

Technical Disclosure Commons

Defensive Publications Series

July 2022

Event-Based Content Delivery Using Calendar and Native Application Integration

Ramprasad Sedouram

Safia Ali

Follow this and additional works at: https://www.tdcommons.org/dpubs_series

Recommended Citation

Sedouram, Ramprasad and Ali, Safia, "Event-Based Content Delivery Using Calendar and Native Application Integration", Technical Disclosure Commons, (July 06, 2022)
https://www.tdcommons.org/dpubs_series/5248



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.

EVENT-BASED CONTENT DELIVERY USING CALENDAR AND NATIVE APPLICATION INTEGRATION

Introduction

Traditionally, content item generation has been based on user interests determined through search histories, application usage, in-app purchases, or other user data indicative of interests. A traditional approach may generate content items based on a user's search history, however, the accuracy and relevancy of the provided content items may not be personalized or relevant to the particular user and/or event.

Summary

Computer-implemented systems and methods for generating personalized content items for a user based on events a user attends or plans to attend are provided. An event-based content delivery system may enable better tailored content items to be provided to a user based on a user's current given state and lead to higher rates of user engagement (e.g., clicking or selecting) with content items due to potentially greater relevancy of content items. A user may consent to the content delivery system accessing the user's data, such as user data associated with one or more user applications (e.g., calendar, appointment book, e-mail, etc.) to determine events the user plans to attend. The content delivery system may link any found events to the user's profile to generate personalized content items for the user pertaining to the found events. The content items may relate directly to the event itself (e.g., tickets to a concert, VIP passes to the event, etc.) or may relate indirectly to the event and pertain to associated items (e.g., gift for a wedding, parking for the airport, formal clothing to wear to the event, etc.). The time of display and content of the items may pertain to the found events in some examples. A user computing device may display different content items at various times leading up to a given event. For example, a user may receive an invite on their calendar for a wedding one year in advance. The content

delivery system may analyze the invite and provide content items pertaining to flights to the wedding destination immediately. The content delivery system may further provide content items pertaining to dresses 3-6 months out from the wedding, and finally, provide content items pertaining to local flower shops in the geographical area of the wedding the day before or of the wedding.

Computer-implemented systems and methods are provided for event-based content delivery. An event-based content delivery system can provide customized content items based on a user's current situation which may lead to higher rates of engagement with the provided content. A user may provide consent for the content delivery system to access data such as that associated with user applications (e.g., calendar, appointment book, etc.). The content delivery system may analyze the user applications to determine one or more events that the user may attend. The content delivery system may add the one or more events to the user profile for use when determining, generating, or displaying content items to the user.

The content delivery system may determine one or more events that a user plans to attend based on analyzing data from one or more user applications. The content delivery system may analyze each event to determine the topic or context of the event such as, for example, that the event is a wedding, party, funeral, or other type of event. The content delivery system may also retrieve further data associated with each event such as, for example, guest/attendee list information, location information, RSVP requirements, date(s), or similar data. The data may be used in determining, generating, or displaying content items to the user. For example, the topic or context may be used to determine the types or quantity of content items to display for a user, whereas the date(s) may be used to determine the occurrence, frequency, and type of content items to display for the user (e.g., reservation content items should be displayed immediately

after analyzing the event, and clothing content items should be displayed closer to the determined date(s) of the event). In some instances, the guest/attendee list may be used to further determine and generated content items for a user. For example, the content delivery system may filter or tailor content delivery for hotels and lodging such that only rooms or establishments that can accommodate the size of the guest/attendee list are provided. In another example, the content delivery system may use the guest/attendee list to suggest quantities of items or goods to be displayed such as, for example, party favor orders, quantity of bridesmaid dresses, or similar event-related, quantifiable, and potential purchases.

In some examples, events associated with a first user of a first computing device may be used by the content delivery system to determine, generate, or display content items for a second user of a second computing device. The content delivery system may analyze events of the first user and determine a guest/attendee list comprising at least the second user. The content delivery system may add the events and associated metadata to the first user's profile, as well as the second user's profile. In this manner, the second computing device may present content items to the second user pertaining to events associated with the first user. In some instances, cross-user and cross-device content delivery may be performed such that content items pertaining to both a given event and a given user are presented to a separate user. For example, an event determined from a first user's data may be associated with a second user as an attendee. The first user may receive content items pertaining to the second user's profile and the determined event. For example, John may get a family reunion event invite with his cousin Jack on the attendee list. Jack may then receive content items pertaining to John's profile and interests for buying a gift for the family reunion. In the same manner, John may receive content items pertaining to Jack's profile and interest for a gift for the family reunion.

