

## **Emotion Annotation: Coding Guidelines**

In the following, we report the task description and the guidelines used for training the coders involved in the emotion annotation study.

*Task Description and Annotation Guidelines.* You are invited to take part in the annotation study of developers contributed texts in Stack Overflow. We are interested in annotating the presence of emotions in technical documents authored by developers during their online interactions.

The data source is the official Stack Overflow dump released by Stack Exchange on May '15. You will be required to annotate randomly selected posts, including questions, answers, and comments. The unit of annotation is the entire post.

You will use the coding schema reported in TABLE A. For each post, please indicate what emotion it conveys (if any) among the basic emotions (first column in the table), that are, *love*, *joy*, *surprise*, *anger*, *sadness*, and *fear*. Multiple Emotion labels are allowed but you should try to avoid if possible. You can use the second and third level in the schema as a reference for choosing the primary emotion, as shown in TABLE B.

TABLE A. SHAVER ET AL. EMOTION FRAMEWORK

<i>Basic Emotions</i>	<i>Second level Emotions</i>	<i>Third level Emotions</i>
Love	Affection	Liking, Caring, Compassion, Fondness, Affection, Love, Attraction, Tenderness, Sentimentality
	Lust	Desire, Passion, Infatuation, Arousal
	Longing	---
Joy	Cheerfulness	Happiness, Amusement, Satisfaction, Bliss, Gaiety, Glee, Jolliness, Joviality, Joy, Delight, Enjoyment, Gladness, Jubilation, Elation, Ecstasy, Euphoria
	Zest	Enthusiasm, Excitement, Thrill, Zeal, Exhilaration
	Contentment	Pleasure
	Optimism	Hope, Eagerness
	Pride	Triumph
	Enthrallment	Rapture
Anger	Irritation	Annoyance, Agitation, Grumpiness, Aggravation, Grouchiness
	Exasperation	Frustration
	Rage	Anger, Fury, Hate, Dislike, Resentment, Outrage, Wrath, Hostility, Bitterness, Ferocity, Loathing, Scorn, Spite, Vengefulness
	Disgust	Revulsion, Contempt
	Envy	Jealousy
	Torment	---
Sadness	Suffering	Hurt, Anguish, Agony
	Sadness	Depression, Sorrow, Despair, Gloom, Hopelessness, Glumness, Unhappiness, Grief, Woe, Misery, Melancholy
	Disappointment	Displeasure, Dismay
	Shame	Guilt, Regret, Remorse
	Neglect	Embarrassment, Insecurity, Insult, Rejection, Alienation, Isolation, Loneliness, Homesickness, Defeat, Dejection, Humiliation
	Sympathy	Pity
Fear	Horror	Alarm, Fright, Panic, Terror, Fear, Hysteria, Shock, Mortification
	Nervousness	Anxiety, Distress, Worry, Uneasiness, Tenseness, Apprehension, Dread
Surprise	Surprise	Amazement, Astonishment

TABLE B. EXAMPLES OF ANNOTATED POSTS.

<b>Input Text</b>	<b>Basic Emotion(s) found</b>	<b>Rationale for annotation</b> (second and third level emotion found)
<i>"Thanks for your input! You're, like, awesome"</i>	Love	Liking (third level), Affection (second level) indicating gratitude.
<i>"I'm happy with the approach and the code looks good".</i>	Joy	Happiness, Satisfaction (third), Cheerfulness (second)
<i>"I still question the default, which can lead to surprisingly huge memory use"</i>	Surprise	Surprise (second) due to the unexpected undesirable behavior of the code.
<i>"I will come over to your work and slap you "</i>	Anger	Hostility (third), Rage (second)
<i>"Sorry for the delay Stephen"</i>	Sadness	Guilt (third), Shame (second)
<i>"I'm worried about some subtle differences between char and Character"</i>	Fear	Worry (third)