Voyage

Final Report

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Introduction

The objective of this project was to create a programming language which facilitates the travel package booking process by a particular travel agency. Thinking as programmers, we thought that if anyone of us were the person that had to book all the flights and the travel packages, it would be ideal to have a language that was specifically designed for this purpose. This language is very helpful for any travel agency because it is an easy way to have all the possible packages easily accessible. The travel agent is able to book stays, flights, guided tours, rental cars for different destinations and conveniently have all the information available to the customer. A numerous amount of people book flights at the last moment and with this language the travel agent has the possibility of presenting all the possible options to the customer right away so that he/she can make the most informed decision.

Language Tutorial

1. Make sure Python is installed in your computer

2. Download the .zip file from the Github repository

3. Unzip the folder and place it in your preferred directory

4. Open a command window and navigate to the root directory

5. Run the Voyage file by typing "python Voyage.py" (no "")

6. It should look something like this

```
Microsoft Windows [Version 10.0.15063]
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C:\Users\jonny>D:

D:\>cd jonny

D:\jonny>cd Downloads

D:\jonny\Downloads>cd Voyage-master

D:\jonny\Downloads\Voyage-master>python Voyage.py

Voyage >
```

Language Reference Manual

Command	Attributes	Attributes Description
createpackage	NAME LASTNAME	Strings representing client's name
destinations		No attributes required
flights	DESTINATION DATE DATE	Destination ID and Date as MM/DD/YYYY
fly	DESTINATION AIRLINE	Destination ID and Airline ID
hotels	DESTINATION	Destination ID
reserve	HOTEL/RENTAL NIGHT(S)/DAY(S)	Hotel/Rental name and integer representing night(s)/day(s)
cars	DESTINATION	Destination ID
tours	DESTINATION	Destination ID
visit	TOUR	Tour ID
book		No attributes required

Language Development

The Voyage Programming Language was developed using Python, and was mainly implemented in four files. The VoyageLex file implements the language lexer using PLY, used for the keywords and commands. The language has ten commands and four types of tokens that the user can enter. The tokens were divided in string, date, days and ID. Every token is validated at the moment that is inputted by the user and if the token is not valid an appropriate message will appear.

The second file that was implemented was the VoyageYacc file, which implements the parser. In this file we can see how each command is to be executed meaning the name of the command and then the required input token for that particular statement. Also a method for acknowledging errors was implemented.

A class named Package was implemented for creating a "package" object. This class possesses the necessary methods to save the user selections this will help for when the user issues the "book" command all of the user's selections are displayed including the total price.

Last but not least was the VoyageTools file. In this file all of the required dictionaries were set for things like places, hotels, airlines etc. Also in said file all of the methods for the each command were implemented, defining a particular method for each command/statement. The entire system is then ran from the Voyage.py which is the main file of the system.

Conclusions

Our goal for this project was to create a programming language that was concise, easy to use, and that was applicable to an aspect of everyday lives. For this project some of us had to get more familiar with the Python programming language but thanks to our previous experiences with Java the adaption was somewhat seamless. One challenge was working with GitHub since we had some problems at the beginning when more than one team member was working on the same file. The idea of choosing a travel agency language as our project made it that much more fun to implement because it was like if we were creating a travel package for ourselves. This project helped us get motivated by working with more concrete implementations and made us understand the infinite possibilities that programming brings.