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Introduction

This report is the description of the assignment 4 for the course Programming for Digital Humanities. The content of the assignment was much different from the assignments we were given in the first cycle of the course; since now our task was to process and analyze a series of photos and in addition we had to create a new photo with the use of Python. The process of graphics and images is more challenging and interesting than processing text, because here you get the opportunity to create something from scratch, instead of processing just text. I believe that in combination with sound processing and visualization of data the student can implement projects that could be used in education or in science.

Approach to solving the given problem and tasks

Before I started implementing the project, I made a thorough study of the commands I would use in order to make this assignment. First of all, I watched the videos that were given to us in Vimeo; and afterwards I tried them myself to become more accustomed to these commands and methods. Also, I read chapters 8 & 9 from the book *Exploratory Programming for the Arts and Humanities* which is recommended to us; and in addition I practiced the examples that were given in these two chapters.

As soon as I felt that I have comprehended the code well enough, I immediately started the implementation. Since, the assignment was based on the videos that were provided to us, it was not so difficult to think what would be the solution to the problem. The answer to the problem with the average value was very simple. Just a couple of math calculations was what it was needed.

For the structure of the program I followed the instructions that were given to us. I used tuples for the storing of the average value and name of the images. Then, I used lists for the creation of the collage but also for the presentation of the findings. Finally, I would like to mention that my way of thinking was based on the experience I gained from the previous assignments. I was moving step by step, testing everything thoroughly before I move further on.

Outcomes/Analysis of results

In contrast to the previous assignments, in this one I observed that the compiler needed a little bit more time to build the code. This is because, now, the compiler has to go through thousands of lines that represent the pixels of the photos. The outcome was not something surprissing to me. More or less the average values were normal. The jpg photos that were not altered had a medium average value and for the png photos; the ones that the red channel was subducted had, of course, zero average value and in the rest the red channel was proportionally increased.

Conclusions and Reflections

The outcome of the code I produced, could have been implemented as well with the use of commercial software such as Photoshop, yet my implementation is more straightforward and I realized in the end that with the use of a programming language you have the possibility to produce complex projects faster and more efficiently than with the use of commercial software. I am looking forward to the continuation of the course. Judging from the chapters of the book, I assume that the next two assignments will involve animation, manipulation of sound, and the creation of visual analytics. Considering that in the beginning of the course, I was simply elaborating small sentences and words, I believe that I made a satisfying progress and all of my efforts were worthwhile after all.