Glyph-Based Visualization of Affective States

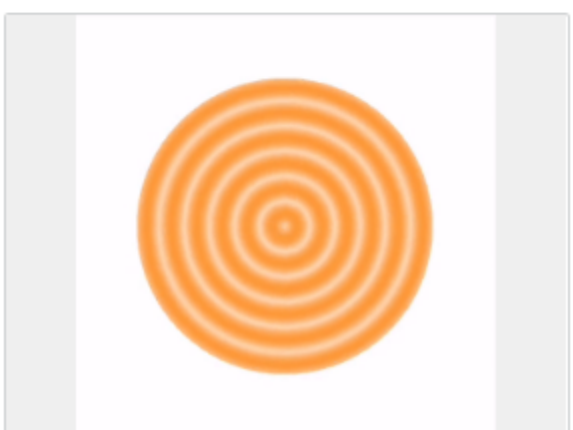
Supplemental Material

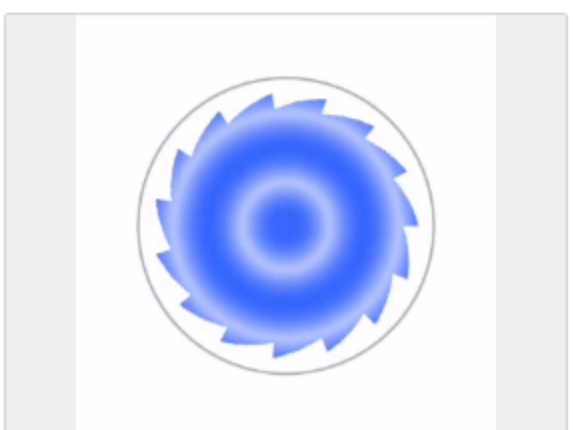
In our paper we present two graphical user interface widgets for the visualization of affective states. In the following, we give an overview of the content and structure of the supplemental material.

1. Supplemental video: The video provides a summary of the paper and an example of how our widgets can be used in a real-world setting.
2. State visualizations: The folder “state_visualizations” contains all the visualizations that have been used in the user study presented in the paper. For our first widget (the “intuitive widget”) these visualizations are provided as GIFs because of the animations. For the second widget (the “precise widget”) and the baseline the visualizations are provided as JPGs because there is no animation involved.
3. User study: The rest of this file provides an overview of the user study.
    a. First, two task examples from the study are shown. The first example is taken from Part 1 where the intuitiveness of our first widget has been investigated. The participants were not given any additional information about affective states or the widgets at this point. The second example is taken from Part 2 where our widgets were compared to the baseline. Additional explanations regarding the widgets and the concept of affective states were provided previously to this task.
    b. On the next page we present an overview of the sentences and images that have been used in the study. The sentences are provided together with the keyword that defines the corresponding levels of valence, arousal and dominance. Furthermore, the keywords used for generating the two alternatives shown in each task are stated on the right. The same information is provided for the images.
    c. The last pages show the images that are presented in (b.) in the same order they appear in (b.).

User Study: Emotional Responsive GUI

Part 1 - (1)



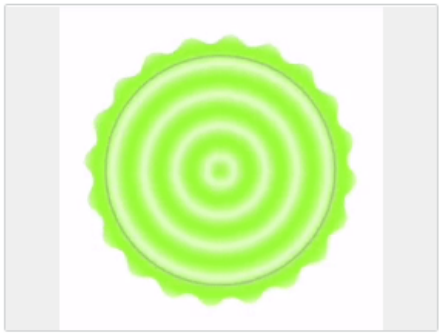
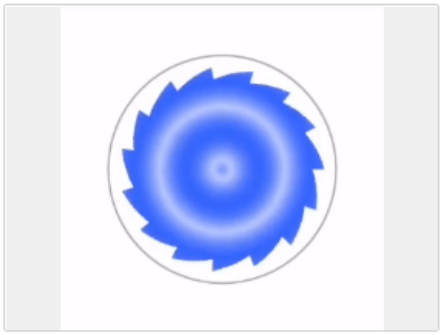