In one embodiment, event-tailored content items may present themselves with references to an event they are tailored to. Events may be a temporary occasion and as such, may benefit from more tailored content items. Content items generated in response to determined events may incorporate personalized information or details pertaining to the event in the content items displayed. For example, a content item associated with a person's birthday party may incorporate the person's user profile, as well as text reminding a user of said birthday. For example, John may get an event for Jack's birthday and may receive a content item associated with Jack's favorite shoe company along with a banner saying "Jack might appreciate a gift from this seller" or similar phrasing.

In one embodiment, a first user computing device receives or generates information associated with an event and, after a user has consented, the first user computing device sends the information to a remote computing system to perform topic and metadata analysis related to the event. The topic and metadata determined from the event may then be stored by the remote computing system in the user's profile within the remote computing system. The remote computing system may then generate content items to be displayed on the user computing device based on the user's profile comprising the event topic and metadata. In some embodiments, event data is received or generated on the user computing device and a machine learned model stored within the user computing device is utilized to detect a topic and metadata of the event such as, for example, wedding, birthday party, funeral, or similar. The topic and metadata may then be stored locally with a user profile. In some instances, one or more attendees may be determined from the event and the determined topic, and metadata for the event may be stored in their profiles within the remote computing system or locally on the user computing device or sent to each of the one or more attendee's computing devices to be stored locally. The systems described

to determine topics and metadata from events and generate content items are for descriptive purposes only. Any combination or order of the methods described herein can be executed on a user computing device, remote computing device, or similar. For example, all steps of determining a topic and metadata for an event may be performed on a remote computing system or parts of the process may be performed on a user computing device and others on a remote computing system as previously described.

Detailed Description

Figure 1 depicts an example computing system 100 in which systems and methods in accordance with the present disclosure can be executed. The computing system comprises a user computing device 102 containing one or more processors 112, memory 114 which may contain data 116 and instructions 118 configured to carry out the methods disclosed herein, and a user input component 122. The user input component can be, for example, a touch display or physical buttons within the user computing device 102. The computing system 100 further comprises a network 180 and a server computing system 130. The server computing system 130 comprises one or more processors 132, and memory 134 which may contain data 136 and instruction 138 configured to carry out the methods disclosed herein. For example, event data may be received or generated by the user computing device 102 and sent over the network 180 to the server computing system 130. The server computing system 130 may then determine topics (e.g., wedding, birthday party, funeral, etc.) and metadata (e.g., guest/attendee list, time, location, etc.) pertaining to the event. The server computing system 130 may store the event topics and metadata with a user profile in memory 134. The server computing system 130 may generate content items based on the user profile (and as a result, the event topic and metadata) to be displayed on the user computing device 102. In some instances, the event may be analyzed by

the user computing device 102 to determine topics and metadata which are then sent over the network 180 to the server computing system 130. It should be appreciated that any combination or order of systems and methods disclosed herein can be performed on the user computing device, server computing system, or similar. For example, all processes of generating or receiving events, analyzing events, and/or generating content items may be performed on the user computing device 102 or the server computing system 130.

Figure 2 depicts an example embodiment 200 according to aspects of the present disclosure comprising a user computing device 202 and a server computing system 212. The user computing device further comprises processor(s) 204, memory 206, user applications 208, and a display 210. The server computing system 212 further comprises processor(s) 214 and memory 216. In one embodiment a user may consent for the user computing device 202 and processor(s) 204 to access the user applications 208 and analyze any events stored therein. The user computing device 202 may determine topics and metadata pertaining to each event within the user applications 208. In some instances, the events found in the user applications 208 may be sent to the server computing system 212 for analysis. The topics and metadata pertaining to each event may be stored in memory 206 along with a user profile or sent to the server computing system 212 to be stored with a user profile within memory 216. The topics and metadata determined from found events may then be used by the user computing device 202 or server computing system 212 to generate content items relevant to both the user profile and the found events. The content items may be sent to the user computing device 202 to be presented on the display 210. In some instances, content items may be scheduled in accordance with the metadata from found events such that different content items are displayed by the user computing device 202 as a given event nears or is occurring.

