

Viachaslau Pashaliuk
EmplID: 23509529
Professor Katherine Chuang
CISC3160
21 February 2021

Lab 1: Reflection and Presentation

1. The first type of problem I was working on was reporting. The goal was to read multiple CSV files and output information about music tracks that were seen on the report and return them sorted to a user, in my case they were sorted by the number of streams in descending order. To achieve this goal I chose to use Python. After doing some research on the best language for reading CSVs and seeing how many people on StackOverflow suggested using Python for this task, it was clear that I should go with it. Mostly Python was chosen by me because of the super powerful csv library that makes work with CSVs a breath, also, since I decided to read multiple files I need some tool to navigate through all of the preloaded CSVs and Python's os library handled this task in the best way possible. I did not face any issues with using Python for this task. Before I performed an almost identical task with Node and it was not the most pleasant experience, but Python libraries are so awesome that all of this CSV processing that I described before can be handled in only a few lines of code. I will definitely use Python again for a similar task.
2. Secondly, I worked on a type of problem that involves mathematical calculations. Since this is a type of problem that almost every language is capable of solving, I decided to look no further than the terminal window that was open in front of me and handled this problem with a bash script. I want to point out that this was my first experience with bash and it was pretty pleasant. Also, I figured out that just calculating numbers seems like too easy of a task and decided to grab these numbers from a server, so my bash script also performs some data fetching. It is nice that something installed on your computer straight out of the box can handle these types of tasks. The biggest difficulty I faced was actually learning bash scripting, but otherwise, I believe it is just built for simple tasks like this. Now, that I have more knowledge of bash, I would most definitely use it for this kind of task again.
3. The last thing I worked on was a very simple web-application. I used JavaScript to handle this task. It was chosen since there are no other options for frontend web-development and also because I like it for its simplicity, I use it almost every day at work. Since JavaScript was built to handle one and only task- developing things on the web, I had no difficulties using it for a given task. I, personally, prefer TypeScript over regular JavaScript because it double-checks everything I do and makes sure I pass the correct types wherever they are expected, but for this small kind of a task JavaScript does its job perfectly, so I would use it again if I need to build something simple that would later go to the web.

Problem Domain	Language Selected and rationale for selection	What about language made it easy?	What about language made it difficult?
Reporting	Python3; great CSV handling library availability	Lots of libraries applicable to solve a given task	N/A
Math Calculations	bash; simple tasks require simple solutions, desire to learn it	Simplicity and availability from the box	Learning it, some JSON handling issues that were solved by jq
Web Development	JavaScript; lack of other options, frontend web-dev requires JavaScript if we want anything other than a static page	It was built for this single purpose, built-in methods like fetch that make it easy to communicate with APIs	N/A for the task performed in this assignment, but I personally prefer TypeScript since it is strongly-typed