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May 13, 2019

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Bhuvana Hariharasubramanian

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Recommended Citation

Hariharasubramanian, Bhuvana, "Emoji based on user expression while composing a message", Technical Disclosure Commons, (May 13, 2019)

https://www.tdcommons.org/dpubs_series/2198



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Emoji based on user expression while composing a message

ABSTRACT

This disclosure describes techniques to extract real time facial expressions with the use of facial recognition techniques. When a user provides permission, a user device obtains an image of the user's face and performs facial recognition to detect the facial expression of the user. Upon successful detection of the facial expression, the use of an emoji that represents the facial expression is suggested. For example, if it is detected that the user is confused while typing a reply to a message, an avatar or emoji that expresses confusion is sent to a recipient along with the message. The technique can be implemented in any suitable context, e.g., as part of a messaging application.

KEYWORDS

- emoji
- avatar
- facial expression
- emotion expression
- chat
- instant messaging

BACKGROUND

Users receive messages, e.g., SMS, chat, email, etc. on their mobile devices. The messages do not include emotions or expressions from the sender to convey the intent of the message. For example, a term such as "okay" or "fine" can be interpreted multiple ways based on the context of the conversation, including the mental state of the sender or receiver. Emojis

can be inserted within the message manually, but requires effort by the sender to search for the correct emoji. The user may spend searching for an emoji, often times using the incorrect emoji or not find the emoji that represents the mood of the sender. Also, some users may not understand the meaning of emojis and forego their use.

DESCRIPTION

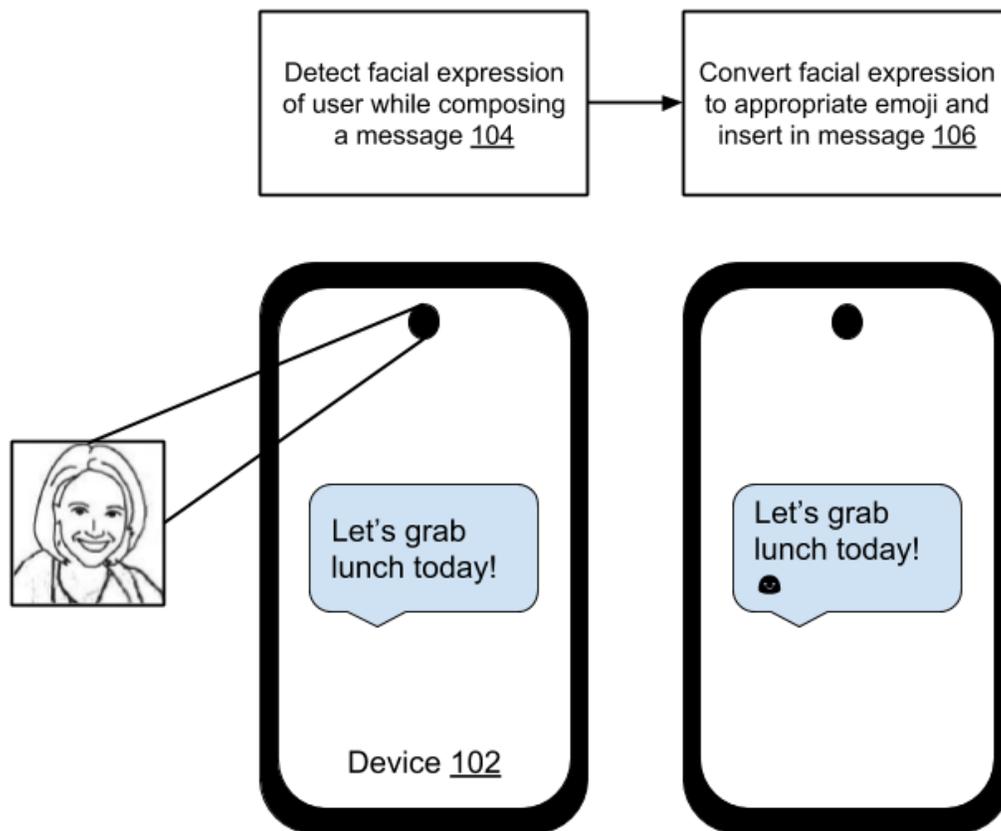


Fig. 1: Chat with expression

Fig. 1 illustrates an example of composing a message that includes an emoji that is based on the user's facial expression. Inclusion of an emoji (or avatar) or other visual depictions of the user's emotion allows a recipient to receive the non-verbal context of a message.

With user permission, a user device such as a smartphone, tablet, smartwatch, etc. (102) detects the facial expression of a sender while the sender is composing a message (104). The

detection can be performed by using a camera that captures one or more images of the user's face and applying emotion detection techniques to the captured images. Upon successful detection of the user's facial expression, a corresponding emoji is identified. Alternatively, an avatar that has the same facial expression is obtained. With user permission, the emoji or avatar is added to the message (106). For example, in Fig. 1, it is detected that the sender is smiling while typing and a corresponding emoji is included in the message.

Still further, real-time expression detection can be performed as a user composes a message. A corresponding avatar or emoji can be generated and a preview can be shown to the sender. The sender is provided with options to accept or deny the avatar that is added to a message before the message is sent. If the sender accepts the avatar, it is provided to the recipient, e.g., in place of or in addition to an indicator that the user is typing. The emoji or avatar is updated as the sender's facial expression changes while composing the message. Still further, a recorded video of the avatar can be sent to the recipient. The emoji or avatar may be selected from a library or may be rendered based on the detected facial expression. For example, an avatar that matches the user's appearance, e.g., female with short hair and glasses, can be suggested to the user, who may choose to use it or choose a different avatar.

The described technique can be used in video conferencing applications, messaging applications, social media platforms, etc. on devices that support messaging, e.g., smartphones, tablets, smartwatches, etc. The techniques are implemented with specific user permission. If the user denies permission to access the device camera or restricts permissions, the camera is accessed only as permitted by the user. Users are provided with options to turn off detection of facial expression.

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 to extract real time facial expressions with the use of facial recognition techniques. When a user provides permission, a user device obtains an image of the user's face and performs facial recognition to detect the facial expression of the user. Upon successful detection of the facial expression, the use of an emoji that represents the facial expression is suggested. For example, if it is detected that the user is confused while typing a reply to a message, an avatar or emoji that expresses confusion is sent to a recipient along with the message. The technique can be implemented in any suitable context, e.g., as part of a messaging application.