

The AffectButton: a Digital Self-report Tool for Emotion

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ABSTRACT

The AffectButton is a self-report tool that enables users to report upon their emotion, mood or attitude about things. It is a simple interactive button that presents a dynamically changing facial expression. The expression generated by the AffectButton changes based on mouse movement insight the button and the user selects the expression that best matches his or her feeling. In doing so, the user in fact enters three values on the well-known affective dimensions Pleasure (Valence), Arousal and Dominance. The resulting values and the usability of the AffectButton have been extensively evaluated. Here we give a short summary of the motivation, findings and recent developments.

Author Keywords

Emotion, Affect, Self-report, Affective Labeling.

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

INTRODUCTION

Being able to gather emotional feedback from users is important for many reasons. First, some applications need emotional user feedback in order to function. For example, recommender systems that are based on product feedback in fact gather an affective appraisal of that product. Second, user studies that measure emotional impact of novel technology or products need valid and reliable means of doing so [1]. For example, what emotional experience is associated with a new car model [1]. Third, valid and reliable emotion feedback is important for psychological reasons, e.g., when systems are developed to keep track of elderly well-being. In general, valid, usable, and reliable measurement of emotion is key to better understanding the experience of people, and usage scenarios include: affective labeling of videos, music, and products, gathering feedback on performances and events, polling data on persons (e.g. popularity polls), and so on.

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THE AFFECTBUTTON

The AffectButton (see Figure 1, 2) enables such measurement of affect. The AffectButton is a measurement instrument that enables a user to give detailed and subtle emotion feedback about his/her feelings, mood, and attitudes towards people and products. The user selects the best-matching facial expression that goes together with his or her feeling, and then clicks. After clicking the AffectButton generates 3 values, one for each of the affective dimensions Pleasure (positive versus negativeness of the feeling), Arousal (active versus passive feeling) and Dominance (dominant versus submissive feeling) [2], in a similar way as does the Self-Assessment-Manikin [3].

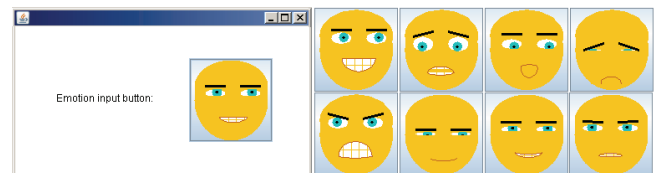


Figure 1: AffectButton and its prototypical extreme states.

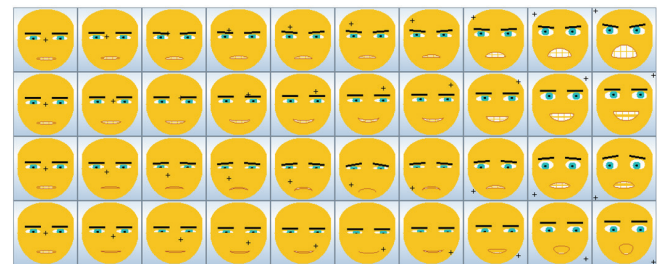


Figure 2: AffectButton faces corresponding to different locations of the mouse (+marker) inside the AffectButton.

EVALUATION AND USAGE

The AffectButton has been evaluated in a wide variety of usage settings including real time affective labeling of music [4], self-report of user mood, labeling of emotional stories and words [5] and affective labeling of holidays [6]. Research also shows that when users have a strong opinion, they like the additional detail that can be given with multiple affective dimensions in addition to thumbs up/down or 5-point star rating system [6]. Further, a large variety of test subjects has by now successfully used the AffectButton [5].

NOVEL DEVELOPMENTS: VIDEO LABELLING

A recent advancement in facilitating and testing the use of the AffectButton is the creation of an online tool for the labelling of affect. The tool shows how straightforward rating of video content on three affective dimensions becomes when using the HTML5 implementation of the AffectButton. The button is coupled to the video time, and

when it is clicked, an affective timestamp is generated. This allows, for example, affective annotation of video (and audio) over time, generating affective traces of the media. For a link see www.joostbroekens.com.

SUMMARY

Compared to other methods of self-report, the AffectButton enables one-click three dimensional affective input, is easy to use with relatively little explanation, provides valid and reliable output in a format that is easy to aggregate making it a useful instrument to gather affective information from large groups of people. For a review of existing methods, as well as an in depth discussion of the AffectButton workings, its potential and limitations, please see [5]. For an interactive (demo) version please see www.joostbroekens.com. Also see the previous link for downloadable open source implementations of the AffectButton available in HTML5, Python and Java.

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