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## AUTOMATIC GENERATION OF EVENT-RELATED CHECKLISTS

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## **AUTOMATIC GENERATION OF EVENT-RELATED CHECKLISTS**

### **ABSTRACT**

Virtual assistants provide notifications and reminders of upcoming calendar events to users. This disclosure describes the automatic generation of a checklist associated with an upcoming event that is provided to a user. The checklist includes items associated with the event to be carried to the event by the user. The checklist can also include tasks to be performed by the user prior to the event. A machine learned model that is trained to associate event types with items/tasks is utilized to generate the checklist. If the user permits, items mentioned in event related user communications are also included in the checklist. Generated checklists can be shared with other participants. With user permission and express consent, the checklists can be personalized for subsequent use based on user interaction with the checklists.

### **KEYWORDS**

- Virtual assistant
- Digital assistant
- Note taking
- Checklist

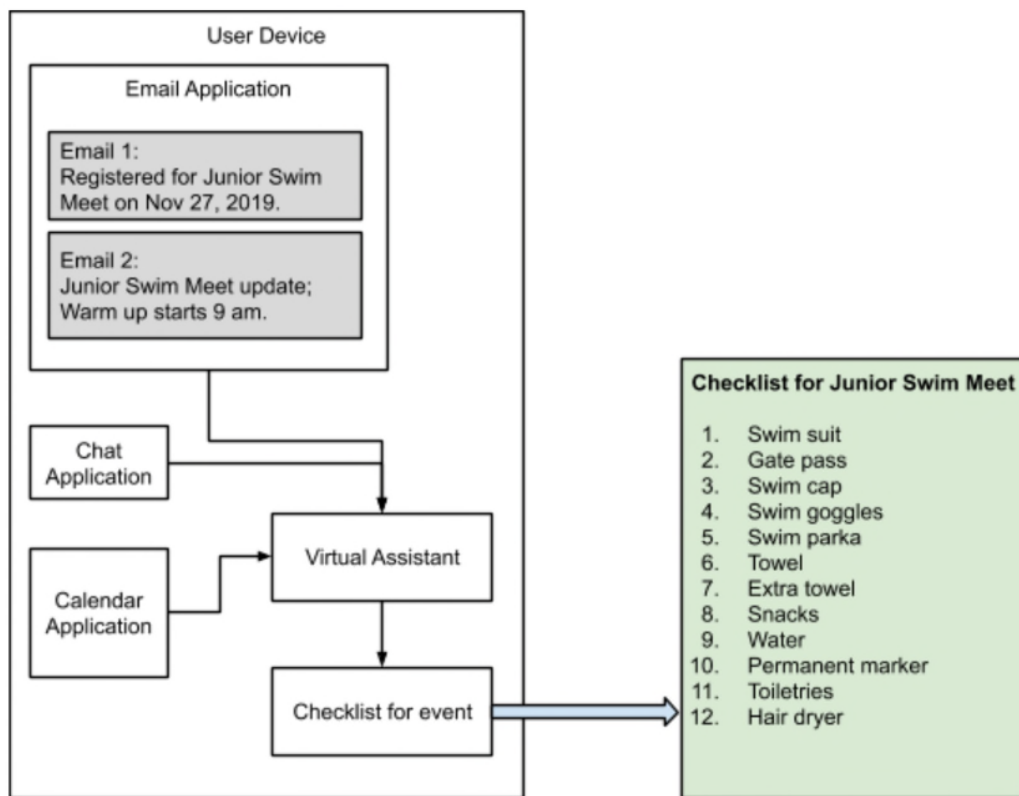
### **BACKGROUND**

Virtual assistants provide notifications and reminders of upcoming calendar events to users. Such events include, e.g., flights, restaurant visits, gym appointments, etc. These events are typically manually entered by a user into the user's calendar, or, in some cases, if the user permits, automatically obtained from email communications or other user data. Participation in some types of events requires that the user carry suitable accessories associated with the event. For example, swim attire, towels, etc. are necessary for a swimming session. Similarly, if the

user has scheduled a game of tennis, tennis racquets, balls, shoes, etc. are necessary. If the user is going on vacation, there can be a longer list of items for the user to carry.

DESCRIPTION

This disclosure describes the automatic generation of a checklist associated with an event. Per techniques of this disclosure, the checklist is generated prior to an upcoming event. The checklist is provided to a user to provide a reminder of physical items (accessories) to be carried to the event and/or of tasks to be performed prior to the event.



**Fig. 1: Automatically generated checklist of items for an event**

Fig. 1 illustrates an example of automatic checklist generation, per techniques of this disclosure. In this illustrative example, a user has received emails regarding their registration in a swim meet event and confirmation of a start-time of the swim meet event. With user

permission and express consent, information obtained from the email is utilized to create a calendar entry in a calendar application.

If the user permits, prior to the scheduled time of the event, a virtual assistant provides an automatically generated checklist for the event. The checklist includes a list of suggested items for the user to take to the event. The checklist is provided to the user by the virtual assistant, e.g., as a card that is displayed on a user device, read out to the user, as an email, etc.

The checklist is generated using a machine learning model or from a knowledge base based on the event type and/or received communications that relate to the event. The model is trained to associate event types and their accessories. For example, the model can determine that a swim session is associated with swim attire, towel, etc., and that a tennis game is associated with tennis racquets, balls, and shoes. The checklist can also include tasks to be performed by the user prior to the event. For example, a checklist provided to a user before travel to a foreign destination can include items such as "obtain visa," "book taxi," etc. The model can be augmented with manually curated list(s), e.g., based on checklists that are already available.

The model can also take into account specific characteristics associated with the event and event locations. For example, if a particular gym that is the specified location for an event on a user's calendar provides towels to its members, towels are not included in the checklist provided to the user. With user permission and express consent, user interaction with a previously provided checklist can be used to determine the contents of future checklists.

With user permission and express consent, items included in user communications regarding the event are also included in the checklist. If the user permits, a machine learning model can be utilized to classify or detect certain types of items (entities) that are mentioned

inside event-related communications. For example, a chat conversation that mentions an item that a user plans to bring with them to an event, e.g. "I will bake a cake for the party," may be utilized to provide a checklist that includes "cake" (or a list of ingredients for a cake) in a checklist provided to the user prior to the event.

Generated checklists can be shared with other participants and can enable the participants to share their responsibilities. With user permission and express consent, the checklists can be personalized for subsequent use based on user interaction with the checklists. If the user permits, checklist notifications can be prioritized based on detection of a user forgetting to take an item associated with an event. In some cases, this can be determined based on detection of a user departing for an event, but returning to their departure location before departing again towards the location of the event.

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

Virtual assistants provide notifications and reminders of upcoming calendar events to users. This disclosure describes the automatic generation of a checklist associated with an upcoming event that is provided to a user. The checklist includes items associated with the event to be carried to the event by the user. The checklist can also include tasks to be performed by the user prior to the event. A machine learned model that is trained to associate event types with items/tasks is utilized to generate the checklist. If the user permits, items mentioned in event related user communications are also included in the checklist. Generated checklists can be shared with other participants. With user permission and express consent, the checklists can be personalized for subsequent use based on user interaction with the checklists.

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