Referring now to Figure 3, an example embodiment 300 according to aspects of the present disclosure is provided comprising a first user computing device 302, a second user computing device 318, and a server computing system 312. The first user computing device comprises processor(s) 304, memory 306, user applications 308, and a display 310. Similarly, the second user computing device 318 may comprise processor(s) 320, memory 322, user applications 324, and a display 326. The server computing system 312 may comprise processor(s) 114 and memory 116. A first user of the first user computing device 302 may consent to allowing the user computing device 302 and processor(s) 304 access the user applications 308 stored therein. The user computing device 302 may then analyze any events within the user applications 308 for topics and metadata pertaining to each event. In some instances, the events are sent to the server computing system 312 for analysis. The topics and metadata may be sent to the user computing device 312 to be stored with a user profile pertaining to the first user. In some instances, the user profile pertaining to the first user may be stored in memory 306 of the first user computing device 302. The server computing system 312 may determine a guest/attendee list for a given event from the first user computing device 302. One of a plurality of guests on the guest/attendee list may be a second user of the second user computing device 318. The server computing system 312 may then add the topics and metadata determined from the given event to the second user's profile. The server computing 312 may generate content items based on the first user's profile and the given event to be displayed by the first user computing device 302 as well as content items based on the second user's profile and the given event to be displayed by the second user computing device 318.

In some instances, when the topics and metadata are stored on the first user computing device 302, a guest/attendee list determined for an event may be sent to the server computing

system 312 to identify the second user and second user computing device 318. The first user computing device 302 may then send the event topics and metadata to the second user computing device 318 to be stored with the second user profile in memory 322.

Methods and procedures described herein as being executed or stored on a particular device are for descriptive purposes only. In practice any or all steps of any disclosed methods or procedures may be performed by a user computing device, server computing system, or similar. Likewise, within steps of a method, data being stored on a particular device is for descriptive purposes only. Any or all data may be stored on a user computing device, server computing system, or similar and transferred between when necessary.

