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Shush gesture for consumer devices

ABSTRACT

When individuals within a social group fail to silence their devices during events e.g., meetings, theatrical performances, conversations, etc., notifications from a device can lead to a disturbance to the social group. Such disturbance can result in some pique even in everyday social settings, e.g., a family dinner or a face-to-face conversation.

This disclosure describes use of physical gestures that a user can perform to shush a phone while simultaneously telegraphing an intention to focus to others. The gestures of the user, and the mode of the consumer device when shushed, are such that other members of a social group are encouraged to similarly shush their phones.

KEYWORDS

- do not disturb
- DND
- silent mode
- meeting mode
- silent notification
- social gesture
- social signaling

BACKGROUND

A common complaint about digital devices such as smartphones, wearable computers, etc., is that a near-continuous stream of notifications, messages, updates, etc. lead to fragmentation of a user's focus. Device manufacturers, and operating system and application developers have attempted to address this problem by introducing do-not-disturb, silent

notifications, and similar modes. Even so, some individuals within a social group often fail to silence their phones, leading to disturbances during e.g., meetings, theatrical performances, etc. The disturbance to the group caused by individual users not silencing their phone can result in some pique even in everyday social settings, e.g., a family dinner or a face-to-face conversation.

DESCRIPTION

This disclosure describes use of gesture-recognition techniques to silence a consumer device such as a smartphone. The overt physical gestures made by the user has a two-fold effect: to silence the consumer device, and just as importantly, to telegraph to others the user's intention to focus. This intention to focus, when telegraphed per the techniques of this disclosure, can spread to other individuals in the immediate surroundings of the user, leading to an overall improvement in the group's focus towards matters of immediate attention. Thus, rather than a simple technology setting, e.g., causing a phone to enter silent mode), the techniques can help shape group dynamics to achieve a coherent direction.

Some examples of gestures to shush a phone are, for example,

- placing the phone face down on a flat surface;
- a fine-motor movement, e.g., rubbing the thumb and index finger together, as though winding a watch;
- a gross-motor movement, e.g., bringing the index finger to the lips in a shushing gesture, holding one's hand out flat over the phone, signaling it to stop; etc.

When shushed, the phone may unobtrusively indicate its shushed status, e.g., by a low glow (Fig. 1), by an infrequent but distinct blinking pattern, etc.



Fig. 1: Indicating shushed state by a low glow

When other users see that a phone has been shushed, they may themselves silence their phones. In this manner, a shush group is created. The phones of the shush group may start rhythmically blinking in a cooperative pattern, thus signaling a communal status that indicates the intent to focus.

A light-weight, visible gesture to shush a consumer device, such as shushing by placing phone face-down on a table, enables a leader of a social group to issue a friendly and firm request to group members to shush their phones. For example, the leader may simply say, “OK everyone, phones down!” A group member would then be able to visually verify that another group member has shushed phone by simply seeing that the phone is face down.



Fig. 2: Gestures to put consumer device in shush modes of varying strength or duration

Gestures can be similarly defined (Fig. 2) that put the consumer device in a semi-shush mode, e.g., a mode in which the consumer device is shushed for a certain time duration, a mode that allows calls from important contacts but automatically takes messages from others, etc. Additional gestures can be defined to increase or decrease the strength or duration of the semi-shush mode.

Aside from gesture-activation, shush mode can also be activated traditionally, e.g., by on-screen buttons. In such a case, an operating system vendor can offer the shush-mode selection in the power menu, thereby raising the profile of such an option. Alternatively, when the user provides permission, an on device virtual assistant can listen for a shushing voice command upon detection of a sound or vibration made by the consumer device. Such a command, if spoken by the user in the immediate aftermath of the sound made by the device, need not be preceded by a wake phrase for the virtual assistant, since the sound made by the device itself serves as wake phrase.

Shushing of consumer devices, per techniques of this disclosure, is spring-loaded, in the sense that it cannot be accidentally left on. For example, when the user picks up or turns the phone face up, the do-not-disturb mode is automatically turned off. This gesture doesn't need to be symmetrical such that the gesture is to be used to both enter and exit the do-not-disturb (DND) mode. For example, the user can use the on screen buttons to put the phone into DND mode and the "pick up" gesture to prompt leaving the DND mode.

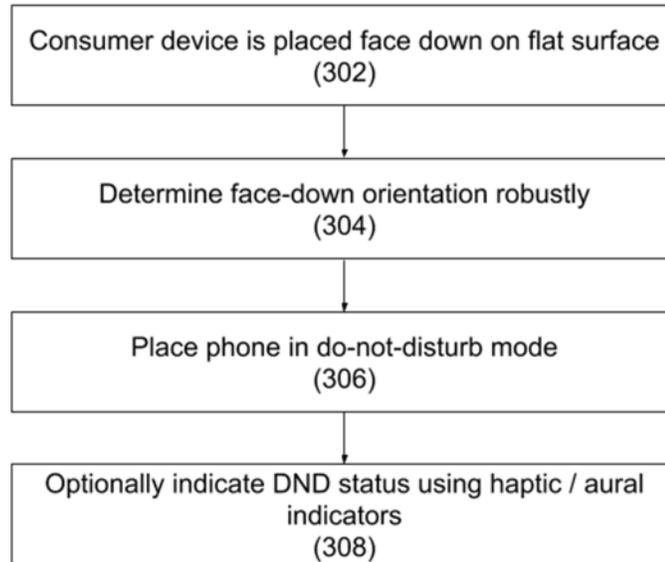


Fig. 3: Shushing a consumer device by placing it face down

Gesture-activated shushing is based on standard sensing devices typically found in modern consumer devices. For example, Fig. 3 illustrates an example process for face-down shushing of the phone, per techniques of this disclosure. The process is implemented with user permission, e.g., to access sensor readings, and to perform actions to change device modes.

When a user places a device face down on a flat surface (302), readings of an orientation sensor are used to confirm the face-down orientation. The readings are averaged over time, and may additionally be supported by proximity sensor readings, as permitted by the users, for robust detection of the face-down orientation (304). The phone enters a silent or do-not-disturb mode (306). Optionally an aural (e.g., beep) or haptic (e.g., vibration) indication is provided (308) to confirm the change in mode.

Use of gestures to silence a device per the techniques of this disclosure enable users to be in proactive control of their devices. Further, execution of gestures sends a social signal to others that the present social setting takes precedence over electronic messages received over a consumer device. The techniques work by leveraging an often-present sense of obligation to the

group. Users create small breaks from consumer devices, on their own terms. Users also train the interlocutors of their electronic messages to adjust expectations regarding the expected time for receiving replies.

CONCLUSION

This disclosure describes use of physical gestures that a user can perform to shush a phone while simultaneously telegraphing an intention to focus to others. The gestures of the user, and the mode of the consumer device when shushed, are such that other members of a social group are encouraged to similarly shush their phones.