactions to the shared photo from those who view the photo via social media and messaging are obtained and shown in a unified display alongside the photo (114). If the user permits, the photo content within various apps on the user device is analyzed by a trained machine learning model (108) to check for matches between externally shared photos and those present in the user’s photo gallery. Matched photos are used to link the gallery photo with its externally shared instances in order to support integrated collection and display of audience engagement.

Implementation of the techniques described in this disclosure permits dynamically updating and displaying fine-grained information and statistics about shared photos, integrated across the various external outlets where the photo is posted. With user permission, the described mechanisms can be integrated within any photo gallery application and/or device operating system without requiring additional specialized applications. The described techniques can be implemented completely on-device such that no user data, e.g., photos, audience engagement data, etc. leaves the device. The described techniques can be extended by facilitating cross-platform interaction protocols that enable the various external entities that host a shared photo to keep track of related content on other platforms. For instance, such protocols can allow a user to mark a photo within a message sent via a messaging app as being the same photo shared in a social media post or via other platforms/services.

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 media posts, photo gallery, social actions or activities, profession, a user’s preferences), 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. Thus, the user has 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 mechanisms to automatically determine audience interaction that occurs in response to the shared photos across multiple apps and services, implemented with user permission. When the user views the original photo within the photo gallery application, the unified audience engagement to date is presented along with the photo. Implementation of the techniques described in this disclosure enables display of fine-grained information and statistics about shared photos, integrated across the external outlets where the photo is shared. With user permission, the described mechanisms can be integrated within any photo gallery application or operating system.

REFERENCES