

Project Title:	Python Programming: Mood Aesthetics	
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Python is a programming language that was designed in 1989 by Guido van Rossum. Replete with hundreds of built in functions and libraries, Python is a useful language that has tools to solve complex problems with far greater ease than other languages. Because of its simple syntax and focus on straightforward, readable code, Python is a great introduction to the world of computer programming.

An audio-visualizer entitled Mood Aesthetics was created using Pygame, a set of Python modules designed for creating video games with animations and audio. The program focuses around four basic human emotions and states: happiness, sadness, anger and tranquility. The program acts as a visualizer, displaying graphic animations and sonic melodies that correspond with said emotions. Mood Aesthetics' goal is to enhance the user's present mood, furthering it through related sounds and images. In order to do this, the group explored the psychology and science of colors, shapes, and sounds. For example, the animation for the mood 'Chill' makes use of cool colors, soothing music, and familiar, geometric figures to make the user feel collected and to enhance the user's already calm mood. Anger on the other hand, utilizes bright red colors, loud music, and harsh, severe shapes to augment the user's rage.

This project was finished through the use of a 3-step design process: Story Boards, User Stories, and CRC cards. The first step involved initial conceptualization wherein the team formulated different ideas to form the basic structure of the project. The User Story was then created to map out the course of the program in relation to the user. Lastly, The CRC or “Class, Responsibility, and Correspondence” cards were made to provide organization of the code within the major components of the program. Each team member then took charge of developing a specific task from the CRC cards.

Although the majority of this program was designed using Pygame, other Python modules such as Math, Zellegraphics and Random were imported to supplement the functions of Pygame. One important aspect of this program was the pairing of audio and visuals. Each respective song’s tempo, measured in BPM (beats per minute) was converted into seconds and utilized as a delay by the Time module of Python, allowing the shapes to move and grow in sync with the music. The different emotions of Mood Aesthetics are tied together with a themed Menu screen, and matching info, settings, and pause screens.