Sean Reid

IT210

Project 3 – Groceries

The benefits of using C++ in a coding project are that you can easily produce output, take input from the user, and manage your resources easily. I think that these are the obvious benefits that I am able to see while implementing a simple project. I’m sure there are other benefits of C++ including resource management and efficiency. C++ is a low-level, compiled language, that allows for high speed data processing. The drawback to C++, when compared to Python is strongly typed data types. While this is a great feature overall, it can slow down development. A strongly typed language makes coding a little sturdier in some cases, since passing the same type is a requirement. It can also make it a bit of a challenge to get it exactly right.

The benefit of Python is that it is not strongly typed – you don’t need to define what type of data a function will return or accept. This can greatly increase development time. The drawback of this advantage is that it can make programs more brittle since they can sometimes act in unexpected ways. Python can also have a little slower performance, but in most modern applications this will likely not be an issue, since the performance difference is typically small. If performance does become an issue, parallel processing can be used to improve performance in Python.

Combining languages can take the best of both worlds and make for a very useful feature set. One example that I am aware of is the Pandas library which can use C++ under the hood in cases where performance needs to be improved. Using C++ makes processing much faster in Pandas and improvements are obvious with large data sets. In the case of the grocery program I don’t see an obvious way where this would help, but it could be helpful if the data set became larger and we began looking at more complex data.