Figures

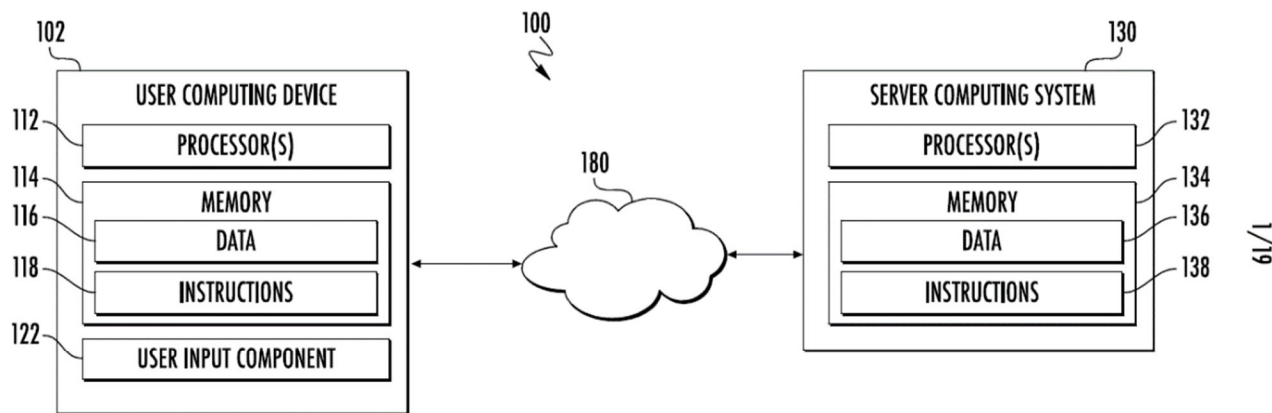


FIG. 1

200

202

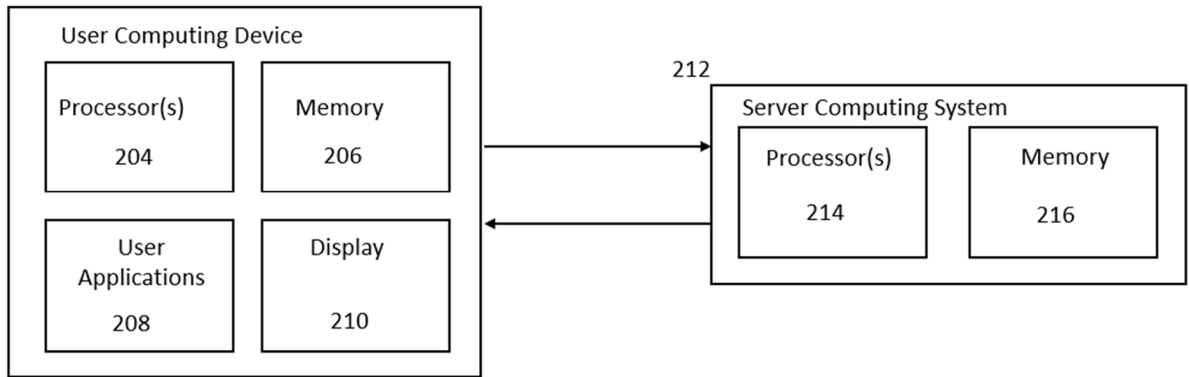


FIG. 2

300

302

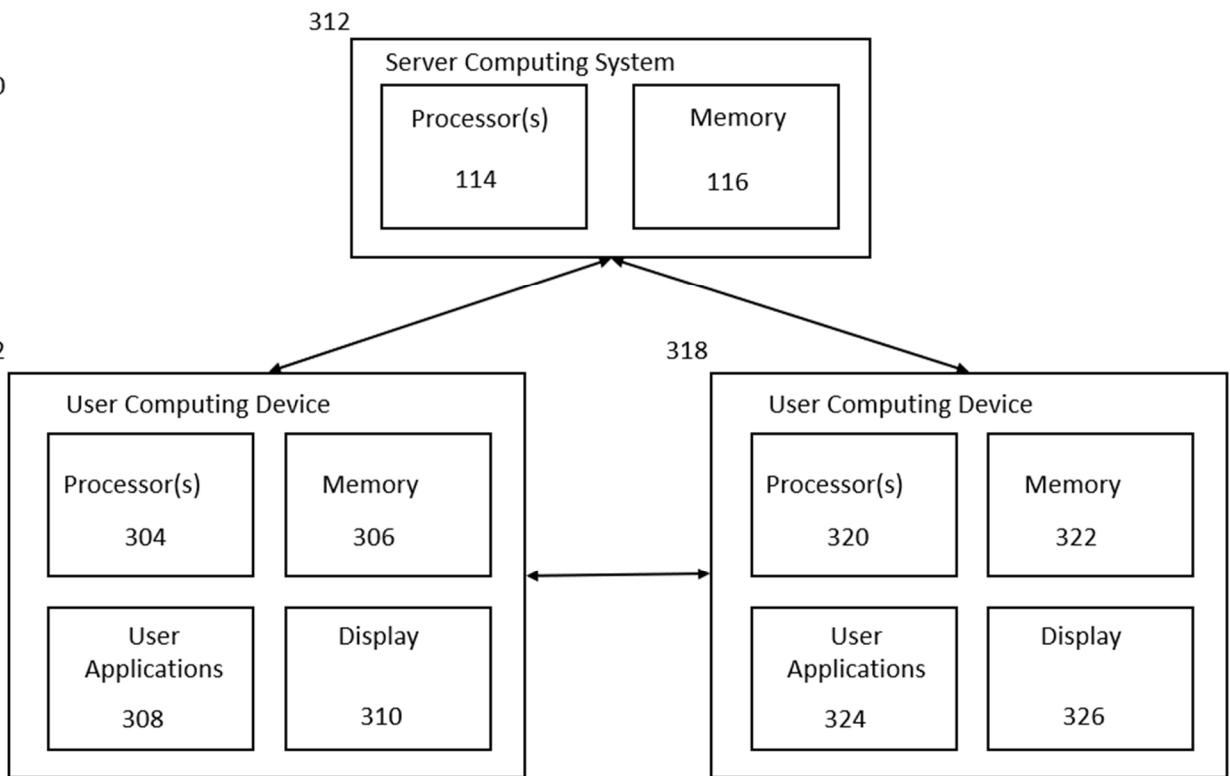


FIG. 3

Abstract

The present disclosure describes computer-implemented systems and methods for generating event-based content items for users. In one embodiment, a content delivery system may analyze data associated with user applications to determine one or more events a user may attend. The user computing device may attach the one or more events to the user's profile and use them to generate content items pertaining to the user, the user's interests, and the event.