User Study: Emotional Responsive GUI

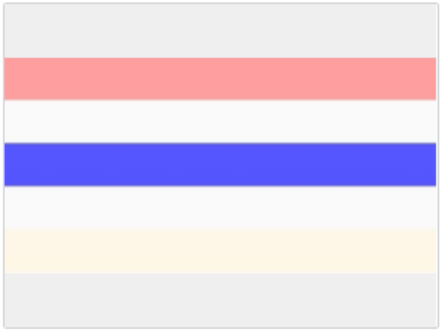
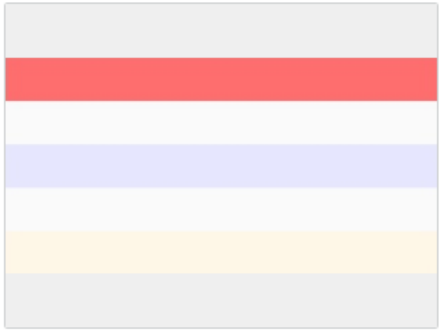
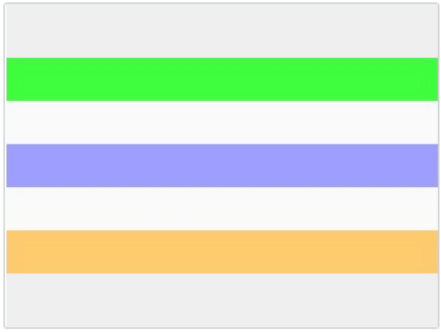
Part 2 - Text-based questions (3)

"Bob gets very nervous before exams."

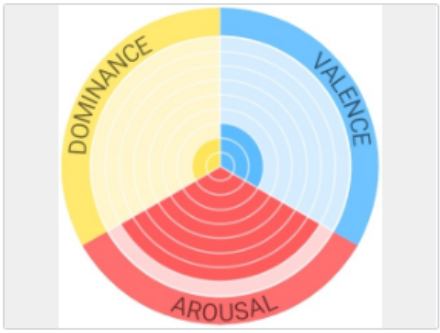
GUI 1

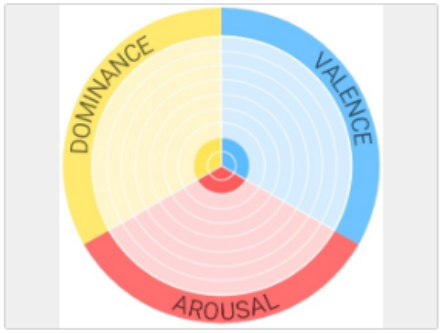



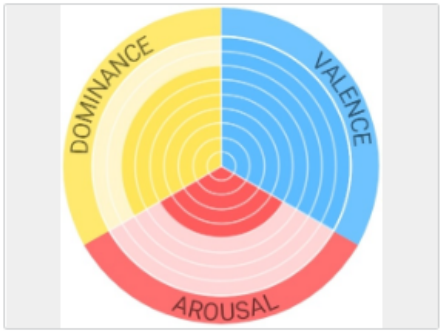
GUI 3

GUI 2







Used sentences in the study

#	Sentence	Keyword	Actual VAD score	Alternative 1	Alternative 2
1	Alice feels **sick** today.	sick	1, 4, 2	amused	sleepy
2	Charlie's team **won** the hacking competition.	win	9, 7, 8	scared	surprised
3	Bob gets very **nervous** before tests.	nervous	3, 8, 2	bored	in love
4	Charlie **wasn't** really **interested** in the seminar.	disinterested	4, 3, 4	depressed	angry
5	Alice and Bob finally reached an **agreement**.	agreement	7, 4, 7	excited	sad
6	Charlie was **shocked** after hearing the news.	shocked	3, 8, 4	bored	relaxed

Used images in the study

#	Image	Keyword	Actual VAD score	Alternative 1	Alternative 2
1	angry	-	2, 8, 6	surprised	bored
2	happy	-	9, 7, 8	sleepy	disinterested
3	relaxed	-	8, 1, 4	excited	in love
4	bored	-	2, 2, 2	sick	sleepy
5	in love	-	9, 5, 7	relaxed	agreement
6	sad	-	2, 7, 2	disinterested	amused

Remarks: VAD stands for valence, arousal and dominance and indicates the corresponding level of each dimension on a 9-point scale.
The alternatives listed on the right indicate which keyword has been used in the other two state visualizations shown in a particular task.

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