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Project:

Georgia Animal Compendium

Most Meaningful Objective:

Learning Python

The most meaningful learning objective during this project for me has been the overall goal to begin learning Python. This is a goal I had wanted to start for a while; however I have not had the motivation to do so in the past. This project of mine, the Georgia animal compendium, has helped me start that journey. I say I am starting a journey because I do not have a full understanding of the language. I would put myself at the level of a beginner when it comes to knowledge and skill when working with Python.

I started by watching YouTube and looking up resources online. I have a book, Python Crash Course, 2nd edition, that was a big help. The projects in the book were good for getting a groundwork down. that had been sitting around and I have made my way through two thirds of it by the end of my project. W3schools was a help near the beginning, however I found myself skipping most of the lessons that covered the same material as my book.

I started from the ground up with my practice. I have some experience with Java; however I did not want to approach Python in the same way I did when I learned Java. I picked up speed with my practice instead of stagnating like I did with Java. By doing this I feel like I gained more and will retain more. I also have enjoyed learning Python so I know I will continue to improve my knowledge of the language.

Learning how the syntax was arranged was the first step. Python has syntax that is easier to understand than most languages. After having worked with Java, I find that I enjoy reading through Python syntax. Next came the variables, then data types. The data types are, to no surprise, like other languages data types. Much of Python will be easy to recognize if you are familiar with other programming languages. I studied then went over the many operators, as well as Booleans and strings. After studying data types and how to work with them, I studied how to store them, in lists, tuples, sets, and dictionaries.

I also started to learn SQLite not long after starting Python. SQLite would be essential for my program project. My project, the Georgia Animal Compendium, is made to be a database of animals that can be accessed using Python in conjunction with Kivy. Kivy is used to make an app interface that is easy to adapt to many screen sizes. SQLite is important because I need to have all these animals stored in a database that can be accessed by Python. I have done some classwork with SQL in the past. This previous experience made me think that SQLite would be easy to get through. I was wrong and ended up spending much more time getting my SQLite program to work. What I finally settled on was using SQLite3, which comes with Python in most cases, and created the database, tables, and inserted the data using Python code. This worked out as I was able to spend more time studying Python and working with its Kivy module.

Kivy was a completely new level of work with Python. I am no longer trying to get a printout in a terminal, instead it is a full module that enables one to make graphical user interface apps. The abilities that Kivy gives me, such as making screens that can be formatted to fit any display size, are powerful. It took quite a bit of time to learn because of the included kivy language. Kivy’s language is simple, and at its most basic can be used like cascading style sheets to format your program in a clean efficient manner. I did not have to use the kivy language, however it helped to make my Python code significantly simpler to read and understand.

With all that being said, my inexperience has become all too obvious as I reach the end of the project. I have had to do more research for every step after I integrated my Kivy module. Simple actions, such as passing a variable between my Python Kivy screens, became tasks I had to study an hour or more to get to function properly. Several times during my project I found that my code was too convoluted or just stopped working. After spending multiple hours trying to get it to work, I found myself changing direction and redoing my project from the beginning. This is method has helped me understand Python better by getting a deeper understanding of the code I am using after having to redo it several times. An example of this would be \_\_repr\_\_. This function returns a formal, or official representation of an object. It has a sister function, \_\_str\_\_, which is the informal representation. At first, I had no idea of the difference between the two, however when I kept getting errors from using str, I learned about repr and how str’s informal may errors because of how it reads the objects.

Unfortunately, I hit a major roadblock with my project where I have been unable to get the variable that a user searched for to pass to a second screen that would then read the database to tell the user all the information about the animal they wanted to find. It is the due date for my project, and I am still having problems getting this to work. I will continue working on my project after writing this, so I may get it to work by then. If so, I will probably not update this to reflect that.

The problem, as far as I can tell from my trial and error, is related to the variables I have put into my animal page. The search result variable, which is passed from the main search screen and is supposed to be used in functions that get all the information from the database for the Kivy labels to display for the user. It seems that the local variables in the animal page are not passed a string and end up with one of two problems. First, if nothing is named for the variables, they end up with a None type which gives them an error because they need to have a string. If I start the variables with a string, they do not get the results from the function to pass to the labels. This situation has me thoroughly stumped as I have tried many different alternatives, and none seem to work for me. This problem is interesting to me and I will enjoy doing more research to figure out the solution after this course is over. My frustration comes from not completing the project on time.

In conclusion, I have enjoyed learning Python. The project for this course has helped get me motivated to learn Python and I will gladly continue improving my knowledge in the future. I hope that I can figure out a solution to my problem before my project is due. Either way, I think I have been effective in learning Python and that I will continue on learning after the course is over.