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Relation between emotions and students' code quality using IoT

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Abstract

Programming can be a mentally demanding exercise. The objective of this study is to explore the effects emotions have on a programmer's quality of code. Programmers in the study are given a Rainfall Problem to solve as their emotional data is collected simultaneously. Emotional data is collected using EMOTIV's neuroheadset. There are 6 emotions tracked in this study: engagement, excitement, focus, interest, relaxation, and stress. One control group is relaxed prior to beginning the programming problem. An EEG-powered relaxation device called Muse is used to accomplish this task. Coding quality is measured based on 6 parameters: average, sum, count, sentinel, negative and DivZero. Generally, positive emotions are associated with a higher quality of code while negative emotions are associated with lower quality of code.