June 11, 2019

Alleviating stress by surfacing stress-relieving visual games

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ABSTRACT

From the mild stress of being in a long, crowded line to the considerably higher stress of suffering during a natural disaster, stressful situations abound. Research has shown that playing engaging visual games during or immediately after times of stress can alleviate stress symptoms and contribute to better mental health. This disclosure describes techniques to automatically detect, with user permission, stressful situations, and to offer to a user stress-relieving visual games via available devices.

KEYWORDS

- Stress
- Video game
- PTSD
- Natural disaster
- Stress-relieving game
- Visual game

BACKGROUND

From the mild stress of being in a long, crowded line to the considerably higher stress of suffering during a natural disaster, stressful situations abound. Although a variety of electronic information services, e.g., weather predictions, traffic advisories, map-applications, news alerts, directions to shelters, emergency service information, etc., exist to help people in stressful situations such as natural disasters, more can be done to actually alleviate stress.

DESCRIPTION

Recent research [1] has shown that playing engaging visual games during or immediately after times of stress can alleviate stress symptoms and contribute to better mental health. This disclosure describes techniques to automatically detect, with user permission, stressful situations, and to offer to a user stress-relieving visual games via their mobile devices.

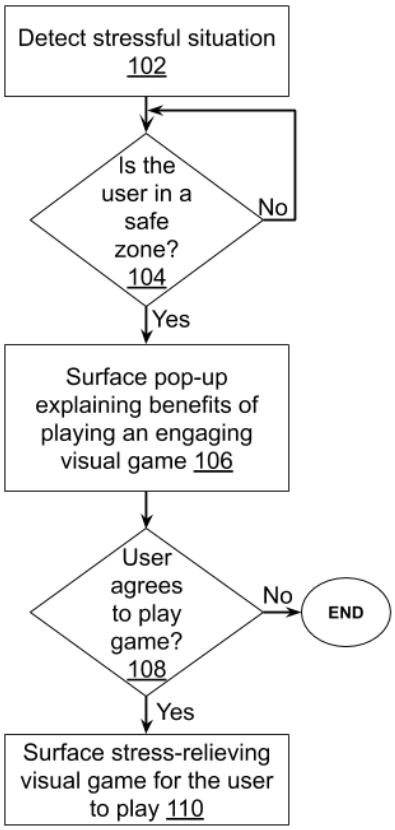

Fig. 1: Alleviating stress by surfacing visual games

Fig. 1 illustrates an example process to offer visual games to users during a stressful circumstance. The process is implemented with user permission. If the user denies permission, one or more steps for which permission is denied are not performed or performed using only such information as permitted by the user.

As illustrated in Fig. 1, a stressful situation is detected (102) using user-permitted information. For example, detection of stressful situations such as natural disasters can be done using publicly available information, e.g., by crawling news resources and social media websites, from government advisories, etc. Stressful situations of a private nature, e.g., long wait-times or queues, flight delays, etc., can also be detected, e.g., if the user permits analysis of corresponding signals. For example, an increased heart rate, detected for example by a smartwatch or other health monitor, may be an indication of stress.

Upon detection of a stressful situation, determination is made, with user permission, if the user is in a recommended safe zone (104). Such a determination can be made, for example, using a location sensor, e.g., GPS. If determination is made that the user is in a safe zone, a pop-up is surfaced. The pop-up includes content that explains the long-term psychological benefits of playing an engaging visual game (106). If the user agrees to play such a game (108), a stress-relieving and engaging, visual game is surfaced on a device that is available to the user (110). Such a game can be surfaced, for example, using HTML5 technology; using apps that can be pushed from a server without requiring installation on a device; by being built into the operating system of the mobile device as a lightweight app; etc.

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

From the mild stress of being in a long, crowded line to the considerably higher stress of suffering during a natural disaster, stressful situations abound. Research has shown that playing engaging visual games during or immediately after times of stress can alleviate stress symptoms and contribute to better mental health. This disclosure describes techniques to automatically detect, with user permission, stressful situations, and to offer to a user stress-relieving visual games via available devices.

REFERENCES

[1] Iyadurai, Lalitha, Simon E. Blackwell, Richard Meiser-Stedman, Peter C. Watson, Michael B. Bonsall, John R. Geddes, Anna C. Nobre, and Emily A. Holmes. "Preventing intrusive memories after trauma via a brief intervention involving Tetris computer game play in the emergency department: a proof-of-concept randomized controlled trial." *Molecular psychiatry* 23, no. 3 (2018): 674.